FISH PROTEIN CONCENTRATE

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE
COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE
HOUSE OF REPRESENTATIVES

EIGHTY-SEVENTH CONGRESS

SECOND SESSION

ON

H.R. 9101, H.R. 9102, H.R. 9331, H.R. 10587

BILLS TO AMEND CLAUSE (3) OF SECTION 402(a) OF THE FEDERAL FOOD, DRUG, AND COSMETIC ACT

AUGUST 8, 9, 1962

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Committee on Interstate and Foreign Commerce

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FISH PROTEIN CONCENTRATE

WEDNESDAY, AUGUST 8, 1962

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SAFETY
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room 1302, New House Office Building, Hon. Kenneth A. Roberts (chairman of the subcommittee) presiding.

Mr. ROBERTS. The subcommittee will please be in order.

The Subcommittee on Health and Safety of the House Committee on Interstate and Foreign Commerce is holding hearings this morning and tomorrow on four identical bills to amend clause 3 of section 402(a) of the Federal Food, Drug, and Cosmetic Act. These bills are: H.R. 9101 by Mr. Pike; H.R. 9102 by Mr. Keith, a member of this committee; H.R. 9331 by Mr. St. Germain; and H.R. 10587 by Mr. Bates.

As I understand, the purpose of the legislation is to provide that processed seafood products derived from whole fish and when such products are processed under sanitary conditions shall not be considered as adulterated within the meaning of the Federal Food, Drug, and Cosmetic Act.

A copy of H.R. 9101 and the other bills previously mentioned, together with agency reports thereon, will be inserted in the record at this point.

(H.R. 9101, H.R. 9102, H.R. 9331, H.R. 10587 along with agency reports are as follows:)

[H.R. 9101, H.R. 9102, H.R. 9331, H.R. 10587, 87th Cong., 1st sess.]

A BILL To amend clause (3) of section 402(a) of the Federal Food, Drug, and Cosmetic Act

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That clause (3) of section 402(a) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 342(a)) is amended by inserting immediately before the semicolon at the end of such clause the following: ", but no processed seafood product shall be deemed to consist of any such substance or to be otherwise unfit for food because such processed seafood product is derived from whole fish, provided such product is processed under sanitary conditions and after processing is nutritious and in no manner harmful to the health of consumers thereof".

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., August 15, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives,
Washington, D.C.

DEAR MR. CHAIRMAN: This will acknowledge your letter of July 24, 1962, requesting the views of the Bureau of the Budget on H.R. 9101, a bill to amend clause (3) of section 402(a) of the Federal Food, Drug, and Cosmetic Act.

The Bureau of the Budget concurs in the views of the Departments of the Interior and Health, Education, and Welfare in their reports on H.R. 9101 and, accordingly, recommends that your committee defer action on this legislation.

Sincerely yours,

PHILLIP S. HUGHES,
Assistant Director for Legislative Reference.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
August 8, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in response to your request of September 15, 1961, for a report on H.R. 9101, a bill to amend clause (3) of section 402(a) of the Federal Food, Drug, and Cosmetic Act.

The bill would amend clause (3) of section 402(a) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 342(a)) to provide that no processed seafood shall be deemed to consist in whole or in part of any filthy, putrid, or decomposed substance or to be otherwise unfit for food because it is derived from whole fish, provided that it is processed under sanitary conditions, is nutritious after processing, and presents no health hazard. While the language of the bill is not clear, presumably it is intended to prevent processed seafood from being deemed adulterated under section 402(a)(3) merely because the processed food is produced from whole fish. For example, if a sanitary manufacturing process is available and the end product is safe and nutritious, the bill would permit fish protein concentrate (the processed seafood which we understand that the bill is intended to exempt), to be produced from whole fish, including heads, fins, tails, viscera, and intestinal contents. However, in every other respect existing requirements of section 402(a)(3) would continue to apply, for example, a fish protein concentrate manufactured from a decomposed whole fish could be deemed adulterated.

Considerable attention has been accorded fish protein concentrate in the course of administrative actions taken by the Food and Drug Administration. On September 15, 1961, at the request of a manufacturerer of fish protein concentrate, the Food and Drug Administration published a standard of proposed identity and requested comment from interested persons. During the following 60-day period over 1,800 comments were received. Based on information before him which included these comments, the Commissioner of Food and Drugs on January 25, 1962, ruled against the proposed standard of identity and published an order establishing a standard of identity for fish protein concentrate which would require that, prior to processing, the heads, fins, tails, viscera, and intestinal contents of the fish must be removed. Within the statutory period, formal objections to this order were received. On April 20, 1962, the Food and Drug Administration published a notice of hearing scheduled for June 18, 1962, on objections to the order establishing a standard of identity for fish protein concentrate. However, the objecting parties requested a postponement of the hearing until such time as a report on the product from the National Academy of Sciences which has been requested by the Department of the Interior is available. On June 9, 1962, the Commissioner of Food and Drugs indefinitely postponed the hearing.

The Secretary of the Interior, is a letter dated May 31, 1962, requested the National Academy of Sciences to undertake a study of fish protein concentrate to determine: (1) whether or not such a committee believes that a wholesome,

safe, and nutritious product can be made from whole fish; (2) whether or not such a product now exists which is suitable for human consumption, and (3) whether or not there is a demonstrable need, either nutritionally or economically for an inexpensive animal-protein food supplement among the people comprising the lower income groups of the United States. The president of the National Academy of Sciences in a letter dated June 26, 1962, agreed to appoint a temporary committee to study problems associated with the preparation and consumption of fish protein concentrate.

Once the above-mentioned study has reached conclusions on the three points enumerated above, the Food and Drug Administration will still have the responsibility of determining whether fish protein concentrate violates the requirements of section 402(a)(3). It has long been established under judicial interpretations of section 402(a)(3) that the question of whether or not the adulteration produces a harmful food is not the only concern. Rather it has generally been agreed that the term "filth" (which appears in the statute as a term of art but is not precisely defined therein) is meant to include what the ordinary individual would consider as such. An evaluation as to whether any particular product meets all the requirements of the act is one which must be made by the Food and Drug Administration in discharging its pirmary responsibility in the matter of consumer protection relating to foods.

When the results of the study being conducted by the National Academy of Sciences become available, we are prepared to reschedule a hearing pursuant to section 701 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 371), if the proponents of fish protein concentrate so request. Such a public hearing will provide an opportunity for full presentation and consideration of all the facts. A final order would be issued on the basis of such a hearing and any party adversely affected by such an order could seek review of the order in a U.S. Court of Appeals.

In view of the study which the National Academy of Sciences is conducting, we believe that consideration of the proposed legislation is premature. Therefore, we have not included a discussion of the merits of the bill in this report.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely,

ANTHONY J. CELEBREZZE, *Secretary.*

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., August 9, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: Your committee has requested a report on H.R. 9101, a bill to amend clause (3) of section 402(a) of the Federal Food, Drug, and Cosmetic Act. This report is of equal applicability to H.R. 9102, 9331, and 10587.

This proposal would amend the Federal Food, Drug, and Cosmetic Act concerning a particular provision that is applicable to processed seafood products. The question that has arisen relates in particular to fish protein concentrate. Because of the questions that have arisen heretofore relating to this product, we have requested the National Academy of Sciences to consider the matter and to make a report regarding this product. We anticipate that such report will assist the interested Federal agencies in resolving the matter satisfactorily. We have requested the National Academy of Sciences for their views as follows: (1) Whether or not a wholesome, safe, and nutritious product can be made from whole fish; (2) whether or not such a product now exists which is suitable for human consumption; and (3) whether or not there is a demonstrable need, either nutritionality or economically, for an inexpensive animal-protein food supplement among the people comprising the lower income groups of the United States.

We recognize that fish protein concentrate, if found to be acceptable and if it can be produced efficiently and economically, has great possibilities for the benefit of mankind. It promises to supply a high-quality, low-cost animal protein food supplement.

We recommend accordingly that final action on this proposed legislation be deferred until we have received the advice of the National Academy of Sciences on this matter and a further report is received from this Department.

We have been advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely yours,

JOHN A. CARVER, Jr.,
Assistant Secretary of the Interior.

SMALL BUSINESS ADMINISTRATION,
Washington, D.C., August 8, 1962.

Re H.R. 9101 to amend clause (3) of section 402(a) of the Federal Food, Drug, and Cosmetic Act.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Reference is made to your letter of July 24, requesting my comments on the captioned bill, and to the notice issued by the clerk of your committee that hearings will be held on H.R. 9101 and related bills on August 8 and 9.

The evident purpose of H.R. 9101 is to make it clear that the commodity commonly known as fish flour is not an adulterated article within the meaning of the Federal Food, Drug, and Cosmetic Act. The Food and Drug Administration has informally expressed the opinion that, under existing law, fish flour is such an article because it is made without the removal of those portions of the fish, including the intestines and the contents thereof, which are not normally regarded as acceptable for human consumption in the United States.

I recognize that the position taken by the Food and Drug Administration may have adverse effects on the fishing industry, the members of which are mostly small business concerns. Needless to say, I sympathize with these concerns. Nevertheless their interests must be subordinated to those of the general public. The basic question presented by H.R. 9101 is whether the consumption of fish flour by our citizenry would be desirable from the health standpoint. Since this is a matter which lies entirely outside the purview of the Small Business Administration, I would not venture an opinion on it.

For the foregoing reasons I do not believe that I could contribute anything further to the deliberations of your committee on the bill by appearing as a witness at the hearings.

The Bureau of the Budget has advised that there is no objection to the submission of this report from the standpoint of the administration's program.

With kind regards, I am

Sincerely,

JOHN E. HORNE, *Administrator.*

Mr. ROBERTS. Our first witness will be Mr. Springer, a gentleman from Illinois, a member of this committee, and you may proceed with your statement.

STATEMENT OF HON. WILLIAM L. SPRINGER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. SPRINGER. Mr. Chairman and members of the subcommittee, I do appreciate this opportunity of appearing before you and testifying in behalf of fish flour, or what I like more nearly to term fish protein concentrate.

I will not go into the technicalities of the production of fish protein concentrate—the mechanical and chemical processes by which it is made pure and wholesome—nor will I go into the uses of fish protein concentrate. I will leave those subjects to experts in the respective fields who will follow me.

Instead, I would like to speak briefly on the order of January 25, 1962, by the Food and Drug Administration which, primarily on esthetic grounds, deemed fish protein concentrate to be filthy.

The bills under consideration, H.R. 9101 by Mr. Keith, H.R. 9102 by Mr. Pike, and H.R. 9331 by Mr. St. Germain, would nullify that order and I believe it should be nullified.

I was disturbed, Mr. Chairman, by FDA's order which would bar the sale or use in the United States of fish protein concentrate on grounds, and here I quote—

> that consumers in the United States generally would regard the product described in the proposal as filthy.

Mr. Chairman, I do not believe it to be within the province of the FDA, I do not believe the FDA has the inherent power, to predetermine what the public will or will not accept. Please note, the Food and Drug Administration did not say that fish protein concentrate is filthy, merely that the Commissioner finds that the public would generally regard it as so in his opinion.

I contend, Mr. Chairman, that this is "Big Brother Government" at its very worst. Here we have an agency of the Federal Government sitting as judge and jury, attempting to tell you and me what we will eat and what we will not eat. They are not saying we can't eat fish protein concentrate because it is impure; they are saying we won't eat it because we will consider it to be impure. They are substituting their judgment as to what we will like and what we will not like for our own judgments.

If the FDA can tell us that we will not accept fish protein concentrate, why can they not tell us that we will not accept oysters and clams? Many of us consider oysters and clams as delicacies, and yet we eat the whole mollusk, with the exception of the shell, with relish. Is the FDA soon to tell us that we won't accept gelatins because they are made from the bones and skins of animals? Are we suddenly to forego the pleasures of gelatin salads and desserts for this reason, even though the skins and bones have been properly and thoroughly processed (just as whole fish are properly and thoroughly processed in the production of fish protein concentrate) to make them pure?

Mr. Chairman, I can assure you that the Food and Drug Administration does not speak for me. Here is a sample of fish protein concentrate—the equivalent of 2 ounces of raw fish. While I would perhaps hesitate to eat 2 ounces of raw fish, I have no hesitancy in swallowing the fish flour, with just a little water as a "chaser." And I have it here, gentlemen, and I would like to have a couple of these—I would like to have three of these samples delivered up to the members of the subcommittee, if they would.

Mr. ROBERTS. You can designate members of the committee to join you in this experiment and exclude the chairman.

Mr. SPRINGER. Well, I will be happy to if any of you care or do not care to, but I do want to bring this to you because I think there is some merit when a fellow says that he thinks the pure Food and Drug Administration is wrong, that he ought to be willing to take the product with relish, and although it is a little dry, may I say——

Mr. NELSEN. May I interrupt off the record?

(Discussion off the record.)

Mr. SPRINGER. In fact, the taste is rather pleasant, may I say.

Fish protein concentrate is odorless and tasteless. It can be added to many foods, without changing their texture or taste, to increase their protein content.

I am not opposed to the Food and Drug Administration. I have served on the great Subcommittee on Health and Safety when it was also the Committee on Health and Science, and I know how much we do support the Food and Drug Administration generally.

As a matter of fact, I am supporting legislation to give it even greater power to crack down on products that haven't been proven safe and effective. The action of the FDA in the current thalidomide controversy is laudatory in the extreme. Every person in the United States should be everlastingly grateful to the FDA for its prompt and effective action against thalidomide.

However, I submit that these are two entirely different matters. Thalidomide, while apparently effective as a tranquilizer, has been proven to be unsafe in certain usages. Fish protein concentrate, on the other hand, has been proven to be not only safe, but effective.

In the first instance, the FDA promptly and efficiently carried out the duties for which it was created. In the second instance, the FDA has taken unto itself powers which the Congress never intended it should have.

Passage of the bills under consideration would, in this case, remove from the FDA its self-delegated power of determining what the general public will, or will not, accept.

I urge favorable action upon these bills.

Thank you, Mr. Chairman, for this opportunity to appear before you, and if there are any questions, I will be happy to answer them. However, I will have to testify that I am not an expert in the intricacies of this. But Mr. Levin and Dr. Leavell who are experts in this field, will follow and will be able to give you all the technical side in any questions that the subcommittee members may have to ask.

Mr. ROBERTS. The Chair would like to compliment the gentleman on his statement. It is in keeping with this usual effective and able presentations. We are generally in consonance with his fine work here in the Congress. We are proud of his work on our committee.

I have no questions, but I do appreciate your appearance.

Mr. Schenck?

Mr. SCHENCK. I have no questions. I am going to read his statement very carefully.

Mr. ROGERS of Florida. I want to say, too, we always put great weight in what our colleague says. His effectiveness on our committee has been shown year after year. I think that probably since he has not only testified but demonstrated for us this morning. We are very grateful to the gentleman.

Mr. SPRINGER. There was one thing further I didn't mention that I think I should. All over the world, especially in the underdeveloped areas which represent two-thirds of all the world's population, there is a tremendous demand for this kind of a concentrated protein that can be put into any kind of food. I wish I could have had the cookie here this morning which has 10 percent of this in it. This is the way this would be used, but, of course, a good part of nearly every country is bounded by the sea. In these areas, if they were able to set up factories to manufacture fish flour, it could have a tremendous im-

pact on those people who lack protein, and this is the one real problem, I understand from the State Department, in feeding people all over the world, that it is a very cheap yet effective way of having a protein concentrate that you can put in a loaf of bread or in any food that you have without in any way injuring it, damaging it, or affecting its esthetic taste, so to speak.

I do thank the committee for this opportunity to appear, and I hope you will excuse me in that I am not able to stay. I have a bill of my own before the District Committee this morning at 10:30, and it will be necessary for me to be there.

Thank you very much.

Mr. ROBERTS. Thank you, Mr. Springer.

Our next witness will be the Honorable Otis G. Pike.

STATEMENT OF HON. OTIS G. PIKE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. PIKE. Mr. Chairman, members of the committee, first of all, I want to thank the committee for scheduling hearings on these four identical bills introduced by Congressman Keith of Massachusetts, Congressman St. Germain of Rhode Island, Congressman Bates of Massachusetts, and myself.

Secondly, I appreciate the opportunity you have given me to appear and testify in support of this legislation, and I am delighted to do so.

It seems to me that this legislation which amends section 402(a) of the Federal Food, Drug, and Cosmetic Act has become necessary because of the interpretation which has been put upon that section by the Commissioner of Food and Drugs.

Mr. ROBERTS. Mr. Pike, may I interrupt you 1 minute? Mr. Schenck and the chairman have to be before the Rules Committee on a bill out of this committee, so——

Mr. PIKE. I quite understand.

I am sure that the members of this committee are more familiar with this section than I am, or at least than I was until I got involved with this legislation, but for the record let me just say that this is the section, generally, which allows the Commissioner to keep adulterated foods off the market, and which specifically says the following:

> A food shall be deemed to be adulterated if it consists in whole or in part of any filthy, putrid, or decomposed substance, or if it is otherwise unfit for food.

Now, certainly, that is language which I certainly can't disagree with, and I don't believe anyone in this room disagrees with it. I agree with it because the words have a common meaning and a common understanding, and the meaning and the understanding are bad. Filthy means dirty; putrid means it smells; decomposed means it's rotten.

Now, in my hand I hold a small package of this substance sometimes referred to as fish protein concentrate—more commonly referred to as fish flour.

Is it dirty? No, it is very clean.

Does it smell? I can't smell it. If you can detect a smell, it is a very faint smell indeed.

Is is rotten? No, and furthermore, you can store it like that indefinitely, without refrigeration, and it won't get rotten, either. What other foods can you say that about?

It is because of this product that I have introduced this bill. This product has been banned from human consumption in the United States because it is derived from whole fish.

The product, a clean, odorless, stable powder, has been labeled as adulterated. In order to arrive at this conclusion the Commissioner of Food and Drugs has had to take the clear words "consists in whole or in part of" in the act, and by administrative interpretation, make those words read: "is derived in whole or in part from." This is the crux of the matter. My bill is one which will make the Commissioner of Food and Drugs judge a product on its merits rather than on its ancestry.

I am well aware that this is a poor time to do battle with the Food and Drug Administration. The Commissioner is riding high, and deservedly so. The fact remains that this issue is completely different from the one which brought the fame.

No one in the Food and Drug Administration has said that there is anything in this product which will injure human beings. We know, and they know, that the contrary is the case. Other witnesses will develop the tremendous benefits which this product has brought, and can bring, to mankind. No one supporting this product has said, "Don't test the product—just license its sale." I say, test it exhaustively, but judge it by its merits; judge it objectively; and not in the manner it has been judged in the past.

Because it is derived from whole fish, it has been found to be adulterated. Whole fish include heads and fins and viscera and scales and bones. Our remote ancestors probably ate whole fish, or at least as much of them as they could chew. We still eat whole fish in the form of sardines, smelts, and anchovies. I, coming from the east end of Long Island, discard the shells, but otherwise eat whole clams and whole oysters, and eat them raw. Most of my constituents do likewise. They don't contain fins or bones or scales, but they do contain viscera. We eat soft-shell crabs, shells and all.

We clean our bigger fish by cutting off the heads and tails, scaling them, gutting them, and, if we're really showing off, by removing the fins. We do it with sharp knives, and as anyone who has ever gone fishing knows, it's a nasty job. Sometimes we remove the bones by filleting the fish; usually we do not; but cook the bones, too, and eat around them.

In the course of completely cleaning a whole fish with knives, we lose about one-quarter to one-third of its weight. All of the rest is considered good.

Now the whole fish which have gone into this fish flour have been cleaned, too—not with knives, but with chemicals. It is a far more effective cleaning. While in cleaning a whole fish with knives we discard about 30 percent of it, in cleaning the whole fish with chemicals in the manufacture of fish flour we discard 83 percent of it. Yes, 6 pounds of whole fish are reduced to 1 pound of fish flour by a chemical cleaning and washing process.

So what we are involved in here is not what a product itself is, but from what it is made. We are not even involved with whether

the raw material is clean, but with a determination that the cleaning process must be carried out by knives and may not be carried out by modern scientific processes.

This results in the ridiculous determination that they could market the flour if they manufactured it from fish which had been cleaned in the old-fashioned way, with knives, first. Now if I came in here with two packages of fish flour, one manufactured from whole fish and one manufactured from fish which had first been cleaned with knives, what would I have? I would have two packages which looked the same, smelled the same, tasted the same, and had the same chemical content. There would be no way to tell them apart except for the price—one would cost twice as much as the other.

The only thing which has been accomplished by interpreting the words "consists of" to mean "is derived from" is to defeat the entire purpose of a low-cost protein concentrate by making it a high-cost protein concentrate.

This product no more consists of anything filthy, putrid, or decomposed than farm products which have been fertilized with manure, consist of manure, or gelatin consists of the hoofs, bones, and tendons of cattle. In a country where we can buy and eat chocolate-covered ants and fried African worms, it seems a little crude to say that a product as clean and as beneficial as this one can't be sold for human consumption unless we make it twice as expensive without changing it in any other way whatsoever.

I hope that the committee will see this bill for what it is—an effort not to prevent the Food and Drug Administration from testing this product, but to make them test it objectively and judicially, and not subjectively and prejudicially. I hope that, seeing this bill for what it is, the committee will report it favorably.

I would like to say also, Mr. Chairman, that while I am delighted to answer any questions you may have, I am not an expert in the field. There will be others who are far more expert than I.

I want to say something else on the record here. The amount of financial benefit which would flow to my district if this bill is approved in all honesty doesn't amount to a hill of beans. I do have a fishing industry in my district and a plant which is prepared to make this product, but it is a relatively small plant and a relatively small industry. It was enough to get me interested in the subject matter. Having gotten interested in the subject matter, I have become quite adherent to the cause, but as far as the economic benefits that will flow to my district, they are relatively negligible. I simply want to say I have gotten passionate enough to write this bill and introduce it simply because I believe deeply in the benefits to mankind which may flow from this product and these benefits the other witnesses will talk about.

Mr. ROGERS of Florida (presiding). Thank you very much, Congressman Pike. We appreciate very much your coming here today and giving us the benefit of your views.

Any questions?

Mr. NELSEN. No questions.

Mr. ROGERS of Florida. Thank you very much.

We have now our colleague, Hon. Hastings Keith, a member of this committee. We are honored to have him this morning.

STATEMENT OF HON. HASTINGS KEITH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. KEITH. Thank you, Mr. Chairman.

I appreciate, Mr. Chairman, this opportunity to appear before you today in support of a bill concerning one of the most important developments in the area of food technology. More important, however, is the humanitarian, medical, and economic significance of this new product "fish protein concentrate," or as it is sometimes known, "fish flour."

First, however, I would like to commend my colleague, Otis Pike, for his forthright presentation here today. Congressman Pike has cut right through to the basic issue and the fundamental purpose of this proposed legislation, which is to clarify section 402(a) of the Federal Food, Drug, and Cosmetic Act in such a manner as to permit the use of a new food supplement that can be of unprecedented benefit to those people throughout the world who know the tyranny of hunger.

This is a brief, simple and, I submit, a reasonable amendment to the food laws, one which recognizes and attempts to benefit from the advances of modern science. In no way—as critics of the bill claim—would it "undermine" the safeguards built into our food laws for the protection of the consuming public. On the contrary, the amendment we propose would specifically require that any product offered under this clause would have to be "processed under sanitary conditions" and would, after processing, have to be "nutritious and in no manner harmful to the health of consumers thereof."

What reasonable person could argue with this?

The product offered must be sanitary, nutritious, and not harmful to the health of consumers. Certainly, this is consistent with the intent of our Federal food laws.

This amendment simply seeks by legislative means to correct what was an unforeseeable situation when this section was originally written. It will remove a technicality from the law which the Food and Drug Administration has applied in what I trust is an uncharacteristically arbitrary and unscientific manner.

The FDA has taken the position that since the product is made from whole fish it, therefore, must be "adulterated" under terms of this act. This view fails to take into consideration the fact that in this age of science we no longer need rely on the meat cleaver or gutting knife to prepare and clean our foods. This can be accomplished, as Congressman Pike pointed out, and more efficiently so, by modern chemical means, combined with such processes as repeated washings and high-temperature cooking. The end result in the case of fish protein concentrate, or FPC for short, is a product of high nutrient value, wholesomeness, and purity.

There has never been, to my knowledge, a question of purity or the public safety involved in this controversy over the acceptability of FPC as a human food. Instead, officials of the Food and Drug Administration have presumed in this issue to rule on "esthetic" qualities. They suggest that FPC isn't very appetizing and that the American consumer would find such a product "esthetically objectionable."

Now, I want the record to show that I have the greatest respect for the mission of the Food and Drug Administration. In light of recent

news stories concerning the fine work of Dr. Kelsey, for example, I think every American is thankful that we have in the FDA an agency that is designed to protect the public health. This is a function the Food and Drug Administration has performed with diligence over the years.

However, I do not believe Congress intended to grant to any agency or official of that agency the right to dictate individual tastes. I don't believe Congress ever meant to vest in the FDA the power to withhold arbitrarily from the public any food which would be safe and nutritious. To do so would be a distinct disservice.

Mr. Chairman, we are not talking about some exotic, faddish product with a limited appeal and of dubious benefit to the consumer. I wouldn't presume to take the committee's valuable time if that were the case.

I think it would be helpful at this point to define just what is meant when we talk about FPC or "fish flour."

First of all, it's not a flour at all, but rather a high-quality animal protein that has been successfully employed as a food supplement throughout Latin America and elsewhere in the treatment of severe cases of protein deficiency and general malnutrition.

With your permission, Mr. Chairman, I would like to show the members of your committee some photographs. This will show you what we are fighting in these developing nations. The very young children are always the ones who suffer to the greatest extent. These pictures will illustrate that.

The first three were taken by Dr. King, president of the Nutrition Foundation of New York City in El Salvador and Jamaica. They show children who are the victims of severe protein deficiency. They are the victims of kwashiorkor. These pictures show ulcerations, loss of hair, swollen faces, and abdomens. And I offer these to the committee for their consideration.

Mr. ROGERS of Florida. We will make these a part of the file on this bill.

(The photographs referred to will be found in the files of the subcommittee.)

Mr. KEITH. Thank you very much.

This fourth picture taken in Peru is an even more pitiful case but compare it with this one [indicating] taken just a few months later after treatments including the supplementation of the child's diet with whole fish flour. This [indicating] is the first one, Mr. Chairman. This [indicating] is the one taken 3 months later. And I submit that these are very dramatic proof of the great nutritional value of this food supplement.

The American product is an odorless, tasteless, buff-colored powder made from whole fish. Its protein content is about 80 percent—which is even higher than that of beef or skim milk.

Because the manufacturer can utilize sizes and species of fish that would otherwise have little commercial value, it can be produced cheaply and would sell for about 14 cents a pound.

Because it has been defatted and dried, it is very stable and can be stored for long periods in adverse conditions—without refrigeration—with no spoilage or waste.

It is of great value, then, for the developing areas of Latin America, Asia, and Africa, where millions of people have inadequate diets for proper health and growth. The addition of 10 percent FPC, for example, to any cereal gives the combination the nutritional value of milk.

Obviously, because it is inexpensive to produce, extremely nutritious, easily transported and stored, such a food supplement would be of tremendous value in such programs as food for peace or our other aid programs designed to help developing nations.

Incidentally, at this point I might mention that fish has a wide acceptance as food throughout the world and FPC would, therefore, not conflict, as have some other products, with religious prohibitions and native taboos.

It has been pointed out on several occasions by Food and Drug that a present exemption in the food laws permits the sale overseas of a food not approved by FDA for consumption in this country, so long as the recipient Nation will permit its importation. While this is true, the value of this product would certainly be minimized, if not lost altogether, if our friends overseas learned we were preparing to send them a food that our own Government has in effect branded "unfit for food." As a matter of fact, our good intentions in such a case could and probably would be perverted and turned against us by Communist agitators and propagandists.

Another example of how we are being denied the unique benefits of this remarkable new product is shown in a letter I received a year ago from the Department of Agriculture. I had suggested that "fish flour" might be of significant value in building emergency food stockpiles for use in event of atomic war, particularly because of its high protein content and stability under adverse storage conditions. The answer I received, in part, was as follows, and I quote:

> Since the Food and Drug Administration has withheld approval of the sale of this product in the United States, we could consider it as a potential stockpile item only after its approval for domestic use.

This same attitude, of course, prevails in other Federal agencies. We have been in touch with the State Department, Food for Peace, Peace Corps, Civil Defense, and so on. They are all very enthusiastic and very interested, but must await some action by the FDA.

Several months ago, for example, the former Director of Food for Peace, George McGovern, commented on this problem in an interview on "Washington Viewpoint," a program produced by Westinghouse Broadcasting Co. A reporter asked Mr. McGovern how countries overseas would feel about our trying to foist something on them that we apparently don't want ourselves.

Mr. McGovern said this in answer:

I think this does raise a problem for us in terms of our relations with other countries. It would be easier for the United States to encourage the use of fish flour abroad if it were entirely acceptable to our own Government agencies here at home.

This, then, is why we are here today, to try to overcome this obstacle here at home.

The FDA insists that, in contrast to gelatin, for example, which is produced from certain unappetizing portions of animals, or sardines, which are eaten whole, or the drinking water we all consume, which very definitely has an unappealing history of mud, sludge, and filth, FPC must be considered unfit for human consumption solely because it is manufactured from whole fish.

On the other hand, proponents maintain that the product is wholesome in its final state—pure chemically and bacteriologically, and of dramatic nutritional value. We say the Commissioner is mistaken in his interpretation of section 402(a) and in its application in this instance. We have attempted through administrative channels to overcome this objection by presenting scientific evidence to refute this position. After long delays, the agency issued a ruling rejecting this process and has maintained that the product must be made from fish which have been eviscerated—a proposal which would completely defeat, as Mr. Pike pointed out, the purpose of FPC in providing a wholesome, inexpensive source of protein. It would in no way improve the quality of the product. Quite the opposite, such a process would actually reduce the nutritional content.

It appears, therefore, after nearly 2 years, we have reached an impasse.

This is why there is a need for legislation. If the FDA interprets a law, in such a way as to deprive the public of a clearly useful and beneficial product, simply because the process of manufacture is perhaps new and revolutionary, then it is incumbent upon Congress to clarify the law and define its application.

There is a great deal more that I could say about this subject and how I feel that FPC is of vital importance to the Nation as a whole, its potential in our foreign aid programs, and in civil defense.

If the members of this subcommittee could see the results of field tests in Peru, for example, where children suffering from malnutrition have been brought back to good health with FPC, you would feel that I am not overstating the case. Despite all our advances on other fronts, hunger remains the great human problem of this century.

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As I mentioned, favorable consideration of this bill would mean a great deal to the American fishing industry. It would perhaps provide the margin of profit needed by an industry that is hard pressed to meet foreign competition.

The city of New Bedford in my district is the second largest fishing port in the United States in terms of dollar volume. It is the scallop and flounder "capital" of the world, and, I am proud to say, home of the first fish protein plant in the country. More than 160 fishing vessels sail from this port and provide jobs for some 700 persons—not counting the many jobs in affiliated industries. In all, it is a $100 million a year business and vitally important to the economy of the entire State. I can tell you that the development of the FPC plant could be an important element of this economy and one that is supported by the entire city enthusiastically.

However, this, in truth, is a relatively minor consideration in the issue at hand. We have the means in FPC to convert the protein of the sea into human food. This is the prime consideration when we recall the President's statement last year that "protein malnutrition is, in fact, a serious disease affecting nearly two-thirds of the world's population."

One of the FDA's less credible assertions concerning this product has been that the public would not accept it. I challenge this and would offer as proof the mail received by the hearing clerk of the Department of Health, Education, and Welfare last year following the publication of the standard of identity for whole fish flour. A majority of these letters were from individuals who strongly supported approval of this standard.

I think the press is also a good indication of public sentiment, and I would note that enthusiastically favorable editorials and articles have been published on fish flour in the country's leading newspapers and magazines, including Life, Newsweek, the St. Louis Post-Dispatch, the Boston Herald, Providence Bulletin, Chicago Tribune, Indianapolis Star, the New Bedford Standard-Times, Brockton Enterprise, and others.

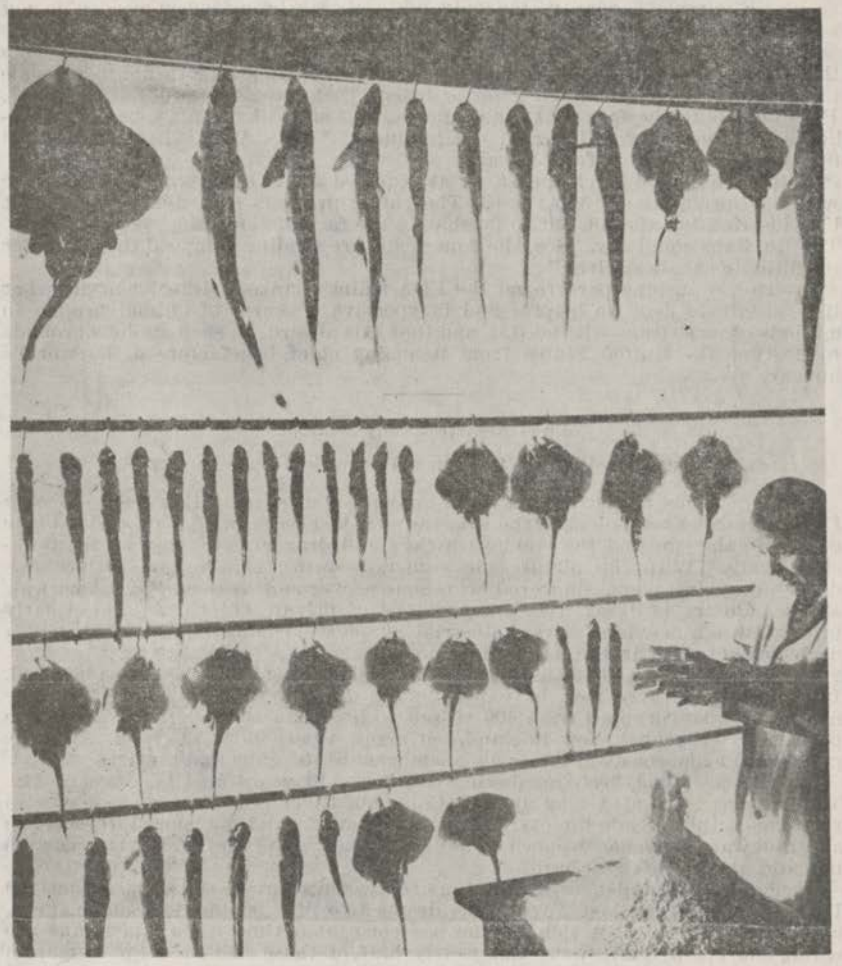
If the chairman will permit, I will offer these articles for inclusion in the record.

Mr. ROGERS of Florida. Without objection, so ordered.

(The documents referred to are as follows:)

[From Life, June 29, 1962]

A Miracle of the Fishes



The fish in this picture would be unfamiliar to most fish-market patrons. They are strictly "trash fish"—skates, dogfish, whiting, and sea robin. Yet converted into the powder being sifted through the scientists' hands at lower right, they may offer a revolutionary solution to the world's hunger problems.

Though they make up perhaps half the catch from the oceans, trash fish have no commercial food value, so they are usually thrown away. Now scientists of the Department of Interior's Bureau of Fisheries, headed by Ernst R. Pariser (above), are developing new processes which convert the entire fish, scales, and all, into a powder that is tasteless, odorless, chemically pure and rich in vital animal proteins.

Two billion of the world's people are badly undernourished, and millions actually die of starvation for want of these proteins. In dramatic medical tests the new fish powder (called FPC, for fish protein concentrate) has achieved remarkably rapid cures of protein deficiency diseases. There are other effective protein concentrates, but none cheap enough to use on a universal scale. When mass-production processes are perfected, FPC—mixed in stews, vegetable dishes, and baking flour—could furnish everyone in the world with his animal protein requirements at a cost of only half a cent per person per day. To make this economic miracle a reality, the only major breakthrough now needed is not scientific but bureaucratic.

An unusual Food and Drug Administration ruling is all that now prevents the completion of FPC development so trash fish can begin to nourish people instead of seagulls. Though Interior insists that the fish powder is harmless, FDA objects to the fact that scales, heads, and entrails are all used. FDA believes consumers "would regard the product * * * as filthy," hence has ruled firmly that FPC is unfit for U.S. sale.

If the fish had to be cleaned first, as required for FDA approval, the powder would be prohibitively expensive. The ruling prevents only domestic use, not U.S. distribution abroad, but to do that in the face of the ruling would be folly. The Russians could say, "See, the Americans are sending you food they consider too filthy to eat themselves."

Interior is pushing hard to get the FDA ruling changed. Interior argues that it is unfair to deny so helpful and inexpensive a source of animal protein to millions of Americans who need it, and that it is absurd, on such dubious grounds to prevent the United States from becoming chief benefactor to the world's hungry.

[From Newsweek, July 23, 1962]

FISHERMEN'S WOE: WHY THEY DON'T GO DOWN TO THE SEA

To the schools of tourists on their annual summer migrations, the old New England fishing towns looked the same as ever last week, with cork-studded nets drying in the sun and the stubby trawlers and draggers creaking on the dockside swells. With the picturesque scenery, however, there was forlorn evidence—decaying piers, shuttered warehouses, wornout vessels—that America's oldest industry is dying. Once a keystone of private enterprise, whose early profits led to a new land's first industrial complexes, commercial fishing is now a neglected soft spot in the national economy.

In the past decade, 31,000 fishermen and 16,000 fishing boats have been beached. In Gloucester, where men have been going down to the sea since 1623, the fishing fleet has dropped from 400 vessels to less than 100. Distress signals are particularly urgent in New England, but many a port along the lower Atlantic, gulf, and Pacific coasts also may be abandoned to the gulls and tourists.

San Diego's tuna fleet, numbering 833 boats 10 years ago, is down to 210. The salmon catch off Alaska and the Columbia River is half of what it was 15 years ago. In a decade the oyster take from Long Island Sound and Chesapeake and Delaware Bays has dropped 19 million pounds. The Gulf of Mexico's shrimp industry also has been hit hard.

Once a strong challenger to Japan as the world's foremost fishing nation, the United States in the last 2 years has dropped to fifth behind Red China, Peru, and Russia. Ironically, this decline has come at a time when Americans are eating more fish than ever. But nearly half of these fish are now caught in foreign boats; by 1975, the foreign boats will account for three-quarters of all fish eaten in the United States.

Foreign competition, archaic laws, the vagaries of nature (disease has decimated the oyster beds; the shrimp have moved to deeper waters in the gulf), and the high cost of modernization have all had a part in entangling the industry in a skein from which it may not be able to escape. But among the basic troubles are the very virtues that once gave the fishing industry its strength—the independence and stubbornness of men who fish for a living. Unlike the farmer, the fisherman has asked for, and received, comparatively little Government aid.

"The trouble with the fishing industry," says Ray Kershaw, head of the Gloucester Whiting Association, "is that it is made up of rugged individualists who don't share problems in common." "The only time the industry came close to uniting was after World War II," adds Thomas O'Brien, one of Gloucester's top

fishing agents. "But they didn't know how to unite." On the question of tariffs, for instance, fishing-boat operators would like to see them rise; processors want them left alone. Because segments of the industry frequently contradict each other, strong allies of the industry such as Senator Leverett Saltonstall, of Massachusetts, are inclined to be cautious about tackling its legislative problems.

UNITED FRONT

If the fishing industry ever got together effectively, it could still mount considerable pressure. Fragmented and declining as it is, commercial fishing is important to the economies of more than a dozen States; it employs in all its phases about 540,000 workers. The 130,000 who go to sea received $364 million for a 1961 catch that sold at retail for $1.1 billion.

United, the industry's first act would be to modify a 1792 Federal law that has had more to do with the obsolescent state of the U.S. fishing fleet than any other factor. Kept in force by the more influential shipbuilding industry, the law forbids the purchase of foreign-built fishing vessels of more than 5 tons.

Noting that the 1792 law is one of a kind, Senator Benjamin Smith II, of Massachusetts, points out that "no other industry is forbidden to use foreign capital equipment."

Building fishing vessels in the United States is prohibitively expensive, even though Congress appropriated $750,000 in 1960 to subsidize one-third of the cost for a few new boats in New England. The cost of a 124-foot steel trawler built in the United States comes to about $450,000, twice the price in a Dutch or Scandinavian boatyard. Along with bargain prices, the foreign fisherman gets considerably more encouragement from his government to modernize. In Canada, an increasingly strong competitor, a fisherman can buy a $150,000 boat for $9,000 down. The Canadian Government pays 40 percent of the cost, and the Province of Quebec will lend interest-free all but $9,000 of the remainder. Ireland and France subsidize half the costs of new fishing boats.

UNDER THE PAINT

American ports are filled with aging boats because of the high cost of building. In Gloucester, the average trawler is 25 years old. Family-owned, the boats are kept in top repair, brightly painted with orange masts and sea-green hulls. But the spirited colors don't fool the insurance men. With seaworthiness in question, insurance premiums on most boats are almost out of reach—in some cases, the cost of insurance over 10 years would pay for a new vessel. And the Gloucester boats are in better shape than the rusting hulks that berth at the dilapidated Boston Fish Pier, or in Portland, Maine, where one member of the little fleet has been going to sea for 75 years.

Few of the fishing vessels that sail from Russian ports are more than 10 years old. The men of Gloucester, who fish the Georges Bank due east of Cape Cod at this time of year, have been getting a good look recently at the Soviet trawlers and factory ships which process and freeze the catch on the spot. So far, in what was once virtually a private U.S. preserve, they've counted more than 100 steel-hulled Russian vessels, nearly all of them newer, larger, and far better equipped than the wooden trawlers in the doughty Gloucester fleet. Even Ghana, an undeveloped nation only 5 years independent, has trawlers more up to date than America's.

A new and gleaming Danish trawler paid a call at Portland recently, showed off its modern gear and its carpeted, air-conditioned crew's quarters. When one of the visitors pointed out that at the end of a day's work he went below and put on a smoking jacket, an unabashed New Englander replied: "When we finish our work, we go below and put on lifejackets."

Along with the discomforts and dangers, most American fishermen must contend with wages that bear no stable relationship to retail prices. Gloucester fishermen, for an extreme example were recently receiving 1.5 cents for a pound of whiting which retailed at 26 cents a pound a few blocks away. Normally, they get an average of about one-third of the retail price. When fishing is good a crew member may earn $135 for a 7-day trip, but he gets few fringe benefits. Result: Not many young men are following their fathers to sea. In Boston, 70 percent of the commercial fishermen are 51 or older.

Why isn't more done to help an obviously troubled industry? Pat McHugh, secretary-treasurer of the Atlantic Fishermen's Union, may have the answer: "There is no doubt in my mind that this whole industry has been sacrificed for

the national defense." McHugh points out: "President Eisenhower turned us down twice when the Tariff Commission agreed that we need protection. I'm not blaming Ike, but we were sacrificed because of bases in Iceland. President Kennedy isn't helping either." As the industry well knows, fishing is more important to the economies of friends such as Canada, Iceland, and Norway than it is to the United States. And that, of course, may have much to do with Washington's indifference to the home fisherman's plight.

BACKWARD

But if American fishermen are being sacrificed to foreign cooperation, they are also paying a high price to tradition. "It is backwardness of technology, even more than wages, that allows fishermen in other countries to undersell us in our ports," says Senator Smith, whose brief career as the fishermen's good friend in Congress will end in January with expiration of his interim appointment as replacement for an old Harvard roommate, John F. Kennedy.

There is no question of matching the modern boats of Russia and Japan. But modern gear would have helped the Maine sardine industry last year when the herring catch fell disastrously to 51 million pounds, from 152 million in 1960. Each year, Maine loses thousands of bushels of herring because its antiquated seining gear cannot be used on its rocky coast. In similar conditions, European fishermen have developed a way to attract herring with lights and suck them into boats with pumps.

Gloomy as the general picture is, two U.S. fishing ports are thriving. Both—San Pedro, Calif., and New Bedford, Mass.—use their old boats in new ways.

Three years ago the tuna industry in San Pedro, a waterfront extension of Los Angeles and the busiest fishing port in the Nation, was "up against the wall" in the words of the Bureau of Commercial Fsheries. Now the California Department of Fish and Game is warning against the dangers of depleting the tuna supply by overfishing, even though the queen of the San Pedro fleet is a 19-year-old converted minelayer. In the interim, San Pedro's tuna clippers have been converting from pole fishers to purse seiners—vessels employing huge nets which can be closed like the strings of a purse, capturing thousands of fish in a single sweep. Equipped with radar and sonar devices, and in some cases with tuna-spotting helicopters, the clippers are able to find a new school of fish every half hour against the old average of two or three times a day.

TASTY CHANGE

New Bedford, the greatest whaling center of the 19th century, has become in recent years the world's leading producer of scallops, and its fleet has grown by 30 vessels in the past decade. Much of New Bedford's success is due to modern merchandising (e.g., an annual scallop festival).

Nothing has excited the fishing industry in recent years as much as the development of an inexpensive, high-protein product called fish "flour," a powder which utilizes a fish's nearly worthless head, fins, and internal organs. Obviously, such a product would be a boon to an industry that now discards 2.4 million pounds of waste for every 1 million pounds of fillets. Fish-flour advocates claim it can help alleviate most of the globe's nutritional problems. But for what Senator Paul Douglas of Illinois, a fancier of fish flour, calls esthetic reasons (the American housewife would be repelled by such a product), the Food and Drug Administration has ruled that it cannot be sold in the United States. A product banned in its homeland has little export value.

Even if the FDA changes its mind, fish flour could hardly be more than a palliative for an industry whose basic problems seem far too deep for any solution short of a strong and quick infusion of scientific technology—modern boats and gear, new methods of locating and preserving the catch. Already in precarious financial condition, the industry isn't likely to handle the job on its own.

What are its chances of getting the "immediate and long-term Government assistance" that Senator Smith says the industry must have if it is to survive? No one can say for certain, but one expert in the ways of fisheries and Congressmen notes: "Only five Senators listened to Smith's plea from the floor to give American fishermen a chance to compete on even terms with foreign boats. Obviously, there wasn't much interest. It would be sad to see the fishing fleets disappear, but Congress has so many problems to consider."

[From the St. Louis Post-Dispatch, Sept. 25, 1961]

REVOLUTIONARY NEW FOODS

Fish flour is a diet item of which most Americans probably have never heard. But to some 1,800 million human beings, comprising two-thirds of the world's population, in most of the underdeveloped countries, who cannot afford meat and milk, it offers a means of getting animal protein into the diet and alleviating serious problems of malnutrition. Along with fish flour, which takes the place of meat, a new fluid has been developed to take the place of milk—a predominantly vegetable mixture evolved after 7 years' effort by the Institution of Nutrition of Central America and Panama, and called Incaparina. Fish flour, which is 80 to 85 percent protein, can be produced for as little as 15 cents a pound, and Incaparina, also high in protein, for a cent a glass.

The United Nations Food and Agriculture Organization has taken an active interest for the past 10 years in the development of low-cost protein foods for protein-deficient countries. Fish flour is now being produced for human consumption in Peru, the Union of South Africa, Morocco, Sweden, Norway, Germany, Canada, and the United States. Here in our own country, Senators Douglas, of Illinois, and Saltonstall, of Massachusetts, in whose States plants of the industry are located, have been trying to get fish flour approved by the Food and Drug Administration as a food.

The FDA objects because the flour, being made from whole fish, contains ingredients not ordinarily considered fit for human consumption in the United States and must therefore be termed adulterated. Senator Douglas says the FDA admits fish flour is wholesome; he contends the FDA objections are esthetic. If fish flour is wholesome, what objection can there be to approving it, provided it is clearly labeled? Americans with small incomes, who are not bothered by esthetics, might find it valuable in relieving protein deficiency. Also, it would be awkward for Americans to recommend to their undernourished friends food they themselves were unwilling to eat.

[From the Boston Herald, Oct. 22, 1961]

FISH FLOUR

Half the people of the world today are suffering from some form of malnutrition and millions are suffering specifically from protein deficiency. Yet one of the cheapest and most abundant sources of protein is being kept off the world market by red tape in Washington.

This is a food additive called whole fish flour, which is being manufactured in New Bedford and New York out of trash fish which until recently were considered worthless.

Preliminary tests have shown this flour to be highly effective in curing kwashiorkor and other childhood and adult diseases resulting from protein deficiency. The product, which is made out of whole fish—dried, defatted, deodorized, and reduced to a fine powder—can be successfully manufactured at a price of only 14 cents a pound. Its protein content is in excess of 80 percent by weight.

Why then is it not being rushed out to Africa and Asia and Latin America, where such concentrated food is desperately needed?

The answer, so far as the American product is concerned, is that the Food and Drug Administration has denied its approval. The FDA has found "informally" that whole fish flour is an adulterated article under the law because it was made "without the removal of those portions of the fish, including the intestines and intestinal contents, that are not regarded as acceptable for human food in the United States."

Technically this foot-dragging by the FDA does not bar the exportation of fish meal. But it would be psychologically unsound to ship abroad food which has been officially labeled unfit for human consumption in the United States.

Representative Hastings Keith and Senators Saltonstall and Smith of Massachusetts are working hard to persuade the FDA that this wholesome and health-giving food product comes within the pure food laws and violates, if anything, only a vague esthetic standard. Mr. Keith has even introduced a bill to make the statutory requirements more flexible.

Meanwhile, however, the world's hungry wait. Such whole fish flour as they get comes from Russia and the Scandinavian countries. The United States, whose fish leftovers are now going to feed mink, cannot help.

[From the Indianapolis Star, Nov. 22, 1961]

LET THE TASTE TELL

Some American fish processors are in a debate with the Food and Drug Administration over the marketing of a food substance known as fish flour. It is not a flour, actually, but a protein powder produced from fish by a series of cooking, washing and grinding processes.

Fish flour is touted as a very beneficial food, particularly for people whose diets are limited by poverty, because it provides highly nutritious protein and minerals at relatively low cost.

The FDA, however, has so far refused to permit sale of fish powder for human consumption. The FDA holds that it must be regarded as an "adulterated" product because it is made from whole fish which include "esthetically objectionable" parts. It is not argued that the product is impure or unwholesome or harmful. It is simply the idea to which the FDA objects. It figures the stuff might be repugnant.

An argument like this, as a matter of Government regulation, makes no sense at all. Who are the FDA bureaucrats to decide what people will like or not like to eat?

Such arrogance is the constant peril of Government regulation. Certainly the operations of the Food and Drug Administration are of great value and necessity in guarding the public against harmful substances, against mislabeling and against the kind of adulteration or other deceit which result in products which are not what they pretend to be. But when the agency bans a food product on the ground of esthetics it is downright silly.

We haven't the slightest idea whether anyone wants to eat fish flour or not. But if it is wholesome and someone wants to offer it for sale, people should be allowed to decide for themselves whether they like it or find it repugnant.

[From the New Bedford Standard-Times, Oct. 31, 1961]

FISH FLOUR NEEDS HELP

An important local industry.
A vital protein food.
A cheap, easily transported nutrient.
A tool in the "cold war."

Fish flour fits this description—a food that underdeveloped nations need badly but do not get in sufficient quantities because the U.S. Food and Drug Administration has ruled that fish flour is "esthetically objectionable."

For more than a year the New Bedford Fish Products Corp., with the assistance of lawmakers in this area, has pressed the FDA to withdraw its objections to the sale of fish flour in the United States. If this is done, fish flour could be expected to get much wider distribution abroad.

Worldwide distribution of fish flour will do much for humanity. Supporting this view, George McGovern, director of the Food for Peace program, told delegates to the International Conference on Fish in Nutrition:

"Viewed against the pitiful backdrop of the world's crippled children, any decision to curb the production of a healthful product * * * is not sound."

Persons who have tasted fish flour have voiced no objections to it. What holds back Federal approval is the section of a food law that forbids certain decomposed substances from being sold.

While fish flour is made of whole fish, it is first ground and washed with chemical solvents, then cooked and dried. The result is a food that contains more proteins than beef or skimmed milk.

Learning the advantages of fish flour, Welfare Secretary Ribicoff ordered the FDA to take a second look so that it may be sold everywhere in the world and take its place as an important nutrient from the United States.

That second look probably will be given later this year. But in order to get the complete record on fish flour, lawmakers in four States have asked residents of Greater New Bedford, members of the fishing industry, and anyone else interested, to make known their views in favor of this important product.

Mail in support of fish flour should be sent by November 15 to the Hearing Clerk, Department of Health, Education, and Welfare, Room 5440, 330 Independence Avenue SW., Washington 25, D.C.

There is one important point to remember. Each letter must be accompanied by five copies, according to FDA regulations.

The New Bedford Fishermen's Union, at 62 North Water Street, and the New Bedford Seafood Council, at 60 North Water Street, have volunteered to make such copies for those who are unable to do so themselves.

The means are at hand to aid a New Bedford industry and to provide a valuable food for the world. A letter—plus five copies—will do it.

Mr. KEITH. This approval is backed by many of the country's outstanding food scientists and physicians, and I will provide a list of them, along with their comments.

(The listing mentioned is as follows:)

EXTRACTS OF FOOD SCIENTISTS (AND OTHERS) IN SUPPORT OF THE ORIGINAL PROPOSED STANDARDS FOR WHOLE FISH FLOUR

Many of the country's outstanding food scientists wrote letters to the Food and Drug Administration in support of the original proposed standard for whole fish flour. This impressive support was ignored in the Commissioner's summary of the evidence:

Dr. E. R. Pariser, research chemist, Bureau of Commercial Fisheries Technological Laboratory, College Park, Md.: "Fish protein concentrate represents the beginning of an entirely new fishing industry; it will develop as explosively as the growth of world population; it will rank foremost in importance with but a few other industries, capable of producing a cheap, high-quality food, available to everyone, everywhere. We feel so confident about this trend that we consider it to be our duty to make a most vigorous effort for the United States to be in the vanguard of this advance."

Paul G. Hoffman, Managing Director, Special Fund, United Nations: "While in Peru quite recently I inquired as to the status of the fishmeal experiment. Reports I received were most encouraging. On the basis of these reports, I am perfectly willing to write to the Food and Drug Administration, advising them of my personal interest in the production of low-cost, high-quality protein."

H. M. Scott, professor, animal science, University of Illinois: "If the idea of consuming whole fish flour disturbs the esthetic sense of some people, this by itself should not deny others the right to use this material if they choose to do so. There is ample experimental evidence to indicate * * * that whole fish flour is superior to the pattern of any single fraction of the fish * * *. The issue should be resolved on a nutritional basis."

Margaret A. Ohlson, director, Department of Nutrition, State University of Iowa: "I can visualize many uses for the product * * * including use in our society in the event of a major disaster which would limit our normal food supplies."

Dr. H. E. Schendel, research associate in nutrition, University of Illinois: "The availability of fish flour for enrichment of dietary protein now requires the immediate attention of statesmen. The persistence of protein malnutrition in the years to come will be a judgment which the shoulders of statesmen, rather than nutritionists, will have to bear * * *. The evaluation of a product so vital to the survival of millions over the world should be made on the basis, not of esthetic objections, but of more objective criterion; i.e., nutritional value."

Agnes Fay Morgan, Department of Nutrition, University of California: "If the only objection is an esthetic one, let this be plainly stated and let the prospective beneficiaries make their own decisions, both here and abroad."

Harry G. Day, chairman, Department of Chemistry, Indiana University: "Fish flour can be of great value in meeting the nutritional needs of people in all parts of the world, including the United States. There is a great difference between fish flour and foods that are contaminated with filth."

R. Adams Dutcher, professor emeritus, Pennsylvania State University and fellow, American Institute of Nutrition: "Protein deficiency is the most important nutritional problem facing the world today * * *. It is my considered opinion that so-called fish flour most nearly meets all the most desirable specifications for a protein-rich food concentrate."

Lucien A. Bavetta, professor of nutrition, University of Southern California: "This is a high-quality protein which has been shown repeatedly to greatly augment the biological value of the more abundant but less nutritionally balanced plant proteins."

J. A. Anderson, Ph. D., professor, Utah State University: "Fish protein should be one of the most effective proteins available to supplement man's diet."

Victor J. Stone, Esq., law building, University of Illinois: "I am surprised that FDA considers esthetics a part of its concern. I had thought that its job was to protect against physiological injury * * *. To me, the notion of grinding up a whole fish and processing it into fish flour is not the least bit repugnant. I would have no hesitancy in eating products made of it."

Johnson-Metta-Schendel study, "The Nutritive Value of Fish Flour," University of Illinois: "An odorless, defatted fish flour, evaluated for its protein quality by the Mitchell method, was found to have a biological value of 88 percent. At the 10-percent protein level in diet, its protein efficiency ratio (gram grain per gram protein consumed) was 3.24 as compared to 2.85 for skim milk and 3.15 for beef * * *. When fed as the sole source of protein, fish flour proved as adequate as casein for the reproduction and general performance of rats through four generations * * *. All our data support the view that a good fish flour could be of real significance in helping to supply the protein needs of the world."

FAO International Conference on Fish in Nutrition, 1961, Washington, report of U.S. delegation: "The papers presented at the Conference * * * indicate that a 'fish flour' can be prepared so that it will retain high nutritional values, as shown in both animal and human experiments * * *. The U.S. delegation introduced a recommendation that FAO should develop minimum standards for fish flour * * * and adopt measures to encourage the production and consumption."

Anthony A. Albanese, Ph. D., director, Nutrition and Metabolic Research Division, Burke Foundation Rehabilitation Center, New York: "Some of the tolerances which the FDA will accept in foods serve to emphasize their complete lack of understanding with regard to 'fish flour.' I wonder how many of our citizens realize that cow manure is a permitted tolerance in milk. * * * Actually, the preparation of fish flour is a far cleaner process than is the preparation of gelatin from carcass residues of farm animals."

Dr. Frederick J. Stare, chairman, Department of Nutrition, Harvard University: "On the protein score, you cannot improve on or surpass the quality of fish protein * * *. Fish should be included in the diet at least four times per week."

Mr. KEITH. Before concluding, I want to comment just briefly on a particularly unfortunate situation related to this issue, which has caused considerable confusion. Chief opponents to FPC, aside from the Food and Drug Administration, have been from the great wheat-producing States of the Midwest. This is unfortunate, not that we should have some oppostiion, but that this opposition stems from a basic misunderstanding as to the purpose of this product. The word "flour," I am afraid, has been the red flag in this case, and has unnecessarily alarmed the milling interests.

As I have said, this is not a flour at all, but a protein supplement designed and intended to be added to existing foods. It can be added, for example, to the native diet in an area where there is a lack of quality protein. FPC has nothing to do with the grain flour we consume in great quantities. It cannot be used alone to make food—it is merely a supplement to be used much as we use vitamins in the supplementation of our diet.

"Fish flour" can actually be helpful in increasing the use of wheat in foreign countries, where a high quality protein is required. The addition of a small amount of FPC to the wheat product would transform it into a food with the protein equivalent of milk.

Mr. Chairman, others can point out many more significant aspects of this produce and comment, I am sure, on more technical matters.

I would like to thank the subcommittee once again for this opportunity to present my views and conclude with this observation:

Fish flour, or FPC, as you wish, offers great promise to the millions of people in the world today who suffer "chronic starvation."

The Bureau of Commercial Fisheries points out that our American industrial fisheries could supply from the catch of just one fishing season all the protein needed by our entire population during the expected 2-week period of national emergency that would follow a massive nuclear attack.

Our fishing industry today could produce enough fish protein concentrate to squelch the severe protein malnutrition throughout South America. Think of the implications of such a program.

All the significant benefits I have listed today could be lost, however. We must not permit an "esthetic objection," if indeed one exists, to delay any longer the worldwide distribution of a product that could become one of our most effective weapons in the global fight against hunger and disease.

Thank you, Mr. Chairman.

Mr. ROGERS of Florida. Thank you very much. We appreciate this very fine statement and the thoroughness with which you have presented it to the subcommittee.

Mr. O'Brien?

Mr. O'BRIEN. I would like to join the chairman in that statement. It is a remarkably clear and fine presentation of views.

But do I understand that the sole objection is because the product is from whole fish?

Mr. KEITH. I think that Food and Drug, who will probably testify at a later time, will perhaps back up the reasons back of this objection which they have raised. They would word it a little differently, I believe, than you have put the question, but it is based upon the fact that the whole fish contains filth and the law prohibits filth from being included.

Our logic is that after this washing process, the filth no longer exists, And therefore, we feel that that argument that they raise is inadequate and illogical.

Mr. O'BRIEN. We permit practically everything that constitues a pig to go into human consumption, don't we?

Mr. KEITH. We do. I think chitlins, which is a favorite food in some parts of the South, is the intestines of the pig, but as——

Mr. ROGERS of Florida. What about scrapple?

Mr. KEITH. I have often wondered what was in scrapple, but I never dared find out.

As Mr. Pike said in his testimony, up in our neck of the woods, and in yours, too, we eat, with relish, oysters, quahogs, and my daughter—I have two daughters and it is very fortunate in that their appreciation of clams varies. The older daughter, who maintains a more esthetic point of view, discards the stomachs and perhaps she has read Mr. Larrick's testimony, when she eats a fried clam, and the younger daughter likes the flavor of the stomachs and discards the necks. And I get the shells.

Mr. O'BRIEN. What is discarded from a lobster for human consumption?

Mr. KEITH. Well, the people who are knowledgeable about eating lobsters, and I coming from Cape Cod, are very careful to eviscerate the intestinal tract that goes down the tail of the lobster. I eat the green which many people—it is tomale, the liver, I believe—many people esthetically can't understand how I could eat this green, and

then there is something which is called the mother of the lobster. I don't know what it is but my mother told me about it and I never have eaten that. I don't know just where it is located.

Mr. O'BRIEN. But all those things are permissible and they are consumed by some people.

Mr. KEITH. Certainly lobster is not prohibited from going on the markets even though some people consider it as lacking in esthetic appeal.

Mr. O'BRIEN. Thank you very much.

Mr. KEITH. Thank you.

Mr. NELSEN. I wish to thank my colleague for the very thorough statement that he has made, and it represents a good deal of study and application. I think all of us recall his very industrious activity dealing with the cranberry situation, and I think his district should appreciate his thorough representation of their problems here, and I thank him for his statement.

Mr. KEITH. Thank you.

Mr. ROGERS of Florida. I wonder if you might tell us where this fish protein product is produced mainly now. You mentioned, or maybe one of the experts will tell us.

Mr. KEITH. Well, I will be glad to identify the prime source of the product at the moment, which is in the city of New Bedford, and we are going to hear later on from Mr. Levin who owns VioBin—or is one of the owners of VioBin Corp., which has a plant in my district. We are going to hear also from Dr. Jukes whose knowledge of this problem started back in 1927 when they discovered that cod liver, which I believe would be considered unesthetic——

Mr. ROGERS of Florida. I would agree with the gentleman.

Mr. KEITH (continuing). Was a very fine source of a healthy nutritional food, and when fed to chickens which weren't otherwise laying, the health of these chickens improved.

This started back in 1927 and was known as fish meal later on, and it has been used on mink farms in my district for a long while.

Mr. ROGERS of Florida. What I was wondering about, you spoke of this being used in Peru and some other places, and I wondered if there is much production outside.

Mr. KEITH. I am very glad you mentioned that because it has been reported that both the Russians and the Swedes are in this field and producing this, and in our efforts to help underdeveloped countries, the Russians I would say were not inhibited by the same things.

Mr. ROGERS of Florida. Yes. Do we know to what extent this production has reached?

Mr. KEITH. I don't, but I think the Bureau of Commercial Fisheries does know.

Mr. ROGERS of Florida. They could give this to us.

Mr. KEITH. And they perhaps could furnish that later.

Mr. ROGERS of Florida. Is there any production in Latin America that you know of?

Mr. KEITH. Mr. Levin has been down there and can elaborate upon that, I think particularly in Peru and in Mexico.

Mr. ROGERS of Florida. Fine. It is most helpful to have, and I am sure you know the high regard in which this subcommittee holds the gentleman and we would like to invite you to sit with us.

Mr. KEITH. I thank the chairman.

Mr. ROGERS of Florida. Our next witness is the Honorable William H. Bates, a Member of Congress, our colleague, Congressman Bates, and it is a pleasure for the committee to see you here this morning, and we are most anxious to hear your testimony.

STATEMENT OF HON. WILLIAM H. BATES, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. BATES. Thank you, Mr. Chairman, and members of the committee, if I seem a little bit invigorated this morning, it is only because I have already had my fish protein.

Mr. ROGERS of Florida. Did the gentleman use it on his cereal, or did you take it straight as Congressman Springer?

Mr. BATES. I took it straight, Mr. Chairman, but I want to frankly confess that had I known it was good for hair growth, I would have taken two portions.

Now, Mr. Chairman, compelling humanitarian and economic reasons bring me before you today with regard to H.R. 9102 and companion bills on the subject of fish protein concentrate, or fish flour, as it is called, and I have no hesitancy in urging your favorable consideration of these measures which would permit the sale of whole fish protein concentrate in this country.

The question as to whether or not fish protein concentrate should be allowed for us in the manufacture of foods for human consumption has already been the subject of deep and concentrated study. The Department of Interior has determined that no harm can come from this product. Experts have stated that it is a highly nutritional, high-protein food, and further, that it is desperately needed to help feed the countless millions of human beings who are now suffering from protein malnutrition throughout the world.

The Food and Drug Administration has barred such use on "esthetic" grounds—that is one of those ethereal words, sort of in the abstract—contending that Americans would object to food made from whole fish.

Just last night I had some shrimp that was not veined. It hadn't been veined, which I think is a pretty good parallel to this thing. I contend, Mr. Chairman, that the decision of the Food and Drug Administration should be based on sounder reasoning.

Under Secretary James K. Carr of the Department of Interior, speaking before the annual convention of the National Fisheries Institute in New Orleans in May of this year, said that the manufacture of fish protein concentrate "could well be one of the great steps forward for the benefit of people all over the world," and added, "If produced cheaply enough, the highly nutritious, easily transported and stored fish protein concentrate can both be a blessing to humanity and a boon to the fishing industry."

Of special interest also, is the fact that the U.S. Patent Office has issued at least three patents on it, and this required a legal finding that the invention will be new and useful. Leading civil defense officials are also aware of the reliability, stability, and nutrient qualities of this food and have spoken in favor of it.

Secretary Udall and other high-ranking members of the Interior Department held a special meeting this year to try to overcome objections by the Food and Drug Administration to the new food which is made from whole fish. The FDA contends that the public would reject the product because of this fact. We believe the public ought to be given an opportunity to try it.

The Department of Interior recognizes the vital importance of developing our untapped sea resources. Attending this meeting were Presidential Science Adviser Jerome Wiesner; former Secretary Abraham Ribicoff of Health, Education, and Welfare; Fowler Hamilton, Director of the Agency for International Development; and other officials. Leaders in high places and world agencies have expressed a special interest in it because hunger remains the great human problem of the century. I believe we have a sound answer to a vital problem in fish flour, and I know in my Committee on Atomic Energy we are trying to develop, as is your committee, a cheaper way to get water into many countries throughout the world for the primary reason of giving food to these people. Here is food which is available and our country has not sanctioned it.

Experts are convinced that the protein concentrate is an absolutely pure food—there is no question about it—and it is difficult to understand how the Food and Drug Administration can rule out the use of this pure food at home while the product continues to be sold abroad. It is my understanding that the fish concentrate can be produced for 12 cents a pound and 16 cents with taste and odor removed. It contains from 80- to 85-percent protein and is stable when stored at room temperatures.

The United Nations Food and Agriculture Organization has wholeheartedly endorsed it as has the U.S. food for peace Director. It is estimated that about 500 million people around the world suffer from protein diseases. A Mexican doctor has said that about an ounce of the concentrate added to the corn, beans, and chili of the daily Mexican diet would change Mexicans mentally, physically, and emotionally.

But until FDA approves the product, no Government agency can ship it overseas. American disapproval of the concentrate also delays its acceptance in other countries. It has a stigma attached to it. We want to remove that stigma. If the FDA approves the product but requires that only parts of the fish be included in it, Government agencies will be able to ship it, but the cost of purchasing it will be greatly increased.

Mr. George McGovern, Director of the food for peace program, at a Washington banquet this year of the Food and Agricultural Organization's International Conference on Fish in Nutrition, called on the Food and Drug Administration not to hamper the use of the fish flour for "esthetic" reasons when this new product offered the "world's best hope of victory over malnutrition." This important organization put its stamp of scientific approval on fish flour as a supplement in human food.

The production of fish concentrate would give a much needed boost to the ailing fish industry and it is estimated that New England alone, could yield 3 billion pounds of such fish yearly. The approval of the flour would be a potential boon to the fishing industry.

In view of the above facts, Mr. Chairman, and members of the committee, I respectfully urge the passage of this proposed legislation which states that no processed seafood product shall be deemed to consist of any such substance or to be otherwise unfit for food because such processed seafood product is derived from the whole fish, provided such product is processed under sanitary conditions and after processing is nutritious and in no manner harmful to the health of consumers.

Thank you very much, Mr. Chairman. That completes my statement.

Mr. ROGERS of Florida. Thank you very much for your statement, which is most helpful.

I didn't quite get one fact there that I wish you would clear up for me. You said what area could produce approximately 3 billion——

Mr. BATES. The New England area.

Mr. ROGERS of Florida. The New England area alone, within 1 year's time, or——

Mr. BATES. Annually.

Mr. ROGERS of Florida. Three billion pounds of fish.

Mr. BATES. Fish to be used for such purposes.

Mr. ROGERS of Florida. I see. All right. Thank you very much.

Mr. O'Brien?

Mr. O'BRIEN. I want to thank Mr. Bates for his appearance here today and compliment him on his statement.

Can this product be sold now for animal consumption in the United States?

Mr. BATES. I understand that it can be.

Mr. O'BRIEN. But not for human consumption.

Mr. BATES. Yes, sir.

Mr. O'BRIEN. Occasionally I wander through the supermarket, which is a dangerous thing sometimes unless I am accompanied by my wife, and I have seen canned rattlesnake and grasshoppers, and I wonder how they appeal esthetically to the general public as compared with——

Mr. BATES. I just think it is a matter of individual taste. If it is pure and it is nutritional, I believe the people ought to be given the opportunity to try it if they so desire.

Mr. O'BRIEN. That is all, Mr. Chairman.

Mr. NELSEN. I wish to thank my colleague for his statement. I noted in some of the previous testimony there seemed to be objection to the use of the word "flour." I presume the feeling is that it might have some reflection on wheat flour.

Now, if there is objection to the use of the word, why is not the product identified by a different name? Why not use a different approach if that seems to be an objection?

Mr. BATES. Well, that term was used originally. Today it is called fish protein concentrate.

Mr. NELSEN. Thank you.

Mr. ROGERS of Florida. Thank you very much.

Our next witness is the gentleman from California. We are happy to have your statement, Mr. Miller.

STATEMENT OF HON. CLEM MILLER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. MILLER. Thank you, Mr. Chairman, I wish to speak in support of H.R. 9101. This bill would allow processed seafood to be made from the whole fish, provided that the finished product is unharmful and the product is processed under sanitary conditions.

It is my understanding that objections to use of the whole fish—rather than the cleaned fish—are not based on the belief that the finished product is unsafe for human consumption. It is based rather on the belief that fish protein concentrate made from the whole fish would not find public acceptance. Present law would prevent sale of such a product in the United States although the product could be shipped abroad.

The fact is that fish protein concentrate can be a tasteless and odorless product. It fills the bill as a cheap, stable, and nutritious fish protein concentrate suitable for worldwide use as a dietary supplement.

Its manufacture would be based on the use of school fish, which means a catch of some 10 to 20 tons delivered to a processing plant at one time. It would be virtually impossible to clean that amount of fish without spoilage beginning. Costs would soar.

I am more than casually interested in the development of processing methods for fish protein concentrate. It could be a great boost to the economy of my congressional district—the north coast of California—and a means of diversifying a lumber-based economy there. Two counties in my district, Del Norte and Mendocino, have been designated as redevelopment areas and both have substantial unemployment problems. The stimulus of a new fish processing industry would be highly beneficial.

More than one-half of the catch of the U.S. Pacific Northwest is discarded at sea for lack of markets. It is an incredible waste of a plentiful natural resource.

The hake, a fish in abundant supply off the north coast of California and now totally unused, would be ideal for fish protein concentrate. An annual harvest of about 400 million pounds of hake would be possible. (This is about 10 percent of the fish tonnage landed annually in the United States at present.)

Two other likely candidates for fish processing are the saury, now almost wholely unused, and the rockfish, of which many varieties are not used. In addition, the dogfish could be used for processing and help solve a problem of our Northwest commercial fishermen who find this unwanted fish crowding into their nets only to be dumped back into the sea.

Use of these fish which abound in Pacific Northwest waters would make year-round fishery possible. They could be caught in the off season of other fish now sold commercially.

From a conservationist point of view, catching these currently unusable fish would be very beneficial and prevent undue increases in their numbers at the expense of fish selectively caught now.

The finished product—fish protein concentrate—may very well be the answer to one of the most pressing worldwide nutrition problems facing us—protein hunger.

Five pounds of fish would yield roughly 1 pound of fish protein concentrate. A person could obtain his entire need for animal protein by eating 1 ounce of fish protein concentrate daily. Since a pound would sell retail for about 15 to 20 cents a pound, this daily requirement would cost only about 1 cent per day.

Every second, somewhere in the world, a child dies of starvation. A cheap and stable protein supplement could help end this tragic situation.

The investment is minimal in terms of the benefits derived. President Kennedy has requested a supplemental appropriation of $500,000 to begin work on pilot plants where chemical and biological processes could be explored under the auspices of the U.S. Bureau of Commercial Fisheries. It is estimated that a yearly expenditure of $750,000 would be needed to carry forward this development program including also the exploration of a physical process of treating the fish.

Once developed, these processes would be made available to private concerns on a royalty-free basis. Domestic industry would be stimulated and the ultimate worldwide benefits would be enormous.

The bill being considered by your subcommittee, H.R. 9101, would remove an obstacle to this highly beneficial and much needed development program. I would urge you to consider H.R. 9101 favorably.

Thank you, Mr. Chairman.

Mr. ROGERS of Florida. Thank you very much.

If there are no questions, I would like to call on our colleague from Nebraska, Hon. Ralph Beermann.

STATEMENT OF HON. RALPH F. BEERMANN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEBRASKA

Mr. BEERMANN. Thank you, Mr. Chairman. I have noted with some concern the increasing efforts of the industrial fishing industry to introduce whole fish flour into the U.S. food supply. As I understand H.R. 9101, it would prohibit the U.S. Food and Drug Administration from finding that whole fish flour is adulterated as long as the product is nutritious, harmless, and prepared under sanitary conditions.

Since the product is to be made by grinding whole fish—including heads, scales, fins, and entrails—after removal of only the oils, it is difficult for me to understand how we could justify overruling the Food and Drug Administration. It may well be that the product will be nutritious, harmless, and prepared under sanitary conditions—although I understand these points have not been proven—but it will have one other important characteristic: it may contain filthy, putrid, and decomposed matter. It is precisely such substances that the Food and Drug Administration and the food industry have so successfully kept out of our food supply, making ours the cleanest the world has known.

It seems to me to be entirely academic that the natural filth in a fish and the other inedible portions may be harmless. Filth in any form, whether sanitized or not, should not be permitted in our food.

Perhaps the most dangerous aspect of this whole situation is that, for the most part, the consumer will not know what she is getting when she buys products with fish flour in them. Whole fish flour is

not a food in itself, but must be added to others that have earned widespread consumer acceptance. Labeling, if required at all, will certainly not list the various organs of fish and their contents, and such labeling will be impossible in institutional, school lunch, and restaurant meals.

Unfortunately, the primary food product the fishing interests intend to use as a carrier is wheat flour. At a time when our Nation possesses such an abundance of highly nutritious wheat, soybeans, and dairy products, it is inconceivable that we should dredge up a substitute product of questionable acceptability. Great Plains Wheat, Inc., an organization in which the wheat growers and the wheat commission of my State of Nebraska participate, has pointed out that the addition of fish flour to U.S. wheat flour would tend to substantially lessen marketings of wheat flour here and abroad. This and similar organizations are devoted specifically to developing and holding worldwide markets for their products and these markets should not be jeopardized by a small segment of the fishing industry.

I hope, therefore, your subcommittee will see fit to reject the special exception to the Food and Drug Act sought in H.R. 9101.

Mr. ROGERS of Florida. Thank you for your statement, Mr. Beermann.

Gentlemen, any questions?

(No response.)

Mr. ROGERS of Florida. Our next witness is Ezra Levin, who is president of the VioBin Corp., Monticello, Ill.

May I say to the witness now coming up that the committee has 1 hour and we must hear now three witnesses, and I am sure there would be some questioning. So if witnesses could, if you could summarize for us and file your statement, it would be helpful. Pick out those points that you wish to emphasize.

You may proceed, Mr. Levin.

STATEMENT OF EZRA LEVIN, PRESIDENT, VIOBIN CORP.

Mr. LEVIN. First I would like to thank the committee. This statement which I have prepared will be available to anyone and if names will be left with me, I will see that it is sent to them. I made some copies but evidently not a sufficient number.

I approached this problem not from the standpoint of the Food and Drug Administration, but from the standpoint of its significance to the world, to us, and what it means, what this great new development means. And I pointed out that industrial fish is a term that is applied to fish which is not used for human food but which in itself is perfectly satisfactory to eat, the difficulty being that the type of fish we are discussing as industrial fish is rejected because of its texture or flavor or keeping quality, or its appearance.

I pointed out that we have great inexhaustible quantities of bottom fish but they are not touched. The great industrial fish is largely in fishmeal and oil, but we have an inexhaustible quantity of bottom fish.

We have shown that this ailing industry which is now giving way to competition in South America, the only thing that can happen to it is this: It either has to upgrade its quality so that they get more money

for the product, or it has to develop new markets, and I point out that this is being done.

I wish to note that we today are getting 50 percent higher price for our fishmeal—because it has to be sold for animal feed—that the market because it is a superior product and because people have recognized it.

I also want to point out that we have sold material in South Africa, right next to the biggest fish areas in the world, because of the fact that this was used for human food and they needed it in South Africa for supplementation of human food that they are making there.

I would like to note that we sell material to Sweden, 50 miles away from some of the finest—not 50 miles but a little way, I would say generally speaking, from some of the finest producers of herring meal in the world. That is because we have upgraded the product.

Now, I would like to spend the time to indicate that the third and most important need of these that I have discussed is to fill an inexhaustible market for an FPC concentrate that the world needs desperately and will be needing more each year as the world's population increases. It is necessary that such a product be stable and, as you know, we have already heard that this type of material has stability.

While it is true that we are the only ones in the country making such a product, the only ones in the world making it, I hasten to point out that what we have is available for anyone and that, of course, U.S. engineering skill will develop new ideas, better possibly than ours, but that some system like this or our system will be used and should be used because we are so far ahead of the rest of the world.

The important point is that the United States alone now has such a process that can make a product from fish, a produce that has been proved for 5 years in various parts of the world, to fill the greatest food needs in the world, a low-cost, stable protein that can be used by all people with various kinds of eating habits, a product that added in a small percentage to inferior vegetable protein such as wheat or corn makes the total product equal nutritionally to meat or milk, a product proved to cure kwashiorkor and marasmus, diseases that destroy malnourished children; a product which when added to proper quantities of sugar and fat can provide a substitute for mother's milk for one-half cent a day per child; a product that can cure chronic malnutrition and bring hope and strength to a billion human beings for $1 a year per person, and yet be profitable commercially as made in the United States; a product to be sold for 15 cents a pound, equivalent to 6 pounds of fish in nutritional value, a cost equivalent of two and a half cents a pound for raw fish.

Now, we had a very detailed study by many agencies on the protein deficit, and I outline this and I say why was this work done? What was the motive for this expensive study? The answer is as simple as it is tragic. Hunger is the most pressing problem facing the world. Hunger is at the base of sickness, misery, frustration, bitterness, and hate. Political and economic stability are impossible in a hungry world, and this important fact is that the United States has a political stake in these facts.

Now, we have been producing fish flour since 1954, and I want to read to you a statement by Dr. Gomez as to what this chronic malnutrition disease is that affects the world, so many people in the world. Let me read it to you:

> The picture of chronic starvation is well known. The clinical entity is encountered in poor rural areas, for example, in many regions of Latin America and in underdeveloped countries throughout the world. The harm it causes delays the social development of these groups indefinitely. Malnutrition claims more victims than tuberculosis, malaria, and cancer, for it is a basic disease which opens the way for attack on the organism by other diseases.
>
> The adult's defense against dietary deficiency is manifested by inactivity, indifference to the environment, depression, and apathy; children exhibit retarded development, weight loss, physical incapacity, emotional disturbances, and, at times, mental defects. The nutritional element primarily lacking in the diet of the malnourished is animal protein, whether meat, fish, eggs, or milk. This is the social panorama commonly seen in "underdeveloped countries."

I would like to point out that Dr. Gomez stated when he started this research several years ago that it would take decades and perhaps centuries to overcome this problem, and yet today, after these experiments, he writes, and it has been published, and I give you the statement:

> We may predict on the basis of medical, biological and social evidences that 10 to 15 years after supplementation of fish flour to the daily Mexican diet of corn, beans, and chili the characteristics of Mexican people will change physically, mentally, and emotionally.

This refers to two out of three people in Mexico.

Now, this is the picture of chronic starvation we are talking about and this is what our fish flour can overcome as proved by many experiments which I won't be able to go into today, but I have written them up for these various countries. I will mention them as I conclude.

Let me point out that any large commercial enterprise anywhere has plans for the future, 10, 20, 30, 40 years. Let us examine the future for a low-cost protein food that the world must have.

Exploding population is rushing upon us with relentless speed. It took 5,000 years before 1820 for 1.1 billion people to populate the earth. In the following 100 years the world's population doubled to 2.2 billion. Now it is almost 3 billion. In 40 years, just 40 years, the population is sure to be 5 billion.

Demographers, the scientists who are experts in evaluating population statistics, point to these obvious alternatives. Increase food supply or control births, before famine and death destroy our civilization. If population is not kept in balance with food supply, catastrophe will overtake the world. The "have-nots" may not starve. They will either find food, or they will fight to try to take it from those who have it. That is what demographers, economists, and political scientists tell us.

I go into the question of what happens to our surpluses. What about India? What about increasing agricultural production? I don't have to tell you that it is just a matter of a few years before the increase in population will take care of all the food that can be made by these wonderful programs that are now being set up. There isn't a chance to take care of this problem of food for the world on the basis of increased agricultural production. It is only a matter of passing it on for future years.

Now, I outline here some of the places in which we work. I realize that the chairman has indicated the time is limited. I would like to point out that we have written out here and we have available the details for anyone who wants to write us these fundamental ideas.

We had to show that this product would keep wherever it was sent, that it would reach there in good condition, that it would maintain its stability in any place in the world, and we also had to show that it could be tolerated by the people and used in any way they saw fit and that it would be liked as well as show no intolerance and no toxism.

These positive experiments were carried out all over the world and here I may mention Taiwan, Vietnam, Indonesia, Accra, Ghana, Lima, Peru, Ecuador, Bolivia, San Salvador. And here is the Philippines. All these places where we have had this material, where it has reached there in good condition and where it has been used and has been favored by everyone who has had anything to do with it or has observed it.

Now, I haven't referred to the humanitarian aspects of this project, the significance of feeding the world's hungry which involves our self-interest. We spend tremendous sums for our security. I believe in these expenditures, yet perhaps this project deserved to be evaluated in terms of its relative importance to other projects now underway for maintaining our security.

Let me tell you what I mean. How would fish flour provided to the man on the street, through a school meal program, through the hospitals where malnourishment is a constant basic reality, how would such a product influence the man on the street in his attitude toward the United States? Consider a man who may hate us because propaganda has drawn a false picture of us, but if you bring health to his sick child, why, he will love you.

Now, we have discussed this whole question about—we have mentioned this question about the Food and Drug. I say I leave that to your feeling and understanding of what has been brought up today here. But let me point this out. I would like to quote the actual words of the St. Louis Post-Dispatch. This will only take a few minutes more, Mr. Chairman.

The St. Louis Post-Dispatch said:

> The FDA objects because the flour, being made from whole fish, contains ingredients not ordinarily considered fit for human consumption in the United States and must therefore be termed "adulterated." Senator Douglas says the FDA admits fish flour is wholesome; he contends the FDA objections are esthetic. If fish flour is wholesome, what objection can there be to approving it, provided it is clearly labeled? Americans with small incomes, who are not bothered by esthetics, might find it valuable in relieving protein deficiency. Also it would be awkward for Americans to recommend to their undernourished friends, food they themselves were unwilling to eat.

I quote Mr. McGovern in a very eloquent statement that he made, and it should be read by every American, and one of the phrases in here, in it he said:

> We may drink the water of the sea itself, desalinized and otherwise purified, although a millennium of whole fish have spawned, swum, and died there. What I mean to say is that for a key agency to condemn fish flour because of a purely "esthetic" evaluation based on an overly sensitive contemplation of its origins is the wrong kind of imagination. Viewed against the pitiful backdrop of the world's crippled children, any decision to curb the production of a healthful product which has a protein content of over 80 percent is not sound. Let's be sure of our facts, yes, but when we are sure of them let's not be inhibited by our bad dreams.

And now for one more moment, I wish to add a corollary. It is an academic economic fact that in helping underdeveloped nations to solve their basic problem of malnutrition, we help their citizens become economic assets to their country. Their improved health makes it possible for them to produce more than they consume. But along with this economic value, of course, is the humanitarian fact that we are replacing the misery of chronic hunger with health and a new hope for life.

In conclusion, I want to give you a statement that history will record. I quote from President Kennedy's inaugural address:

> To those peoples in the huts and villages of half the globe struggling to break the bonds of mass misery, we pledge our best efforts to help them help themselves, for whatever period is required, not because the Communists are doing it, not because we seek their votes, but because it is right.

Mr. ROGERS of Florida. Thank you very much, Mr. Levin, for your very fine presentation, and the committee appreciates your condensing this for us as you have done so well.

Mr. Roberts?

Mr. ROBERTS. I am sorry I couldn't be here for your statement. I had to be before the Rules Committee.

Mr. ROGERS of Florida. Mr. O'Brien?

Mr. O'BRIEN. Yes.

Doctor, I would like to ask you this: Has the FDA ever stated directly or indirectly that this fish flour is dangerous?

Mr. LEVIN. No. To the contrary, they have indicated it is nutritional.

Mr. O'BRIEN. Then if their concern is about the reaction of the public to the consumption of whole fish, what would be wrong with permitting the public to react as it might see fit when it goes in the store to buy the products?

Mr. LEVIN. That is the view, of course, that we take. And many people take. They should have a right to determine this for themselves. Esthetics is an individual problem, not a general problem.

Mr. O'BRIEN. I mentioned earlier to one of the witnesses that I have seen canned rattlesnake on the shelves of the stores. I don't buy it. I don't think I would care to consume it. But, on the other hand, there must be somebody consuming it because they are selling it. I am not putting fish flour in that same category, but if there is nothing dangerous about it, I can't for the life of me figure out why the public here and abroad isn't given an opportunity to decide for itself.

Thank you, Mr. Chairman.

Mr. NELSEN. I noted in some of the previous testimony that requirements are that the product must be made from fish which have been eviscerated. That is true. That is the present approach.

Now, it was mentioned about any decomposed matter. For example, I have done a lot of fishing in my time and perhaps you might catch a 4- or 5-pound northern. Of course, that is below average, I understand. But many times you will find inside of this fish decomposed smaller fish.

Now, under the process that you recommend, this would all go through the machinery and be made into fish flour, is that not true?

Mr. LEVIN. The manner in which this is made has not been brought out, but I will quickly tell you, that the principle is that chemical cleaning is, of course, even better than physical cleaning by tests that will be brought up here. I don't want to take your time but these tests are based on what we called nonprotein nitrogens, specifically tests that are made. We give this 15 washes of a solvent that takes out the fat, that takes out all the fat material. Then we give it 15 washes of alcohol to take out the odor and take another 10 percent out. You cannot discern by any known methods any substance in there that might be considered filthy or dirty or in any way objectionable because of the manner in which we do this. But I have caught northerns, too, not quite as big, but I would say this, that wouldn't you say the question of fish being inside a fish has only to do with very few types of fish? Let's consider the type of fish we have, that I have seen in our own plant.

Very rarely when you open up a hake—and most of this is hake and these bottom fish—it isn't quite common but you can say it is relative. Of course, that fish is eating all little fishes. That is a biological fact, that a fish feeds on little fish, and little fish feed on smaller fish, and this is something we have to recognize. That is true. It is only the awareness, isn't it? Isn't it only because we are aware? We are aware of the fact that we have manure in milk, and we are aware of the fact that we have rodent urine in all sorts—a minimum in all sorts of flour, and we are aware of the fact that our water—most of it comes from sewage. Most of the things we eat are unesthetic. It is a question exactly, isn't it, that we are talking about here, what is it when we finally eat it, and I contend as a scientist that fish flour, as we make it, is the cleanest possible product that a person can use compared to any foods he now eats.

Mr. NELSEN. Of course, in the instance of milk, those of us who operate dairies—I do—we are required to stay inside a certain tolerance on bacteria count. If we don't meet those requirements, out our milk goes. Yet I think you can say honestly after milk is pasteurized, regardless of its condition, as it comes to the dairy, pasteurized, it would not be a health hazard after it has been treated.

Couldn't you also say that you could take a chicken, feathers an all, and process it by washing processes and it would not be harmful, of harmful content as far as health is concerned?

Mr. LEVIN. Theoretically, certainly it would not. Let me put it this way: You can go to the market and buy a fish in the round. There are thousands and thousands of people who eat fish in the round, the whole fish. You and I may not do it, but there are thousands, and you know that. We have our low-income groups that eat the whole fish. But we eat this in our upper income groups. I eat smelts and love them, and I wouldn't think of eviscerating a smelt. We are dealing with this question of awareness and aren't we dealing in what is the final product? How can we do that?

Mr. ROGERS of Florida. Any questions?

Mr. KEITH. Yes. I believe it was you or Mr. O'Brien who asked me about production of this product in other countries, and I think I answered that I heard that Russia and Sweden were making progress in this. Your testimony seems to be in conflict with mine, and I wonder if you could elaborate on that.

Mr. LEVIN. Well, this puts me in a position of talking about what we do, but the ASTRA organization of Sweden has stopped producing. I have it from good, let us say, authority, that the Russians—our intelligence know that the Russians are trying to make this by our methods, but haven't succeeded. We are about 5 to 6 years ahead of the world in this thing and this is what I didn't bring out here, that we are losing out. We have a great opportunity to lead the world in this great development, and if we don't hurry up, why, of course, others will do it.

Mr. KEITH. Fishmeal is made in many places.

Mr. LEVIN. Oh, yes; sure. I am referring now to fish flour as we have discussed it today, a stable product made from whole fish containing all the——

Mr. KEITH. Fishmeal is not as stable as fish flour.

Mr. LEVIN. No. Fishmeal is pressed. The pressings are discarded. Many times they are replaced but contain oil which palmerizes, and you can't use it for human food.

Mr. ROGERS of Florida. How does the cost of the fish flour compare with fishmeal, about one-half?

Mr. LEVIN. I will give you a specific. Our plant is successful at New Bedford making this into fishmeal which now has to be sold for animal feed. It should also be used for human feed. This animal feed is a higher price. People pay more for it. It just takes 3 cents at the outside a pound to add to that to make fish flour, that is, passing it through the alcohol stage and concentrating it. This means that in the United States we could make this product 80 percent protein and sell it for 15 cents a pound and make a very fine profit. That means the statement I gave you today dealing with the fact that fish flour equivalent to 2.5 cents for raw fish per pound can be made in the United States at a profit, and here we have this tremendous market and we ought to do something about it. We have a chance to develop a great new industry like the petroleum industry or the milk industry or the wheat industry. This is a great industry that needs developing.

Mr. ROGERS of Florida. Yes. Now, has this product been produced in any other country?

Mr. LEVIN. Oh, yes. This work has been—we are selling small quantities, you know, in Mexico and in South Africa, and experiments, as I pointed out, are being done with the 100 pounds and the 200 pounds all over the world. Incidentally, because of the disapproval of FDA, we had to pay our own shipping expenses.

Mr. ROGERS of Floriada. Are there any plants producing?

Mr. LEVIN. No plants. We are the only plant, as far as I know, commercially producing fish flour in the world today.

Mr. ROGERS of Florida. And what is our capacity to produce at present? You are the only producer, as I understand it now.

Mr. LEVIN. We would make our methods available. I wouldn't come to this committee without making it clear that I would give it away to any foundation. I want to make it clear I have no profit motive and I want it on the record that I will give it to any foundation that will show it won't misuse it. It would take about 6 months to take our plant and build one like it. If we wanted to do this on a large scale, we could be in production in the United States in a year

with 10 times the capacity we have because the product is available, the ships are available.

Mr. ROGERS of Florida. Now, how long have you been producing this product?

Mr. LEVIN. We have been producing it, we have been selling this product for 4 years to feed companies who like it well enough to pay us 50 percent above the market price for it.

Mr. ROGERS of Florida. I see. Now, of course, that has not been used by any of the armed services at all because of the refusal of FDA.

Mr. LEVIN. Nobody has used it in this country because of this onus.

Mr. ROGERS of Florida. Yes. Thank you very much, Mr. Levin. We appreciate your help.

(The full prepared statement of Mr. Levin is as follows:)

STATEMENT BY EZRA LEVIN, PRESIDENT AND DIRECTOR OF RESEARCH, IOBIN CORP., MONTICELLO, ILL.

I would like to detach myself from what has been done in the field of low-cost human food protein to consider for a few moments the question of utilization of our fish resources in all its aspects.

The production of fresh food fish products, their processing and the utilization of advanced technology in bringing valuable food to the American consumer needs no comment. Yet it must be recognized that this is but a small fraction of the great potential of wealth that lies in the sea around us. This potential applies to fish not used for human food, because of its texture, flavor, keeping quality, or appearance. It is known as industrial fish. These are the fish used for the production of fishmeal and oil. This great development is losing ground to other nations who can produce fishmeal and oil at less cost. Even now some producers in the United States are making plans to move their operations to foreign countries, or do the best they can to meet the competition.

It should be emphasized that menhaden, the fish with a high oil content, is processed for fishmeal and oil. The great inexhaustible quantities of bottom fish are practically untouched. Obviously the only hope of the industry is to upgrade the products made from fish, that is, to produce superior products from fish that will bring higher prices in the national and world markets. For example, if the industry can sell a fishmeal for 50 percent above the market price, as we do at New Bedford; if the industry can produce a product for human food that can sell in south Africa in one of the largest industrial fishing areas in the world as we have done; if the industry can sell fishmeal for animal feeds to Sweden, a short distance from an area that produces the finest herring meal in the world, as we have done—this development is matter of national interest. It is in these areas that I wish to direct your attention.

Consider a map of the United States, including Alaska and Hawaii. You have a picture of specific boundary lines. But a true map of our great country would be bounded by lines as far as ships can go to profitably utilize the great wealth of the sea; not only our ocean coasts, but our Great Lakes that abound in industrial fish.

I recall a Massachusetts banker standing on the pier at our New Bedford plant where human food made from industrial fish is now being sold for animal feed because the Food and Drug Administration has decreed it so. He came to see this new process. "Interesting, but what does this all mean?" he asked. My answer was "Suppose an oil rig was set up in Gloucester and brought in an oil well. An industrial revolution would come to New England * * * black gold * * * riches. Now take a look out there, 200 miles off this pier, there is more wealth than all the oil in Texas, untouched wealth." The banker was not impressed. "Well, why don't we go ahead and use it?"

My purpose in being here is to answer that question. I have indicated that this will be done when we upgrade the products now being made for animal feed. A second need is to make chemicals and other industrial products from fish. This category deserves more thorough evaluation. Uniform stable products from fish will stimulate intense interest from chemists and engineers who must have products with uniform specifications and standards.

The third and most important need is to fill an inexhaustible market for a fish protein food concentrate that the world needs desperately, and will be needing with greater urgency each year as the world's population increases.

In producing any commercial product from fish, it is imperative that such a product be uniform, and have standard specifications. It must be stable. It cannot be perishable in the economic sense. It must be a product that can be shipped, stored, and handled in the avenues of commerce like wheat, corn, rice, soybeans. It must be a predictable product—the same quality today as it was a year ago when it was made. We are the first and only organization making such a product commercially in the world.

I am sure the U.S. engineering skill and imagination will develop other methods to maintain our leadership in this important breakthrough—a stable product from fish made of whole fish with only the oil and water removed. I emphasize that we are willing to make the process and know-how available to anyone. Certainly new and better methods will be found. We are making improvements constantly.

The important point is, that the United States alone now has such a process that can make a product from fish—a product that has been proved for 5 years, in various parts of the world, to fill the greatest food need of the world—a low-cost stable protein that can be used by all people with various kinds of eating habits—a product that, added in a small percentage to inferior vegetable protein such as wheat or corn, makes the total product equal nutritionally to meat or milk—a product proved to cure kwashiorkor and marasmus, diseases that destroy malnourished children—a product that when added to proper quantities of sugar and fat can provide a substitute for mother's milk for one-half cent a day per child—a product that can cure chronic malnutrition and bring hope and strength to a billion human beings for $1 a year per person, and yet be profitable commercially as made in the United States—a product to be sold for 15 cents a pound, equivalent to 6 pounds of fish in nutritional value, a cost equivalent of 2½ cents a pound for raw fish.

The Foreign Agricultural Service of the U.S. Department of Agriculture issued a paper in March 1961 entitled "The World Food Deficit." These world food surveys were made by a special task force, including Foreign Agricultural Service, USDA, Food for Peace, White House, Department of State, International Cooperation Administration, Food and Agricultural Organization of the United Nations, Conference on Economic Progress, Agricultural Research Service, USDA. It gives the following world deficits:

	Million tons
Calorie deficit in terms of wheat	8.6
Vegetable protein deficit in terms of wheat	35.6
Vegetable protein deficit in terms of dry beans and peas	.4
Animal protein deficit in terms of milk	1.8

Why was this work done? What was the motive for this expensive study? The answer is as simple as it is tragic. Hunger is the most pressing problem facing the world. Hunger is at the base of sickness, misery, frustration, bitterness, and hate. Political and economic stability are impossible in a hungry world. The important fact is that the United States has a political stake in these facts.

In July 1959 William S. Draper, head of the Committee appointed by President Eisenhower to study the U.S. military assistance program, reported that the increase in food production in the underdeveloped countries has not kept pace with increase in population. He warned that this situation must be reversed or the "already difficult task of economic development will become a practical impossibility."

We have been producing fish flour since 1954. I had read the studies of the eminent Mexican pediatrician, Dr. Federico Gomez, on the world's chronic malnutrition disease. Here is how he describes it:

"The picture of chronic starvation is well known. The clinical entity is encountered in poor rural areas, for example, in many regions of Latin America and in underdeveloped countries throughout the world. The harm it causes delays the social development of these groups indefinitely. Malnutrition claims more victims than tuberculosis, malaria, and cancer, for it is a basic disease which opens the way for attack on the organism by other diseases.

"The adult's defense against dietary deficiency is manifested by inactivity, indifference to the environment, depression, and apathy; children exhibit retarded development, weight loss, physical incapacity, emotional disturbances, and at times mental defects. The nutritional element primarily lacking in the diet of the malnourished is animal protein, whether meat, fish, eggs, or milk.

"This is the social panorama commonly seen in underdeveloped countries. Solution of the problems which cause it may take decades, perhaps centuries."

The report of 6 years of Dr. Gomez' use of our fish flour is published and is available. It is enough to note that this scientist, who stated that the solution of the problem of malnutrition would take decades or perhaps centuries, now states: "We may predict on the basis of medical, biological, and social evidences that 10 to 15 years after supplementation of fish flour to the daily Mexican diet of corn, beans, and chili the characteristics of Mexican people will change physically, mentally, and emotionally."

You must realize he is referring to two out of three persons living in Mexico.

This is the picture of chronic starvation in all of Central and South America. It is true with variations in Africa and the Far East. Obviously if we can find the will and imagination to crystallize these facts into reality, we can truly affect the welfare of a large part of the world's population, in our time.

Any large commercial enterprise in this country has plans for the future, 10, 20, 30, 40 years. Let us examine the future for a low cost protein food that the world must have.

Exploding population is rushing upon us with relentless speed. It took 5,000 years before 1820 for 1.1 billion people to populate the earth. In the following 100 years the world's population doubled to 2.2 billion. Now it is almost 3 billion. In 40 years, just 40 years, the population is sure to be 5 billion.

Demographers, the scientists who are experts in evaluating population statistics, point to these obvious alternatives. Increase food supply or control births, before famine and death destroy our civilization. If population is not kept in balance with food supply, catastrophe will overtake the world. The "have-nots" may not starve. They will either find food, or they will fight to try to take it from those who have it. This is what demographers, economists, and political scientists tell us.

What about increasing the agricultural food of the world? India can be used as an example. If all the great work being done in India, its program for fertilizers, seeds, plant insect and disease control, are completely successful, the population increase will consume every pound of the increased production within 15 years. We reach the inescapable conclusion: The only hope for food is to reach into the world's great sea resources.

We who live here with our great surpluses may not be aware that if we gave them all to other nations and produced many times more than we are now producing, it will not hold back the inevitable. There is only one solution—the fish of the sea, converted into a low cost stable concentrated protein that can be used by all people, no matter what their eating habits may be.

We needed to know more about the acceptability, and the keeping quality of our fish flour in various climates. In addition to our Mexican studies, we sent fish flour to various parts of the world. In every instance the product arrived in excellent condition, reflected its complete stability. Not a single instance of intolerance was reported. Here are a few reports:

Mr. William J. Green, Acting Commissioner, Joint Commission on Rural Reconstruction, Taipei, Taiwan: The regular diet of the orphanage was adequate. Yet children (2 to 3 years) getting the fish flour supplement gained 40 percent in weight during 60 days compared to controls. "All the infants like the fish flour. They prefer it above nonfat milk powder as one of the ingredients in their customary soup."

Vietnam, Dr. Willard H. Boynton, Chief, Public Health Division: "Our doctors found that they get good results with fish flour in benign cases of hypoproteinemia."

Dr. Roy M. Harris, Chief, Public Health Division, Djakarta, Indonesia: "The fish flour has been tested with selected cases of kwashiorkor in order to determine taste acceptability, and whether it appeared to be well tolerated, with what vehicle it should be mixed, and how these cases responded in comparison with other standard procedures now being used. The flour passed all tests with flying colors. It was well accepted and tolerated by the several children treated, response was excellent; as good or better than previous treatment, which mostly consisted of fortified milk products. The deodorized and natural fish flours were equally useful. Preliminary tests indicates that fish flour is a very effective agent in the hospital therapy of severe protein malnutrition. There have been no major problems in the areas of toleration of this high protein product or in difficulty in making suitable mixtures with water, milk, or other readily available liquids for ease of feeding to the children involved."

D. W. Harrison, M.D., Korle Bu Hospital, Accra, Ghana: "Please send us as much fish flour as you possibly can. Eventually we will pay for it. The measles cases on fish flour have been recovering very rapidly without any complications. Measles is very dangerous and common here."

George G. Graham, M.D., Lima, Peru: These classic studies were reported at the International Conference on Fish in Nutrition. I quote his statement: "For practical field use on a large scale, wheat flour enriched with 5 percent fish flour will be quite adequate to overcome malnutrition. The high biologic value of the fish flour makes it possible to give it in relatively small amounts."

Dr. Aldo Muggia, Quito, Ecuador: "The product is stable in our climate, the fish flour is received with liking by the children both in the milk and in other foods, its tolerance is very good, no allergic nor toxic manifestations were observed. Consequently, I consider that the fish flour is a product which has splendid qualities of use for children with lack of protein nourishment and it may be widely used due to the above properties and its low price."

Dr. William A. McQuary, Servicio Cooperativo Interamericano de Salud Publica, La Paz, Bolivia: Because there was no opportunity for carrying out a controlled experiment, the 100 pounds was distributed to 100 persons in the form of 1-pound bags. The acceptability was excellent. It was used in "spaghetti sauce, pea soup, meatballs, and even puddings."

Joseph S. Somer, M.D., Universidad de El Savador, San Salvador: The study in Salvador has been carried out by Dr. Somer, chief of nutritional research. These studies have been going on for several years. A summary from a paper he has published follows:

"Inexpensive, high quality, stable, and deodorized fish flour, derived from whole fish, was evaluated as a nutritional supplement in the treatment and prevention of protein malnutrition wtih human subjects in El Salvador.

"Results from four different studies showed the daily supplementation with 30 grams of fish flour markedly increased the rate of weight and height gains in preschool children exhibiting various degrees of malnutrition. The fish flour tended to increase the resistance of the subjects against illnesses and intercurrent infections. The fish flour, mixed with other foods, was well accepted in all cases.

"Fish flour supplementation was shown to have a significant value in the treatment of children suffering from kwashiorkor and marasmus, by accelerating the rate of their recovery under hospital confinement.

"The positive growth response due to fish flour supplementation was observed in studies conducted in two nurseries, with children from families of good and poor economic levels. The most striking improvement produced by fish flour was made in the field study conducted in a slum area. The beneficial effects of fish flour was consistently demonstrated as compared to 'control' dietary regimes, varying in their nutritional properties from deficient to apparently adequate diets.

"Fish flour supplementation presents a very practical solution to the problem of protein malnutrition in tropical and subtropical areas."

Lutheran World Relief, Inc., New York, N.Y.: 100 pounds fish flour was sent to each of four areas—Taiwan, Korea, India, and Jordan. Report from Mr. Carl E. Hult in Korea: "We found the fish flour makes a valuable addition to soups and other Korean dishes which are either boiled or steamed."

Dr. George Farah in Jordan—used in the children's ward in the Augusta Victoria Hospital: "Pediatricians state that the children like the commodity and accepted it willingly. We shall look forward to receiving more of this commodity if and when you can obtain it."

Dr. Eugene Stransky, Philippine General Hospital, Manila, has this summary in a published article: "Fish flour is a cheap and concentrated source of protein of biological value. It is much cheaper and more concentrated than any milk powder, soybean powder, or any other vegetable protein. In protein deficiency, we can, as observed in the serum protein determinations and with charts, improve the deficiency radically."

These few reports give you the "feel" of our work—to show that the United States now has in commercial production a product tested in various parts of the world as acceptable and needed in the world market—a practical commercial method to extract a cheap food that costs less than any other food on the same protein basis, made from the inexhaustible fish resources of the sea—a food that a billion humans must have now, and that 3 billion more must have in a short 40 years from today.

I have talked about unlimited source of supply of our great sea resources, and an unlimited market for a product made from this untapped resource.

I have not referred to the humanitarian aspects of this project. The significance of feeding the world's hungry involves our self-interest. We spend tremendous sums for our security. I believe in these expenditures. Yet perhaps this project deserves to be evaluated in terms of its relative importance to other projects now underway for maintaining our security.

How would fish flour, provided to the "man on the street" through a school meal program, through the hospitals where malnourishment is a constant basic reality—how would such a project influence this "man on the street" in his attitude to the United States? Consider a man who may hate you because propaganda has drawn a false picture of you. If you bring health to his sick child, of course he will love you.

It seems logical that many agencies of our Nation would have an intense interest in fish flour. They do indeed. The food-for-peace program, the ICA, the science advisers of the President and the State Department have indicated their approval of this project. Sooner or later the pressure of the great need of our process or some other similar process will be producing food wealth from the industrial fish of the sea. The question is, shall we in the United States who are 5 years ahead of any commercial development that will pass the feeding tests, the toxicity tests, the nutrition tests that we have done, be stopped in fulfilling our great opportunity?

We have the leadership to launch a great new industry—equal in potential to petroleum, wheat, corn, or milk industries. We are ahead of the world in providing food for an unlimited market. Obviously we cannot ask our customers to buy this pure clean product, as clean as any food we eat by scientific measurement, when the Food and Drug Administration rules that this product is not fit for food by the people of the United States because such a product made from whole fish is esthetically objectionable.

This is the question you must decide.

The views of the eminent St. Louis Post-Dispatch are worth quoting:

"The FDA objects because the flour, being made from whole fish, contains ingredients not ordinarily considered fit for human consumption in the United States and must therefore be termed adulterated. Senator Douglas says the FDA admits fish flour is wholesome; he contends the FDA objections are esthetic. If fish flour is wholesome, what objection can there be to approving it, provided it is clearly labeled? Americans with small incomes, who are not bothered by esthetics, might find it valuable in relieving protein deficiency. Also, it would be awkward for Americans to recommend to their undernourished friends food they themselves were unwilling to eat."

In essence the same views are indicated in many statements by the press and various periodicals.

George McGovern, former Director of food-for-peace program, made this significant statement:

"* * * I have studied reports from various sources which underscore the tremendous protein possibilities in the fish rich waters that lap at the coasts of countries crippled by kwashiorkor and other evidences of protein deficiency. I would spare you needless recapitulation of ground you have most certainly covered in this respect. Suffice it to say I have been advised by nutritionists that the wonders of medicine are helpless to change the twisted face of an underdeveloped society until a food intake minimal in quantity and quality is established. This process must begin with the weaned child—not just the schoolchild—for the 3 or 4 years of deprivation he might undergo before his first school lunch can warp both mind and body for life. Both inland and coastal nations wracked by some misery might well turn to the sea, not for solace but for sustenance.

"And if in the great ocean depths from whence sprang the very origins of life there lies a treasure, it behooves all of us here to work together to bring it up and open it for the good of mankind. And what is the key? Cooperation and imagination. We must not let this treasure become wedged among the corals of bureaucracy or to be buried beneath the silt of our neglect.

"We are told by responsible agencies here in the United States, for example, that a fish flour which derives from the processing and treatment of whole fish without the prior clinical removal of certain organs—is 'adulterated.' What does that mean? If the final product is unclean or otherwise unfit for human consumption due to the presence of harmful substances—then, indeed, it is adulterated. But if it has been purged by heat and chemical washing of any such impurities, then it is no more adulterated than pigs feet, or liver, or brains, or

tripe or tongue—which has been properly prepared. I do not hold with those who apply the guilt-by-association technique in discouraging new food recommendations. I might add it would cut out a good many, if not all, old foods. We may drink the water of the sea itself—desalinized and otherwise purified—although a millenium of 'whole fish' have spawned, swum, and died there. What I mean to say is that for a key agency to condemn fish flour because of a purely 'esthetic' evaluation based on an overly sensitive contemplation of its origins—is the wrong kind of imagination. Viewed against the pitiful backdrop of the world's crippled children, any decision to curb the production of a healthful product which has a protein content of over 80 percent is not sound. Let's be sure of our facts, yes, but when we are sure of them let's not be inhibited by our bad dreams. For my part I have recently enjoyed a whole meal—from soup to dessert—with fish flour in every dish. It was delicious."

To this eloquent statement, I wish to add a corollary—it is an academic economic fact, that in helping underdeveloped nations to solve their basic problem of malnutrition, we help their citizens become economic assets to their counrty. Their improved health makes it possible for them to produce more than they consume. But along wtih this economic value, is the humanitarian fact that we are replacing the misery of chronic hunger with health and a new hope for life.

In conclusion, I give you a statement that history will record. I quote from President Kennedy's inaugural address:

"To those peoples in the huts and villages of half the globe struggling to break the bonds of mass misery, we pledge our best efforts to help them help themselves, for whatever period is required—not because the Communists are doing it, not because we seek their votes, but because it is right."

Mr. ROGERS of Florida. Dr. Thomas Jukes, Skillman, N.J.

STATEMENT OF THOMAS H. JUKES, SKILLMAN, N.J.

Mr. JUKES. Mr. Chairman——

Mr. ROGERS of Florida. If you could summarize this for us.

Mr. JUKES. Yes. I have a rather short statement.

Mr. ROGERS of Florida. Thank you.

Mr. JUKES. Mr. Chairman and members of the subcommittee, I have been invited by Mr. Keith to discuss the question of fish flour.

Mr. ROGERS of Florida. Would you identify yourself?

Mr. JUKES. My name is Thomas H. Jukes. I am a biological chemist. I have studied nutrition and done research work in nutrition for about 33 years. I hold the positions of director of biochemistry, Agricultural Division, American Cyanamid Co., and visiting senior research biochemist, Princeton University. I was formerly a member of the faculty of the University of California.

I have no financial interest in fish four, neither does American Cyanamid Co. However, I have had strong scientific interest for more than 30 years in nutritional problems that are related to public health and the worlds food supply, such as the identification and synthesis of vitamins and improved foods for farm animals and human beings, and much of my research has been in these general fields.

While I was on the faculty of the University of California, my colleagues and I were asked to carry out nutritional studies with sardine meal. I have not studied fish flour, but I have studied fishmeal, especially sardine meal, which is made by cooking whole sardines, removing the oil, and drying and grinding the entire heads and bodies of the fish. Our nutritional experiments were carried out by feeding animals. We found consistently and repeatedly that sardine meal and other fishmeals were outstandingly nutritious; superior to all other protein concentrates of this general type such as meat scrap,

and that fish meals supplied other valuable nutrients in addition to protein. Fish flour is at least as good as fish meal in my opinion.

In one experiment, we fed a diet high in fishmeal to young turkeys to see if it would make the turkey meat taste fishy. The birds developed so rapidly that they started laying eggs in December, although we did not expect this until the following spring. In other experiments, we found that fishmeal contained a vitamin that was not present in any food of vegetable origin. This nutrient turned out to be vitamin B_{12}. Many other examples of the high nutritional value of fishmeal and fish flour can be documented from the scientific literature.

Fish flour is a valuable source of good protein. Proteins differ in quality. Good proteins are very important in the daily food of children because the new tissue formed during growth consists mainly of protein and water.

Protein is made of 20 small units called amino acids. We can think of amino acids as an alphabet that spells out the words that are proteins. The supply of amino acids comes from taking apart the proteins that we supply in the food. Let us think of the growing body as a typesetting machine. If a key letter is missing, it cannot set up the words. It cannot spell "muscle-protein" without an "l." If "l" is missing, the machine writes "musc.." and then stops.

We may think of the letter "l" as the amino acid lysine. The mixed proteins in the body contain about 6 percent of lysine. The vegetable protein in corn contains only about 2 percent of lysine. It does not supply enough "ls" to build muscle-protein. But fish protein contains 9 percent of lysine, so that fish protein plus corn protein in equal parts will average almost 6 percent of lysine, which is the right nutritional balance.

In support of this concept, Dr. Gomez has actually shown that adding lysine improved the health of children when they had developed malnutrition due to a diet consisting to a large extent of corn.

The nutritional value of fish flour is well substantiated by direct and indirect evidence. However, other properties are important. Fish flour must be acceptable as a food. It has been reported that fish flour would be regarded as filthy. The Commissioner of Food and Drugs has stated:

> Seven hundred and thirty-six of the comments clearly opposed establishment of the proposed standard. One hundred and sixty-six of these specifically referred to their objection to the inclusion of viscera, heads, intestinal contents, et cetera, on the basis that they would regard the finished product as filthy. Of the 1,036 comments in favor of the standard as proposed, including the many duplicates signed by different individuals, only 17 specifically stated or strongly implied that they would be willing to eat such a product.

He has also stated that consumers in the United States generally would regard the product described in the proposal as filthy and that such a product would be in conflict with the Federal Food, Drug, and Cosmetic Act.

However, there is a group of people who hold a contrary opinion; this group includes a number of distinguished Senators and Members of Congress who, as you have seen today, are willing to eat fish flour, and also a number of other eminent people in public service.

The Commissioner of Food and Drugs draws attention to 1,036 comments in favor of the proposal as containing only 17 which stated or strongly implied that the writers would be willing to eat such a prod-

uct. However, it seems reasonable to assume that those who favor such a product would also be willing to consume it—certainly I am willing to do so.

The argument that fish flour is filthy has been ably refuted by Senator Paul Douglas, who drew attention to the consumption of clams, oysters, smelts, and sardines, which are generally regarded as delicacies, even though they contain entrails and intestinal contents, in fact oysters in some places are a tourist attraction. Of course, it is easy to arouse feelings of revulsion by the manner in which a subject is presented, such as by stating that the lips of a beautiful woman are the upper end of her gastrointestinal canal.

We know that filth is present in many highly regarded foods; cow manure is in milk; wheat contains rat feces and urine. Surely it is not good sense to alarm consumers by attempting to arouse prejudices against minor contaminants that are inevitably present in foods.

Those of us who are in the sciences concerned with the production and evaluation of food have the responsibility of helping the public to obtain a nutritious and wholesome food supply. When we are confronted with a new type of food, such as the proposed fish flour, we try to examine its qualities with an open mind. It is proposed that fish flour be made from whole fish that are washed with water, ground, and washed again with water. Following this, the product contains entrails, heads, fins, and that part of the intestinal contents that has not been washed away with water. Such a mixture contains nothing that is not present in other forms of fish, such as sardines and anchovies, that are customary articles of food and are eaten with relish.

However, the mixture is next given further processing to remove oil and water and, following this, it is ground to a floury powder. The cooking process is sufficient to kill bacteria. When we eat raw oysters and clams, we hope that they will not contain harmful disease organisms, such as hepatitis virus or even typhoid germs, but in the case of fish flour, all such organisms are killed by heat.

It thus seems that the position of the Food and Drug Administration in refusing to issue standards for the proposed fish flour base this refusal on the statement that the product contains filth in the form of the heads, entrails, and intestinal contents of fish, is subject to question in view of the circumstance that certain well-accepted foods contain such materials.

Now, in discussions Mr. Keith brought up the point about lobster, what he called the mother of the lobster. I have heard it called the lady, and this is the stomach contents of the lobster. Epicures seek out this tidbit and consume it. However, stomach contents, when ejected, are also known as vomit. So it all depends on what construction you place on what you eat.

If there was no real need for fish flour, if there was a bountiful supply of protein with equal biological value from other cheap sources, then the decision of the FDA would not arouse much opposition. However, we live in the midst of a "population explosion." Crop-producing land is being gobbled up by roads and residences. The nations beyond our borders are casting off the shackles of disease. DDT and other insecticides have fought back the ravages of malaria, of yellow fever, of plague, of typhus fever and many of

the other ancient scourges of mankind. The antibiotics and sulfa drugs have made similar inroads against such deadly killers as syphilis, pneumonia, cholera, typhoid fever, bacterial endocarditis, and dysentery. The new discoveries in nutrition have given us knowledge that will wipe out dietary diseases.

There are millions of new mouths to feed, but there is no more land. At present, the United States has a food surplus, but the steady increase of the birth rate is rapidly catching up with the food supply.

In other lands, famine rears its gruesome head. Mankind must reap the harvest of the limitless miles of the ocean. We must do this not by laboriously transporting inland a few perishable fish as an occasional change from meat in the diet, but by using the resources of food technology to make large quantities of new products of versatile usefulness, such as fish flour.

How can the manufacture of fish flour be approved? Congress must take the leadership in passing the bill written by Representatives Keith and Pike and others. Congress has just voted billions for foreign aid, and now has the opportunity to aid other countries by authorizing the manufacture of fish flour; this can be done without appropriating a single dollar.

We live in a civilization that is dependent on technology, and we must be careful about adopting new procedures too rapidly because such procedures may affect millions of people. However, being careful does not mean saying "No" to everything. There is certainly nothing new or dangerous about eating fish—whole fish, including the head, fins, and entrails, are one of the original foods of the human race.

We now have a way of making this basic food into a powder, a dry flour that keeps well and can be blended with other foods. Let Congress lead the way; let them pass legislation to approve the manufacture of this nutritious product that is needed by underfed children in those lands where America must provide leadership in scientific nutrition.

Thank you, Mr. Chairman.

Mr. ROGERS of Florida. Thank you very much. We appreciate your testimony and your taking time to come to give us the benefit of your testimony.

Any questions?

Thank you very much. You have been most helpful.

Dr. Hugh Leavell, School of Public Health, Harvard University.

Good to see you, Doctor.

STATEMENT OF DR. HUGH LEAVELL, SCHOOL OF PUBLIC HEALTH, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

Dr. LEAVELL. Thank you, Mr. Chairman. It is a great pleasure to meet with the members of this committee that have been so interested in public health problems, and we welcome the opportunity of expressing some opinions of public health people about the matter under consideration today.

I happen to have just come back from a trip to many of these countries that have been mentioned here, the developing areas of the world, where nutrition is such a serious problem and I have seen these chil-

dren in hospitals and in the villages, the children with kwashiorkor, the children whose resistance has been lowered. Measles, for example, in our country is not a serious thing. It is almost a fatal disease in West Africa because of the malnutrition which these children have that has reduced their resistance to such a great degree. They live largely on rice and different kinds of carbohydrates, as you know. The importance of adding this protein supplement to the diet has been admirably demonstrated by people who understand the biochemical aspects.

I am a public health practitioner. Our job is to see that the needs and the resources are put together in a way that makes sense for the people, and our feeling is that this is a highly important and valuable suggestion that is made for providing the essential kinds of protein at low cost.

I was interested in hearing some of the discussions of the different kinds of exotic foods. I remember being in Japan where actually we were all sitting at a little low table and a live lobster was allowed to walk along. Each of us took a little bit out as he crawled along the table, and by the time he got to the end, he was no longer a live lobster.

This is just another example of how you can come to deal with an exotic food in an interesting kind of way.

I would like to introduce, Mr. Chairman, a letter from Dr. Fred Stare, professor of nutrition at the Harvard School of Public Health, who is sorry that he could not be here. He says in a letter addressed to the chairman of this committee:

> I should like to express a favorable opinion of fish flour properly prepared from whole fish. The overall nutritive value of such a product is high. If it can be blended well with other foods, primarily with cereals, and in appreciable quantities, it would greatly improve the nutritive qualities of the total diet.
>
> While I realize some individuals may have some esthetic objection to such a product, I do not feel that these should stand in the way of making available to mankind, including Americans, the nutritive potentialities of such a product.
>
> As I told Congressman Keith some time ago, Dr. Frederico Gomez, director of the Children's Hospital of Mexico City, has probably had more careful experience with the use of this product than anyone else. I know he is most enthusiastic about its value in infant and child nutrition where milk and the many prepared baby foods that we are so accustomed to are not available.

I also have, Mr. Chairman, a letter from three men on the faculty of the Massachusetts Institute of Technology, Professor Harper, Assistant Professor Miller, both from the nutrition department, and Assistant Professor Wogan, of the department of food toxicology. And they say in this letter:

> We have been informed by Dr. Stare that you will be attending the congressional hearings on fish and meal on August 7 and 8, 1962. We should like to offer the following comments.
>
> These it little doubt that protein malnutrition represents one of the major health problems in the world today. With a geometrically expanding population, current sources of good quality protein will have to be distributed among more and more people. It is therefore apparent that new sources of good quality protein are essential. Fish protein represents a potential source which hitherto has been largely unexploited. Modern methods of technology have made possible the production of fish protein supplements. In addition, there is, in our opinion, adequate evidence, derived from properly controlled studies, to support the contention that many fish protein supplements are of high nutritional quality and could play an important role in alleviating human protein malnutrition.

They go on to say, of course, that this should be done under proper controls.

Mr. Chairman, these are the points that I want to make. I think it is important perhaps to know that from the standpoint of public health, this is considered a matter of great interest and potential benefit.

Thank you very much.

Mr. ROGERS of Florida. Thank you, Doctor.

Any questions?

Mr. O'BRIEN. I have one question.

Doctor, you mentioned protein malnutrition throughout the world. Isn't it true that there is also a considerable amount of it in this country?

Dr. LEAVELL. Yes, sir; there is. Certainly not in the extreme cases that we find it in other places, fortunately. We are not as badly off as many other parts.

Mr. O'BRIEN. Was it your feeling that if this was made available to the public, that it would do a great deal of good for a great many children in American homes if it was made available as part of their diet?

Dr. LEAVELL. I think that is true, and Dr. Stare has pointed this out in his letter.

Mr. O'BRIEN. And from what you know of the product, which is a great deal, I assume you wouldn't hestitate to recommend it for the children of your friends.

Dr. LEAVELL. No, sir.

Mr. O'BRIEN. Completely safe.

Dr. LEAVELL. I think it could be very useful.

Mr. O'BRIEN. I might say that a few moments ago several of us up here tried a little of it and I can only speak for myself, but I didn't have any feeling of repugnance. As to the taste, I would say it is considerably better to my palate than poi.

That is all.

Mr. ROGERS of Florida. Mr. Chairman?

Mr. ROBERTS. Doctor, in some of the areas you speak of in underdeveloped areas of the world, do you find that there is a considerable number of deaths occurring among infants because of lack of proper nutrition?

Dr. LEAVELL. Yes, sir. It actually is more among the children that have already been weaned because they get their mother's milk for perhaps the first year or 18 months, and it is the group after the weaning period up to 5 years or so that have the most of this kwashiorkor protein malnutrition. The infants die ordinarily not from malnutrition. We speak of an infant as in the first year of life. They die from bacterial type of things, but the protein malnutrition comes on after the weaning period and before the child is 5 or 6 years old.

Mr. ROBERTS. Well, this goes back to one of Mr. O'Brien's questions. Is there also the same question of malnutrition even in the areas of high income?

Dr. LEAVELL. Yes, sir. That is certainly true.

Mr. ROBERTS. That is all.

Mr. NELSEN. I have no questions, Mr. Chairman, but I would like to make the comment that Congressman Dole called me and had a

statement that he would like to prepare to submit for the record if it is permissible.

Mr. ROBERTS. Without objection.

Mr. ROGERS of Florida. And as I understand, the hearings will be continued tomorrow, anyhow. So he will have time, I am sure.

Any questions?

Mr. KEITH. Yes, Mr. Chairman, just one.

Can you tell us the derivation of the word "kwashiorkor"?

Dr. LEAVELL. It means red baby, actually. And these—I forget what language this is in. It is one of the African languages, I believe. But the children turn red, even develop red hair, and the translation as I understand it simply means red baby.

Mr. KEITH. It has come to me in the countries where it is prevalent, as the "disease that comes with the new baby." It means that the child that had been nursing at the mother's breast has been displaced by a new baby and it brings tragedy to the child who is denied this source of protein. And it is a real——

Dr. LEAVELL. I believe that is so; yes, sir.

Mr. ROGERS of Florida. Doctor, may I ask you: Do you think there would be any difficulty with public acceptance of this product if it were made clear that it was safe?

Dr. LEAVELL. I think it may be that some people wouldn't like it and some people would. I have a story told to me by an anthropologist of a group of people from the East going out to Arizona and being fed at a nice coctail party some delicious hors d'oeuvres, and they all like them very much. When they finish eating, he pointed out that that was rattlesnake meat, and several of them immediately began to vomit. Our prejudices are very peculiar.

Mr. ROGERS of Florida. Do you think there is any widespread resistance or would there be in many of the underdeveloped countries?

Dr. LEAVELL. No, sir; I don't. I think this could be introduced very easily, and if we put it up in the right kind of package, chances are people in this country would, too.

Mr. ROGERS of Florida. Thank you very much, Doctor.

Mr. ROBERTS. Like some of these soap powders.

Mr. ROGERS of Florida. This concludes our hearings today, and they will be continued tomorrow at 10 o'clock.

(Whereupon, at 11:50 a.m., the subcommittee recessed, to reconvene at 10 a.m., Thursday, August 9, 1962.)

FISH PROTEIN CONCENTRATE

THURSDAY, AUGUST 9, 1962

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SAFETY
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m., in room 1302, New House Office Building, Hon. Kenneth A. Roberts (chairman of the subcommittee) presiding.

Mr. ROBERTS. The subcommittee will please be in order.

Our first witness today will be Mr. Harold E. Crowther, Assistant Director, Bureau of Commercial Fisheries, Department of the Interior, accompanied by Mr. Charles Butler, Chief, Division of Industrial Research, Bureau of Commercial Fisheries.

Do you have copies of a prepared statement, Mr. Crowther?

STATEMENT OF HAROLD E. CROWTHER, ASSISTANT DIRECTOR, BUREAU OF COMMERCIAL FISHERIES, DEPARTMENT OF THE INTERIOR; ACCOMPANIED BY CHARLES BUTLER, CHIEF, DIVISION OF INDUSTRIAL RESEARCH, BUREAU OF COMMERCIAL FISHERIES

Mr. CROWTHER. The Department's report on this bill, Mr. Chairman, has just been delivered to the committee.

I would be pleased to read it if you would like, or we could dispense with that and just put it in the record.

Mr. ROBERTS. Suppose you pass it up to the Chair and just go ahead with your prepared statement.

Mr. CROWTHER. Before I begin I would like to point out that the term "fish protein concentrate" identifies a type of product and not a specific product.

For example, fish protein concentrate could be prepared from fish at any stage of processing, from whole fish, from dressed fish with heads, fins, and entrails removed, or from fillets; or any stage between whole fish and fillets.

Obviously, the use of whole fish for the production of fish protein concentrate, if approved by the Food and Drug Administration, would result in a final product with a substantially lower cost than prepared from fillets.

The Department of the Interior is intensely interested in a fish protein concentrate. To many of us it is one of the most important developments in food products in recent decades. It is important, not only to the fishing industry of the United States, which is the

primary responsibility of the Bureau of Commercial Fisheries, but to the 2 billion hungry people throughout the world.

The needs of these people who suffer from malnutrition was discussed yesterday by witnesses who appeared before this committee, so I will not dwell on that subject, but I would like to refer to the potential effect of fish protein concentrate on the fishing industry of the United States.

To our industry it represents a major development and a hope at a time when assistance is sorely needed. Many segments of our domestic fishing industry are facing difficult times and the competition being developed by other nations for the fishery resources of the oceans of the world does not present the industry with hope of a promising future.

It is estimated that approximately 7 billion pounds of presently unutilized fish are available annually off the coasts of the United States. This, of course, is in addition to the present annual catch of approximately 5.2 billion pounds. The harvest of these species would provide an important diversification for the fishing fleets as well as the processing plants.

A few examples, geographically distributed, will pinpoint the potential for some of these unutilized or underutilized species of fish.

In the Pacific Northwest there are abundant stocks of rockfish and other species which have not found full market acceptance in their present product form.

In the eastern Bering Sea, bottomfish in amounts of more than 2 billion pounds per year are now being taken by the U.S.S.R. and Japan. Resources in both of these areas can be used for fish protein concentrate.

Off of California, an estimated sustainable annual supply of 400 million pounds of hake, sauries, and anchovies are not now utilized. Many biologists are of the opinion that the anchovies and the hake increased in abundance to fill the void left by the disappearing sardines.

It is possible that the harvesting of these unutilized species will help to restore the ecological balance in this area and possibly permit the gradual restoration of the sardine population. If this were to happen, sardines could regain their position as a major source of canned food. If the unutilized fish could be harvested and used in the manufacture of fish protein concentrate, it would help to soften the blow which occurred when the huge sardine population declined.

A similar situation exists in the Greek Lakes where the lake trout, decimated by the lamprey predation, have been replaced by less desirable species such as chubs and alewives.

In the Gulf of Mexico, fish protein concentrate could be an economic lifesaver to vessels which are finding shrimp scarce. For example, our biologists estimate that in the gulf, thread herring may be even more abundant than menhaden, the resource which accounted for the most spectacular expansion in our industrial fishery. The total potential harvest from resources in this area which are as yet untapped has been estimated to be as high as 5.8 billion pounds per year.

In New England, one of our major fishing areas, a potential harvest of about 600 million pounds of the various species of hake and other unutilized fish for the manufacture of fish protein concentrate could

go far toward revitalizing an industry which has experienced extreme economic hardships in recent years.

These are but a few examples of the possible impact on the domestic fishing industry if the full-scale manufacture of fish protein concentrate becomes a reality.

These potential effects on our domestic fishing industry combined with the possibility of feeding many millions of people suffering from protein malnutrition are the reasons for our great interest in fish protein concentrate.

We are eagerly awaiting the report of the National Academy of Sciences. It will be an important document not only in the area of interest in this committee, but also as an aid to us in our research work on this important food supplement.

Mr. ROBERTS. Thank you, Mr. Crowther.

How long has the Department had this matter under study?

Mr. CROWTHER. On fish protein concentrate?

Mr. ROBERTS. Yes.

Mr. CROWTHER. I would say approximately 4 or 5 years, Mr. Chairman.

Mr. ROBERTS. Four or five years you say?

Mr. CROWTHER. Yes.

Mr. ROBERTS. How would we measure up as far as potential supplies are concerned with the countries you mentioned, that is, Russia and Japan?

Mr. CROWTHER. Do you refer to the potential supplies of fish?

Mr. ROBERTS. Yes.

Mr. CROWTHER. I think we would measure up quite well. There are fish along our coasts as well as along their coasts. Of course, Russia and Japan specialize now in large, modern high-speed fleets that can come over and fish these resources.

At the present, we have no such modern vessels to compete with them. Should fish protein concentrate become a reality someday I foresee that our vessels could go to anyplace in the world to catch fish and manufacture this product.

Mr. ROBERTS. And is our country the only country that has developed this method of operation as far as producing concentrate is concerned?

Mr. CROWTHER. No, sir; a number of countries have been interested in this for several years. There are countries such as South Africa, Germany, the United Kingdom, Sweden, Chile, San Salvador, and Peru that are at work on this or have been working in this field.

We believe that with the start that we have in this in the way of industrial plants, with the information that we have accumulated, we can outdistance these countries in a very short time.

Mr. ROBERTS. Do you believe that with our techniques and know-how that we are ahead of any other country in this field?

Mr. CROWTHER. Not specifically in the research field because Sweden for example, has spent considerable money on research, but with our industrial know-how and our techniques, I think we can outdistance all of these other countries.

Mr. ROBERTS. Do you have any idea of how long it will be before we will have this finalized report from the National Academy of Sciences?

Mr. CROWTHER. It is estimated to be approximately 6 months. We have added another 3 months to that as a safety factor so it may be as long as 9 months, sir.

We believe, however, it will be a tremendously valuable document as the National Academy of Sciences would be unbiased in any opinions they may express and certainly could not be challenged as far as their scientific competence is concerned.

Mr. ROBERTS. How long have they been engaged in this study, that is the National Academy of Sciences?

Mr. CROWTHER. I will ask Mr. Butler to speak to that, sir.

Mr. BUTLER. The letter which asked the Academy to consider this matter was dated May 31.

About 2 or 3 weeks after that they agreed to make the study and are in the process of contacting persons to serve on the committee.

Mr. ROBERTS. Do you anticipate that this will be completed in 9 months?

Mr. BUTLER. Yes.

Mr. ROBERTS. That is all I have.

Mr. Rogers?

Mr. ROGERS of Florida. I am sorry that I was not here to listen to all of your statement. I do not see a copy here.

Mr. CROWTHER. A copy has been made available to the subcommittee through your reporter, sir. We could furnish you with additional copies if you like.

Mr. ROGERS of Florida. I think it would be helpful. What I was particularly interested in was what kind of study was this to be made by the National Academy of Sciences?

Mr. CROWTHER. In the letter to the National Academy of Science, we requested three specific items: First, whether or not such a committee believes that a wholesome, safe, and nutritious product can be made from whole fish; second, whether or not such a product now exists which is suitable for human consumption, and third, whether or not there is a demonstrable need, nutritionally or economically, for an inexpensive animal protein food supplement among the people comprising the lower income groups of the United States.

Mr. ROGERS of Florida. Are you aware that there is now a product being produced?

Mr. CROWTHER. Yes.

Mr. ROGERS of Florida. And it is maintained that the Food and Drug Administration has not yet given their approval as I understand. You are aware of this, I am sure.

Mr. CROWTHER. Oh, yes.

Mr. ROGERS of Florida. Why is it necessary to have the National Academy of Science decide as to this?

Mr. CROWTHER. As you may recall, sir, there is a controversy between one agency and the industry as to whether protein concentrate is suitable for human consumption.

There have been a number of discussions among the various agencies. There have been various meetings and at one, it was suggested by the President's Science Adviser that perhaps turning this over to an impartial group of qualified scientific people to study and report back on would, at least, narrow the area of disagreement between agencies.

For this reason, we did go to the National Academy of Science.

Mr. ROGERS of Florida. You feel that it can be done?

Mr. CROWTHER. In the position of the Department of Interior as presented, sir, we did not take a position on this bill. Is that what you are asking me?

Mr. ROGERS of Florida. Well, my question was, Do you feel that this can be produced?

Mr. CROWTHER. Yes, sir; we do.

Mr. ROGERS of Florida. And fit for human consumption?

Mr. CROWTHER. Yes, sir.

Mr. ROGERS of Florida. Do studies indicate this to you?

Mr. CROWTHER. Well, nutritionally, we have no doubt about the product; that it can be produced and will be high in nutrition.

The question arises in the Food and Drug Administration, carrying out their mandates under the law, as to whether it can be marketed in the United States. Of course, their approval is necessary before it can be marketed here.

Mr. ROGERS of Florida. And as I understand it then it has been taken to the National Science Foundation.

Mr. CROWTHER. The National Academy of Science, sir.

Mr. ROGERS of Florida. Because they are an impartial group and FDA would not be and neither would Interior.

Mr. CROWTHER. Yes, sir; that is right.

Mr. ROGERS of Florida. You both have strong feelings about this.

Mr. CROWTHER. Yes. The Food and Drug Administration, of course, has the final word whether the product can be marketed. They have agreed to the delay in the proposed hearings before the Food and Drug Administration in order that the report from the National Academy of Science can be received and studied prior to the hearings.

Mr. ROGERS of Florida. If the National Academy of Science's report comes out that it can be made fit for human consumption, does that overrule FDA?

Mr. CROWTHER. I believe FDA would have to answer that, sir.

Mr. ROGERS of Florida. Would it overrule the Department of Interior if you felt opposite to their findings?

Mr. CROWTHER. We would abide by the findings of the National Academy of Science.

Mr. ROGERS of Florida. You would take their word for it?

Mr. CROWTHER. Yes, sir.

Mr. ROGERS of Florida. That is all. Thank you.

Mr. ROBERTS. Mr. Keith?

Mr. KEITH. Thank you, Mr. Chairman. My questions are somewhat along the line that Mr. Rogers just asked.

Has it not been the expressed opinion of your Bureau that fish protein concentrate as manufactured today is also wholesome and nutritious?

Mr. CROWTHER. We believe it is, sir.

Mr. KEITH. On that basis, I have been your guest at a luncheon and have been served fish protein concentrate in an effort to get my support for this product. I enjoyed the food and the hospitality and I like to think that my host was sincere in the efforts to put it forth at that time.

Mr. CROWTHER. We have no qualms at all about eating fish protein concentrate. But this does not overrule, of course, the opinion of another Government agency, the Food and Drug Administration.

Mr. KEITH. You mentioned during the course of your testimony that if we had fish protein concentrate as a marketable product that it might help us in making our industry more profitable and enable our ships to go further afield.

Do you know anything about any Japanese fishing vessels on the Georges Bank?

Mr. CROWTHER. No, sir; we do not know that. We have heard that the Japanese are considering fishing on the Grand Banks, but I have not heard the rumor that they were on Georges Bank, and we have not been able to confirm it.

Mr. KEITH. Do you suppose one of the reasons they are able to go such distances in their fishing operation is because they can use the entire product in such a manner as we contemplate here?

Mr. CROWTHER. One of the reasons the Japanese can fish, using a less efficient method, on tuna for example, than is the case with our fishermen is that they use shark and other species of fish which we do not use. Of course, tied in with that is the cost of labor on the vessel.

The Japanese are not now making fish protein concentrate. I do not know whether I have answered your question or not, Mr. Keith.

Mr. KEITH. That is all, Mr. Chairman.

Mr. ROBERTS. Mr. Nelsen?

Mr. NELSEN. Yesterday in the testimony of the manufacturer of a fish flour or protein, the cost of cleaning the fish seemed to be a factor in the discussion or the impression I got was that one of the reasons why the industry did not want to clean the fish prior to processing was because there is some cost involved.

It seems rather ridiculous to me to say that instead of cleaning the fish, let's eat it.

Has any study been made that would compare the end product of the fish that has been cleaned with the end product of a fish taking its whole content, fins, gills, eyes, instestines, and everything?

Has there been a comparison of the two methods?

Mr. CROWTHER. We have made some calculations. We estimate, and these have not been confirmed by actual plant study, that it would cost anywhere from three to five times as much to produce fish protein concentrate from cleaned fish, the fillets, as it would from the whole fish. One reason is because there is a loss in weight. You may get as much as 40 percent recovery in the form of fillets.

In other words, 60 percent may remain on the frame of the fish. In addition and probably more important is the individual handling of the fish which would be quite costly.

Mr. Levin yesterday suggested a price of 15 cents per pound. This would increase it anywhere from 45 to 75 cents a pound.

Mr. NELSEN. Well now, would it not be true that you could take any animal and process the entire animal and come up with a perfectly safe food product, high in protein content and you could say why bother to clean out the carcass, just run the whole animal through and you would get a product with a high protein content.

It would be perfectly safe, yet the thing that keeps bothering me is the fact that we have set up standards for products that go on the market.

Take, for instance, dairy products. We must keep the flys out of the barn and spray the barn down and if we do not maintain those high standards, we cannot market our milk. Yet, we could save money by not fighting the flys and stop worrying about the barn. Let's just boil the milk and everything will be clean and safe.

If we are going to abandon our standards across the board because of cost only, it would seem to me that we are on our way to heading in the wrong direction. We have worked for generations to develop high standards and quality.

Mr. CROWTHER. I believe I would rather not comment on that. I believe that was answered in fairly good fashion yesterday by industry witnesses.

Mr. NELSEN. That is all.

Mr. ROBERTS. Thank you, Mr. Crowther.

Our next witness will be Congressman Dole from the State of Kansas.

Mr. Dole, I know you have another committee assignment down in Agriculture so we will let you go as quickly as possible.

STATEMENT OF HON. BOB DOLE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. DOLE. Thank you, Mr. Chairman. We are meeting in our Agriculture Committee to determine what to do with excess wheat. I thought it would be a good time to appear here in opposition to these bills.

I will merely file my statement knowing the committee is very busy. I note you are meeting in the Public Works hearing room, though not certain just what significance that has; if any.

I am opposed to this legislation, whether it be H.R. 9101 or any other related bill.

My statement points out some of the problems we face in wheat producing areas. Certainly you members know this is one of the annual arguments in Congress as to what shall be done with the wheat surplus and whether we call fish flour a "flour" or whatever else it might be designated, whether it might add to the nutritional value of wheat flour, we, in wheat producing areas feel it might be another foot in the door and, of course, for this and many reasons are opposed to this legislation.

Last year when Commissioner Larrick was considering setting up a standard of identity I opposed it.

In one of the subsequent statements which will be given this morning, there will be included a letter from the Kansas State Board of Health written by Evan Wright, our director of the food and drug division in which he sets forth very good reasons in opposition to this legislation.

There is always talk about the cost of storing wheat though I might suggest we can store fish in the sea at much less expense than storing our wheat.

With talk of storage costs of $1 million per day, which is significant, we should make efforts to reduce our surpluses.

I have pointed out what the present carryover is, about 1.3 billion bushels, and this is more than you can consume in any one year counting domestic consumption and our exports. From this standpoint, we think the prospects for increased wheat exports are, at best, dim and prospects for domestic consumption are also dim because despite the increased production and technology, the consumption of wheat has gone down from about 5 bushels per person per year to about 2.7 bushels in the last 50 years.

Even though there have been more people using wheat products, consumption has gone down and, of course, this has added to our problem.

As I say in my statement the big flaw in the argument of the proponents of this legislation is that fish flour is now being made in the United States and can be made and exported.

As far as I know there is nothing in the Food and Drug Act now to prevent this, but, of course, the proponents use this argument that people living in protein deficit countries will not consume this product unless it meets with the approval of our Food and Drug Administration.

This legislation, if passed, would lead to further assaults on the Food and Drug Act and I do not feel there is any need for the legislation.

With that brief statement I would like permission to file my prepared statement as part of your record.

Mr. ROBERTS. Without objection, it will appear in the record at this point.

(The full, prepared statement of Mr. Dole is as follows:)

STATEMENT OF HON. BOB DOLE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

It is a pleasure for me to appear before this committee in opposition to H.R. 9101 and any other related bills now being considered by your subcommittee. The clear purpose of the bills before the committee is to carve out a special exemption for whole fish flour from section 402(a)(3) of the Federal Food, Drug, and Cosmetic Act, which provides the historically accepted definition of what constitutes an adulterated food.

It seems strange to me that at the very time we read daily reports about the "burdensome" wheat surpluses and at the very time Congress is haggling over farm legislation that any such proposal as is now before this subcommittee should be considered seriously. In a recent report entitled "The Wheat Situation in the United States," compiled by the Kansas City, Mo., CED Associates Center, many statements are made concerning the present wheat surplus and point out, in my opinion, the folly of efforts being made to obtain legal sanction for the sale of whole fish flour. Some of the highlights of the report "The Wheat Situation" are:

"In recent years the United States has shown increasing concern over the growth of its wheat stockpile. The carryover of wheat on July 1, 1961, was 1.4 billion bushels, an amount 1.7 times greater than the estimated annual demand for domestic consumption and commercial exports. Some people view this stockpile of wheat as insurance against hunger for the United States and the free world in the event of a series of poor crop years, a world war, or other emergencies. Most observers, although they agree to the desirability of a wheat reserve, believe that the current U.S. stockpile is too large" (p. 8).

"The supply of U.S. wheat for the 1962–63 year will consist of the July 1, 1962, carryover, estimated at 1.3 billion bushels, plus imports and production from the 1962 crop" (p. 8).

"The quantity of wheat used for food by this Nation has been fairly stable at the figure of 500 million bushels per year since 1909. This indicates that during the last 50 years per capita consumption of what has declined in the same proportion as the population has increased. The Federal Reserve Bank of Kansas City's Monthly Review, March 1961, reported that in 1909 the average U.S. citizen consumed 5.3 bushels of wheat, and in 1960, that figure was 2.7 bushels, a decline of 49 percent. The article points out that as incomes rise, consumers tend to shift to a more varied diet and particularly to increase their purchases of livestock products and reduce their purchases of cereals. Certainly the decline in the annual per capita consumption of wheat will not continue indefinitely, although the Food Research Institute of Stanford University has estimated that it may drop as low as 2 bushels per person. Assuming a U.S. population in 1970 of 215 million and no change in the current per capita consumption of wheat (2.7 bushels per person), a total demand for wheat for human food would be 580 million bushels in 1970. Compared with the current carryover of 1.3 billion bushels, an increase of wheat consumption for food of 80 million bushels within 10 years would not promise a significant change in the relationship between supply and demand. Therefore, there seems to be little chance that the U.S. population increase will resolve the problem of the wheat surplus" (pp. 10–11).

"Industrial uses of wheat have not been a significant factor in the demand for wheat since World War II when, because of the war emergency, wheat was used to make industrial alcohol. Since 1945, industrial use of wheat has not exceeded 1 million bushels in any year" (p. 11).

"The problem of the relationship between the supply of and demand for wheat is not confined to the United States—it is a worldwide problem. It has been estimated that the world's production of wheat in 1960 was 8.4 billion bushels and that the two largest producers, the United States and the Soviet Union, accounted for more than one-third of that total" (p. 11).

"Summary: The foregoing discussion of the prospects for increasing the use of U.S. wheat indicates little cause for optimism that the increase in population, the development of new industrial uses for wheat, the chances for increased exports, or the use of wheat for emergency rations will lead to a significant increase over the 1961–62 figures in the uses for wheat during the next few years. Total disappearance of wheat for the next few years is not expected to exceed 1.3 billion bushels" (pp. 14–15).

Needless to say, the legislation before your subcommittee is opposed by all major farm organizations in the State of Kansas and is also strongly opposed by Great Plains Wheat, Inc., and its most able president, Clifford R. Hope, a former distinguished Member of Congress from the State of Kansas. In addition to opposition from all farm groups the Kansas State Board of Health through Evan Wright, director of food and drug commission, is strongly opposed to the measures and in a letter from the Kansas State Board of Health dated October 2, 1961, seven reasons for opposition by the board are set forth.

I concur with many of the findings reached by Commissioner George P. Larrick, Food and Drug Administration, which appears in the January 25 Federal Register. There are also numerous court decisions with reference to what constitutes adulterated food and these decisions are consistent and have condemned as adulterated such articles as fish containing parasitic worms; butter made from cream containing flies, rodent hair, feather parts, etc.; bread made from flour or with sugar stored under unsanitary conditions and containing weevils, cockroaches, insect fragments, or rodent or insect excreta; tomato paste containing pulverized corn ear worms and their excreta; and coffee beans containing various foreign materials.

I think finally we should point out that the big flaw in the argument of proponents in this legislations is that fish flour is now being made in the United States and can be and is being exported at the present time. There is nothing in the Food and Drug Act to prevent this but proponents of this proposal use the argument that people living in protein-deficient countries will not consume this product unless it meets with the approval of the Food and Drug Administration. To me, present efforts, if successful, will only lead to repeated assaults on the Food and Drug Act and clearly there is no need for such legislation now or in the foreseeable future.

Mr. ROBERTS. Any questions from the subcommittee?

Mr. KEITH. I respect your concern for the public's safety and health. I know you Kansans are proud of your fresh water lakes, many of them manmade.

I suspect, however, that you find it hard to get used to some of our coastal seafoods and we do not want to force anyone to eat this product. We only want those who have a desperate need for protein to have this.

Now, the market for this product is primarily overseas and I think that if it has the beneficial reaction on these children that are suffering from malnutrition that we expect, it would make them want to eat more of the grain that the Midwest produces.

I would hope this would be a factor in your consideration of the problem.

Mr. DOLE. Well, I might say my wife comes from New Hampshire so we have sort of an integrated view on this.

There is, of course, in our area some feeling. Most people do not relish the thought of eating whole fish.

As Mr. Nelsen said, we might as well grind up a dog and have dog flour. I do not know whether he indicated that particular animal, but we can do the same with any carcass. It would sort of leave a bad taste in one's mouth, I imagine.

Mr. KEITH. I think the point is well taken, but the evidence offered yesterday was that there are additional vitamins and minerals in fish that are not present in other food animals.

Mr. DOLE. I appreciate your position. All the major Kansas farm organizations, including Mr. Clifford Hope, a former Member of Congress for 30 years, who is the president of Great Plains Wheat, a marketing corporation, are in opposition to this legislation.

That is my statement, Mr. Chairman.

Mr. ROBERTS. The next witness will be Mr. Boisfeuillet Jones, special assistant to the Secretary for Health and Medical Affairs, Department of Health, Education, and Welfare, accompanied by Mr. Dean Coston, special assistant to the Assistant Secretary.

I note that we have the report from the Department on this bill which will be filed with the clerk for the record.

Do you have an additional statement that you would like to make, Mr. Jones?

STATEMENT OF BOISFEUILLET JONES, SPECIAL ASSISTANT TO THE SECRETARY FOR HEALTH AND MEDICAL AFFAIRS, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE; ACCOMPANIED BY DEAN COSTON, SPECIAL ASSISTANT TO THE ASSISTANT SECRETARY, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Mr. JONES. Mr. Chairman, the Department has no further statement other than the report which we think states the position of the Department.

The report is relatively brief, Mr. Chairman, and I might read it:

DEAR MR. CHAIRMAN: This letter is in response to your request of September 15, 1961, for a report on H.R. 9101, a bill "To amend clause (3) of section 402(a) of the Federal Food, Drug and Cosmetic Act."

The bill would amend clause (3) of section 402(a) of the Federal Food, Drug and Cosmetic Act (21 U.S.C. 342(a)), to provide that no processed seafood shall be deemed to consist in whole or in part of any filthy, putrid, or a decomposed substance or to be otherwise unfit for food because it is derived from whole fish, provided that it is processed under sanitary conditions, is nutritious after processing, and presents no health hazard.

While the language of the bill is not clear, presumably it is intended to prevent processed seafood from being deemed adulterated under section 402(a)(3) merely because the processed food is produced from whole fish.

For example, if a sanitary manufacturing process is available and the end product is safe and nutritious, the bill would permit fish protein concentrate (the processed seafood which we understand that the bill is intended to exempt) to be produced from whole fish, including heads, fins, tails, viscera, and intestinal contents. However, in every other respect existing requirements of section 402(a)(3) would continue to apply, as, for example, a fish protein concentrate manufactured from a decomposed whole fish could be deemed adulterated.

Considerable attention has been accorded fish protein concentrate in the course of administrative actions taken by the Food and Drug Administration.

On September 15, 1961, at the request of a manufacturer of fish protein concentrate, the Food and Drug Administration published a standard of proposed identity and requested comment from interested persons.

During the following 60-day period, over 1,800 comments were received. Based on information before him which included these comments, the Commissioner of Food and Drugs on January 25, 1962, ruled against the proposed standard of identity and published an order establishing a standard of identity for fish protein concentrate which would require that, prior to processing, the heads, fins, tails, viscera, and intestinal contents of the fish must be removed.

Within the statutory period, formal objections to this order were received.

On April 20, 1962, the Food and Drug Administration published a notice of hearing scheduled for June 18, 1962, on objections to the order establishing a standard of identity for fish protein concentrate. However, the objecting parties requested a postponement of the hearing until such time as a report on the product from the National Academy of Sciences which has been requested by the Department of the Interior is available.

On June 9, 1962, the Commissioner of Food and Drugs indefinitely postponed the hearing.

The Secretary of the Interior, in a letter dated May 31, 1962, requested the National Academy of Sciences to undertake a study of fish protein concentrate to determine—

1. Whether or not such a committee believes that a wholesome, safe, and nutritious product can be made from whole fish;

2. Whether or not such a product now exists which is suitable for human consumption; and

3. Whether or not there is a demonstrable need, either nutritionally or economically, for an inexpensive animal protein food supplement among the people comprising the lower income groups of the United States.

The president of the National Academy of Sciences, in a letter dated June 26, 1962, agreed to appoint a temporary committee to study problems associated with the preparation and consumption of fish protein concentrate.

Once the above-mentioned study has reached conclusions on the three points enumerated above, the Food and Drug Administration will still have the responsibility of determining whether fish protein concentrate violates the requirements of section 402(a)(3).

It has long been established under judicial interpretations of section 402(a)(3) that the question of whether or not the adulteration produces a harmful food is not the only concern. Rather it has generally been agreed that the term "filth" which appears in the statute as a term of art but is not precisely defined therein, is meant to include what the ordinary individual would consider as such.

An evaluation as to whether any particular product meets all the requirements of the act is one which must be made by the Food and Drug Administration in discharging its primary responsibility in the matter of consumer protection relating to foods.

When the results of the study being conducted by the National Academy of Sciences become available, we are prepared to reschedule a hearing pursuant to section 701 of the Federal Food, Drug and Cosmetic Act (21 U.S.C. 371), if the proponents of fish protein concentrate so request.

Such public hearing will provide an opportunity for full presentation and consideration of all the facts. A final order would be issued on the basis of such a hearing, and any party adversely affected by such an order could seek review of the order in a U.S. Court of Appeals.

In view of the study which the National Academy of Sciences is conducting, we believe that consideration of the proposed legislation is premature. Therefore, we have not included a discussion of the merits of the bill in this report.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the administration's program.

Thank you, Mr. Chairman.

Mr. ROBERTS. Thank you, Mr. Jones.

Are you familiar with the process that is used in producing fish flour?

Mr. JONES. The technical staff of the Food and Drug Administration are familiar with the process for producing flour from fish for animal and fertilizer purposes. They are not familiar with a process for producing a product from the same material for human consumption.

As a matter of fact, the Food and Drug Administration has not been given such a product or given opportunity to examine a manufacturing process for such a product.

Mr. ROBERTS. Are any bad or deleterious effects noted in the use of this fish flour as far as animals are concerned?

Mr. JONES. Not to our knowledge; no, sir.

Mr. ROBERTS. The reason for using the whole fish, I believe was gone into somewhat yesterday, that is including the heads, tails, fins, et cetera, is the fact that you keep the cost of this flour at a very low level compared to what it would be if you eliminated these portions heretofore not considered edible.

Is that your understanding, Mr. Jones?

Mr. JONES. That is my understanding, yes.

Mr. ROBERTS. Do you believe there is a great need for this type of food in many of the underdeveloped countries of the world?

Mr. JONES. Mr. Chairman, this would be merely an opinion. I am not fully qualified to answer that. I would assume there are undernourished areas of the world, yes.

Mr. ROBERTS. And are there some undernourished areas in our own country?

Mr. JONES. I am sure there are undernourished citizens in our country and I am sure there are other foods to take care of that. This is an economic problem.

Mr. ROBERTS. Mr. Schenck?

Mr. SCHENCK. No questions.

Mr. ROBERTS. Mr. Rogers?

Mr. ROGERS of Florida. Just a few questions, Mr. Chairman.

I take it from the statement you have read that FDA would not be bound by any finding of the National Academy of Sciences.

Mr. JONES. No, sir; this would be additional evidence that would be taken into consideration.

Mr. ROGERS of Florida. Do you think it would be necessary to have this for FDA to make some determination?

Mr. JONES. It would be helpful, I think, to have as much scientific data available as possible.

The fact is that the Food and Drug Administration does not now have a product on which it can pass judgment nor a process or procedure on which it can pass judgment.

Mr. ROGERS of Florida. I thought you had postponed the hearings.

Mr. JONES. That is correct.

Mr. ROGERS of Florida. How can you obtain one unless you have hearings?

Mr. JONES. You can have hearings and get scientific evidence or opinions or judgments related to the facts that are available, but our position is that we do not at this time have a precise product with terms of manufacture that can be subjected by Food and Drug to full examination. It may be that from the National Academy of Sciences this information will be available and, therefore, it will be very helpful.

Mr. ROGERS of Florida. It was my understanding, at least from the testimony yesterday, that we have been shown the product which is being produced and which the manufacturer claims is wholesome.

Mr. JONES. Mr. Rogers, we have in our files a memorandum as of March 6, 1962, signed by the president of Viobin, Inc., Mr. Levin——

Mr. ROGERS of Florida. He testified yesterday.

Mr. JONES. Which points out quite specifically that the product and the process reviewed by Food and Drug inspectors on March 6, 1962, at his plant in Illinois was not the precise product nor the processing method contemplated in relation to this proposed product.

Mr. ROGERS of Florida. Now if we were to present to the Food and Drug this product, would Food and Drug consider it now?

Mr. JONES. Certainly, they would be glad to consider it at such time as the product and details as to its processing are available.

Mr. ROGERS of Florida. I wondered if you would answer these questions that have been asked of the National Academy of Sciences. I wondered if that was the policy of FDA, for instance, to decide whether or not there is a demonstrable need.

Do you have to go into that sort of question?

Mr. JONES. The Food and Drug Administration does not have to go into that question in relation to adulteration. The question is germane in consideration by FDA of a standard of identity for a new food product.

Mr. ROGERS of Florida. All you are concerned with is the safety for human consumption, are you not?

Mr. JONES. No, sir. I will give you the exact words, exact language of the statute as to adulteration if you like:

> A food shall be deemed to be adulterated if it consists in whole or in part of any filthy, putrid, or decomposed substance, or if it is otherwise unfit for food.

For example, if a roach leg is found in a food product——

Mr. KEITH. A what?

Mr. JONES. The leg of a roach is found in a food product; this does not necessarily involve a harmful effect in the food, but it is filth as commonly understood in the American economy.

Therefore, the product would be considered adulterated by filth, you see?

Mr. ROGERS of Florida. What about sardines, that is the whole sardine? What position do you take on that?

Mr. JONES. I am informed that by the time of the final processing of the sardine, virtually all of the contents of the intestinal tract

are no longer present; and that the product, when marketed, is in the form of the whole fish, so that a consumer who secures a package of sardines is fully aware of precisely what it is that he gets. It is not unsanitary.

Now it may have filth in it in terms of some people's attitudes. But it is a food product that has been adjudged to be obvious as to what it is.

Information is available to the consumer as to what it is, Mr. Rogers. It is in the form of the fish itself. As such it is acceptable under the American standards of pure food.

Mr. ROGERS of Florida. That is a little hard for me to reconcile from the testimony we heard yesterday, at least from the manufacturer, and we have no scientific evidence.

The manufacturer says that the product that he has made is definitely clean, all the materials are clean, safe, and if it were designated so on the package so that the public knows it is made from the whole fish which would be what should be done, then how does that differ from the situation in which we now let sardines go on the market?

Mr. JONES. When a consumer buys a can of sardines, he gets the fish in precisely that form.

Mr. ROGERS of Florida. But if he is told?

Mr. JONES. In a protein concentrate of the kind apparently considered, this product can be used in innumerable food products without identification. A consumer has no way at all of knowing this fact in advance.

Mr. ROGERS of Florida. It might even help many psychologically, might it not, if they didn't know it?

Mr. JONES. Or put the other way, if they did know it, some people would not consume it.

Mr. ROGERS of Florida. FDA does not want to do anything either until they get the study from the National Academy of Sciences?

Mr. JONES. That is right.

Mr. ROGERS of Florida. You do not feel you can make a determination yourself?

Mr. JONES. We could, but we do not have the basis on which to make the determination.

If additional facts were presented to the Food and Drug Administration, if there were a specific process which demonstrated that those elements of the product which normally are considered in the American economy as filth actually are removed by a chemical process rather than by a mechanical process, then I should think, although I cannot speak for the Commissioner of Food and Drugs, that this would be a rational basis for approval of the food. But this evidence is not now available.

Mr. ROGERS of Florida. It is not before Food and Drug?

Mr. JONES. No.

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

Mr. ROBERTS. Thank you, Mr. Jones.

Mr. Nelsen?

Mr. NELSEN. I wish to thank the gentleman for the statement and I do not think that any member of the committee would disagree with an attempt that may be made to bring a high-protein food product to people that need it, and at a low cost.

Is it not true that we have many high-protein products that are available for distribution if that is the only problem?

Perhaps I should rephrase my question.

Is it not true that we have plenty of high-protein content products that could be distributed?

Mr. JONES. Yes.

Mr. NELSEN. In this particular instance, the thing that keeps coming back to my mind is the statement that you have made regarding the removal of filth from the products.

In our milling industry if the wheat that is going into the mill contains extraneous matter, in many cases it is rejected.

If the miller puts the product on the market that has any content in it like that, it is rejected and the same is true with our dairy industry.

The thing that amazes me is the fact that perhaps we are going to move into a chemical process for everything and I want to be sure that our high standards are not compromised by a foot in the door in this area and I want to be thoroughly convinced.

I thank the gentleman for his statement and his courageous representation of the responsibility that has been delegated to his office.

Thank you, Mr. Chairman.

Mr. ROBERTS. Mr. Springer?

Mr. SPRINGER. Mr. Chairman, Mr. Jones used these words:

> It has long been established under judicial interpretations of section 402(a)(3) that the question of whether or not the adulteration produces a harmful food is not the only concern; rather, it has generally been agreed that the term "filth" which appears in the statute is a term of art, but is not precisely defined therein.

How are you defining "filth"?

Mr. JONES. We made reference, Mr. Springer, to court decisions because the court cases have themselves, I think, given us a definition of the term "filth" without a definition in the statute, per se.

Mr. SPRINGER. Are you a lawyer?

Mr. JONES. Yes, sir. The definition that has come not only by administrative interpretation in the Food and Drug Administration, but by substantial decisions in courts of competent authority establishes areas that are recognizable in terms of what is accepted by the American public as a contaminating or filthy product.

Mr. SPRINGER. Now, are you using your own scientific examination and evaluation of this product to determine whether or not it complies with "filth"?

Mr. JONES. Mr. Springer, I pointed out that we have no product to evaluate, no process for a product to evaluate.

You have eaten something which presumably is the product. I don't know what it is you have eaten. The FDA does not know what it is.

Mr. SPRINGER. Have you made any evaluation at all on the product?

Mr. JONES. No, sir.

Mr. SPRINGER. Is that an official answer?

Mr. JONES. The Food and Drug Administration has had available samplings which purport to be the product that is under consideration.

I might point out, Mr. Springer, that we have a memorandum which I think will clear this point, if you would let me read it to you. It is very brief.

Mr. SPRINGER. I think we better have this answer to my question first.

Mr. JONES. This is the answer to the question.

Mr. SPRINGER. If it is, read it.

Mr. JONES. On May 12, 1961, the New Bedford Fish Products Co., a plant in New Bedford, Mass., was visited by Food and Drug inspectors to inspect the process for the manufacture of fish flour for human consumption.

It was learned that this plant manufactures fishmeal and fish flour for animal feed.

Our inspector was advised that if they were to process for human consumption, new equipment and facilities would be necessary.

Fresh fish were ground and defatted for the production of animal feed fish flour. A portion of the animal feed production was subsequently sent to the Monticello plant where we were told it is deodorized by washing with alcohol which is subsequently taken off with vacuum.

We were told this product is the fish flour being used experimentally for human use.

Food and Drug inspectors made a visit to the Monticello plant of the Viobin Corp. on March 6, 1962, at which time a statement was made by the president of the firm.

The statement is as follows:

To the Representatives of the Food and Drug Administration Visiting the Viobin Plant on March 6, 1962:

I have dictated this statement so there can be no mistake about the description of the fish flour we are making here at Monticello, Ill., and the fish flour that we propose to make in New Bedford, Mass.

The present product is purely experimental. The original material consists of many varieties of fish. It is not washed before or after grinding. It is in every respect a fish meal intended for animal use. This product has been shipped here, treated wtih alcohol, biologically assayed, and introduced into foods experimentally to carry out large-scale tests on taste, flavor, and biological value of protein. The product we propose to make differs from the product we have here in the following manner:

Only fish of the class *Osteichthyes* species will be used. In the New Bedford area these happen to be hake, perch, whiting, cod, haddock, and the like. The fish will be iced on ship, brought into the New Bedford plant, washed, ground, then washed again before going through our azeotropic process. The fish meal made by this process will then be extracted with alcohol for deodorization. All methods of handling will be subject to the rules and regulations of the Food and Drug Administration in the handling of any food.

We specifically state that any fish flour samples taken from products that we now make in our large-scale experiments are not typical of the product we intend to make.

VIOBIN CORP.,
EZRA LEVIN, *President.*

That is signed by Mr. Ezra Levin as president of the Viobin Corp.

Mr. Springer, the Food and Drug Administration therefore has never witnessed an experimental pilot plant or commercial process whereby fish flour for human consumption is produced.

The actual process in terms of solvents, temperatures, and equipment intended to be used for the production of fish flour for human use has never been precisely defined to the Food and Drug Administration.

There is, therefore, no basis for a thorough and complete evaluation of safety of the product, or the completeness of the cleaning process utilizing chemical treatment.

Mr. SPRINGER. Is that your complete answer?

Mr. JONES. Yes.

Mr. SPRINGER. What have you then said officially with reference to this?

Mr. JONES. We have said officially, Mr. Springer, what is expressed in my opening statement. I will give you the specific findings of the Food and Drug Administration in relation to the proposed standard of identity published in the Federal Register as of January 25, 1962.

Mr. SPRINGER. And this is your official position?

Mr. JONES. This is the official position of the Commissioner of Food and Drug, as published in the Federal Register.

Mr. SPRINGER. This is your official position?

Mr. JONES. As of that time.

Mr. SPRINGER. And is that your official position today?

Mr. JONES. Yes.

Mr. SPRINGER. Well, now, read it.

Mr. JONES. It has not been changed, as yet.

Mr. SPRINGER. Will you read it?

Mr. JONES. The findings pertinent to your question, Mr. Springer, are:

Therefore, on the basis of the information before him, the Commissioner finds:

1. That consumers in the United States generally would regard the product described in the proposal as filthy; thus such a product would be in conflict with section 402(a)(3) of the Federal Food, Drug and Cosmetic Act.

2. That it would not promote honesty and fair dealing in the interest of consumers to establish a standard of identity for a whole fish flour containing those portions of the fish which would be regarded as filthy by American consumers, generally.

3. That it is apparent from the information available that many persons who advocate the establishment of the proposed standard are concerned with the reported need for a source of good protein by people in underdeveloped countries of the world where local food supplies and raw materials are inadequate to supply that need.

To the extent that such a need for a product as described in the proposal exists in countries other than the United States, section 801(d) of the Federal Food, Drug, and Cosmetic Act provides for the manufacture of such a product in the United Sttaes for export to any other country of the world, the laws of which do not prohibit that article.

4. Even though there is no evidence that there is a deficiency of protein in the diet of the people of the United States, a factor which would have no bearing on whether or not certain parts of fish in the ground product constitute filth, there appears to be a reasonable basis for establishing a standard of identity for fish flour prepared from properly cleaned and eviscerated fish.

Those are the findings, Mr. Springer.

Mr. SPRINGER. Now essentially, I want to see if we are correct, essentially all you have said today is that this is a product which a large number, and I think I am quoting you, of consumers would say is filthy.

Mr. JONES. May I put it this way, Mr. Springer. Such a product prepared from the whole fish as proposed would constitute a product considered by normal American standards as containing filth and, therefore, adulterated.

Mr. SPRINGER. What do you mean by "normal American standards"?

Mr. JONES. The standards that have been established through long administrative processes of the Food and Drug Act, supported by court decisions.

Mr. SPRINGER. Supported by court decisions?

Mr. JONES. Yes. When the Food and Drugs Commissioner, Mr. Springer, makes a ruling in relation to a standard and there is a party which feels this ruling is not accurate, this party may go into a Federal court and challenge this decision.

It has been the ruling in innumerable cases that the inclusion of products such as are now proposed to be included in this particular food supplement constitutes filth.

Mr. SPRINGER. Now, are you saying, and I want to get this straight, you are talking as a lawyer, are you saying first that this is the product which a large number of consumers, the buying public, would consider filthy?

Mr. JONES. I am saying this is the ruling of the Commissioner of Food and Drugs.

Mr. SPRINGER. That is his ruling, am I right?

Mr. JONES. That is correct.

Mr. SPRINGER. Now, this is what he says the public would think, is that correct?

Mr. JONES. That is correct, as adjudged by the reaction to his original proposal.

Mr. SPRINGER. Are you saying now that under the decisions of a court this would still be considered?

Mr. JONES. No, sir.

Mr. SPRINGER. I want to be sure because I thought you did say it.

Mr. JONES. No, sir; I said that under many court rulings, it can be assumed, and the Commissioner apparently did assume, that the inclusion of all parts of the fish would not normally be recognized by the American public as free of filth.

Mr. SPRINGER. All right, you did not say that this was a legal matter, did you? You said this is a ruling of the Food and Drug Administration.

Mr. JONES. That is right.

Mr. SPRINGER. I thought you did say that. I just want to be sure.

Mr. JONES. You are asking me, I think, as to how the term "filth" is defined.

I will say it is defined by many administrative decisions of the Food and Drug Administration, and supported by many court cases.

Mr. SPRINGER. What you are essentially saying, and I am not speaking of you personally but what Mr. Larrick said, is that this would be considered filth by what you consider as standards of the American public.

Mr. JONES. That is his ruling.

Mr. SPRINGER. That is what he says?

Mr. JONES. That is correct.

Mr. SPRINGER. That is what I want to know.

Mr. JONES. That is correct.

Mr. SPRINGER. And that is all he said thus far.

Mr. JONES. That is correct.

Mr. SPRINGER. Did he say any more than that?

Mr. JONES. I read the full findings.

Mr. SPRINGER. Have you made any evaluation or tests either as a result of watching the process or independently to determine that the product is filthy?

Mr. JONES. Mr. Springer, the Food and Drug Administration has never actually seen the process by which this particular product is produced.

Mr. SPRINGER. What you are, in effect, saying today is as of this time you do not know whether or not it is filthy.

Mr. JONES. I cannot say that.

Mr. ROBERTS. May the Chair state that I do not want to foreclose the gentleman from Illinois. I have the highest respect for him.

We have many witnesses here and I hope we can get on with this hearing. I think Mr. Jones has tried to state his position.

May I ask the gentleman to yield?

Mr. SPRINGER. I will say this is the most important part of the matter. I have a far more serious matter to go into, but I cannot leave it hanging in air with the decision they have made.

I think I have got it down to that point.

Mr. ROGERS of Florida. Would the gentleman yield?

Mr. SPRINGER. Yes.

Mr. ROGERS of Florida. From my understanding of the testimony, you are saying that the product that is now produced is for animal consumption and that they have never really produced under conditions they say they want to produce a product for human consumption and so you have not had the opportunity to see how it is produced for human consumption because it simply is not being produced that way at present.

Mr. JONES. That is correct.

Mr. ROGERS of Florida. I understand your position and I think you are correct.

I thank the gentleman from Illinois.

Mr. SPRINGER. If the chairman will indulge me a few more minutes.

Are you the legal adviser or counselor to HEW?

Mr. JONES. No, sir; I am Special Assistant to the Secretary for Health and Medical Affairs.

Mr. SPRINGER. You are a lawyer, though?

Mr. JONES. I am a lawyer by training. I am an administrator by experience.

Mr. SPRINGER. Are you familiar with title 18, the Criminal Code, section 1901, entitled "Lobbying with Appropriated Moneys"?

Mr. JONES. I am generally familiar with that statute.

Mr. SPRINGER. You are familiar with that?

Mr. JONES. Yes.

Mr. SPRINGER. Would you take a look at this paper and see if this is a part of your department or emanating from your department?

Mr. JONES. I have now seen the document, Mr. Springer. It is not signed. It is on a mimeographed letterhead of the Department of Health, Education, and Welfare, Food and Drug Administration.

I would not pass judgment as to whether this is lobbying. I think the only way to find out is to refer it to the Department of Justice if there is a question about it.

Mr. SPRINGER. That is what I intend to do. I have a pretty good legal opinion that it is a violation of the law.

Title 18 reads:

No part of the money appropriated by any enactment of Congress shall, in the absence of express authorization by Congress, be used directly or indirectly to pay for any personal service, advertisement, telegram, telephone, printed or written matter or other device intended or designed to influence in any manner, a Member of Congress, to favor or oppose, by vote or otherwise, any legislation or appropriation by Congress whether before or after the introduction of any bill or resolution proposing such legislation or appropriation, but this shall not prevent officers or employees of the United States or of its departments or agencies from communicating to Members of Congress through the proper, official channels, requests for legislation or appropriations which they deem necessary for the efficient conduct of the public business.

I say this paper was issued after the introduction of the three bills in Congress on this matter.

Mr. JONES. As I read it hurriedly, Mr. Springer, I see no reference to influencing the Congress or legislation whatsoever.

It does state the issue having to do with the fish protein concentrate.

Mr. SPRINGER. If that is not designed to influence, I have never read a piece of anything not designed to influence.

Mr. JONES. It makes no reference to the legislation, no mention of Congress.

Mr. ROBERTS. The Chair would like to see it.

Mr. JONES. I think this can be determined, Mr. Springer, and this is the first time I have seen it.

Mr. ROBERTS. Was there an indication of a date on that, Mr. Springer?

Mr. SPRINGER. I can bring someone to identify it, where it was put out and under whose hand.

In fact, it was at the last Miami meeting. It was available to everybody and was passed out.

Mr. JONES. The label said it was in connection with a meeting in Miami.

Mr. NELSEN. Mr. Chairman, I wonder if this could not be handled in some other way?

Mr. SPRINGER. I want to make a motion, Mr. Chairman, so that it would be admitted in the record.

Mr. NELSEN. There are witnesses here from great distances, Mr. Chairman.

Our Assistant Secretary is here in Washington and this material is in Washington.

We should get some other witnesses on today.

Mr. SPRINGER. I am ready to wind this up.

Mr. ROBERTS. I think the Chair would agree with the gentleman from Minnesota.

I have tried to be very liberal with all members of the committee on this matter. I do think this is a separate matter and I would certainly join the gentleman in trying to bring witnesses up from the Department as to this particular item and see whether or not anything has been violated.

We only have a short time to try to hear a good many of these people who have come from long distances and if the gentleman would conclude this phase of it at this time I would appreciate it.

Mr. SPRINGER. I am perfectly willing. I do ask that this document be admitted in the record, Mr. Chairman, so we have some basis here.

Mr. ROBERTS. Without objection, we will put it in the record at this point.

(The document referred to is as follows:)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, FOOD AND DRUG ADMINISTRATION, WASHINGTON, D.C.

WELCOME TO MIAMI AND THIS FOOD AND DRUG ADMINISTRATION EXHIBIT

You attend this meeting as leaders in the fields of home economics, nutrition, dietetics, and other food services * * * as representatives of industry, institutions, the academic world, and consumer organizations. As such, you and the people whom you represent are vitally interested in today's supply of food and its safety, purity, and wholesomeness. We hope you are also interested in the role which the Food and Drug Administration plays in making possible that safe food supply. As highly trained professional women you can help FDA do a better job of protection by informing yourselves and the American consumers with whom you work.

Your assistance could be tremendously helpful right now, as a matter of fact. As you know, the fact that we do today enjoy wholesome and safe food and cosmetics * * * and safe and potent drugs * * * is no accident. Ever since Dr. Harvey Wiley first crusaded for the pure food and drug laws, your organization has traditionally supported FDA's unceasing struggle for improvements in that original law, new laws which the change of times have dictated and, of course, constant vigilance in enforcing those laws. Perhaps you have shown your greatest interest in the area of established food standards, insuring through your own study and research and support that standardized products would guarantee foolproof identity, quality, and fill of container. Because of your important role in this area, you should be interested in knowing the various aspects of a current issue which stands before the FDA and the American consuming public today.

A manufacturer approached the Food and Drug Administration to discuss a process that he has developed for processing a fish flour product which could be used as a source of protein to be marketed at a price that would be most attractive when compared with the cost of other sources of protein. The article was referred to as "whole fish flour" and was to be made by taking whole fish of varying sizes, grinding them, and, after removing the fat by a chemical process, drying the flour so produced. In some cases the flour was to be deodorized by a further process.

The Food and Drug Administration informally expressed the opinion that this whole fish flour should be regarded as an adulterated article under the provisions of the Federal Food, Drug, and Cosmetic Act, because it was to be made without the removal of those portions of the fish, including the intestines and intestinal contents, that are not normally regarded as acceptable for human food in the United States. Proponents of the product, however, stated that they did not agree with this view and represented that if consumers generally were fully informed of the nature of the article they would regard it as suitable for use in their food supply.

Later, there was published a proposal for a standard of identity for fish protein concentrate or whole fish flour (the Federal Register of Sept. 15, 1961). During the 60 days thereafter over 1,800 comments on the published proposal reached the hearing clerk of the Department of Health, Education, and Welfare. In case you received no information regarding this issue at that time, you might be interested in the following:

The Federal Food, Drug, and Cosmetic Act defines a food as adulterated "if it consists in whole or in part of any filthy, putrid, or decomposed substance, or if it is otherwise unfit for food."

The main issue in the whole-fish flour matter is whether a powder made from the whole fish, including heads, tails, fins, entrails, and intestinal contents, conflicts with that section.

We in Food and Drug believe that a substantial number of consumers in the United States would not normally eat such a product.

The issue here also is whether or not we should change the basic concept of what is acceptable food in the United States. Certainly if you can take a whole fish, including the parts that many people would not eat, and grind it up into a powder which then becomes acceptable as food here, this could only be the

opening wedge to changing the rule so that any food, regardless of how it was made or how it was handled, would be satisfactory if it had some nutrition, was not harmful, and did not have an offensive taste or odor.

The fact that people in other countries may need protein and would be willing to eat such a product is not at issue. Such a product may be made here for shipment to any country of the world, the laws of which do not prohibit it. There is no shortage of protein in the United States. The average diet supplies about 100 grams per day whereas the protein needs are no greater than 30 grams per day.

There is no comparison here with such items as clams, oysters, sardines, or the exotic delicacies such as chocolate covered ants and french fried worms. Those items are sold for what they are. The fish flour is not to be eaten as is but is to be used in other foods, including restaurant foods where the consumer would have no idea at all.

Thus, the issue is simple: Is the product to be classed as filthy and unfit for food? It has nothing to do with the nutritional content, the cost of production, the appearance of the finished product, or label thereof. It does have to do with an issue which, if effected, could possibly undermine those basic food laws for which you and we at the Food and Drug Administration have strived for years.

Mr. SPRINGER. Mr. Chairman, that is all I have.

Thank you.

Mr. JONES. Thank you, Mr. Chairman.

Mr. ROBERTS. Thank you, Mr. Jones.

Our next witness will be Mr. George Michael, director, Massachusetts Food and Drug Division.

You may proceed, Mr. Michael.

STATEMENT OF GEORGE MICHAEL, DIRECTOR, MASSACHUSETTS FOOD AND DRUG DIVISION

Mr. MICHAEL. Mr. Chairman and members of the committee, you probably well know that Massachusetts for many generations has been a leader in this campaign and program to provide our people with the finest and most wholesome and nutritious food supply in the world.

I want to say at this time that the Food and Drug Administration has done a very good job within the scope of the limitations in this area. This matter was brought to our attention several months ago through the office of the Governor of the Commonwealth of Massachusetts whom I represent here today.

Our first question was whether or not a product of this type was made from raw ingredients which would, in any way, affect or be a hazard to the health and welfare of the people who would consume it.

We obtained samples of the so-called trash fish from the boats as they came in and made an analysis of the interior materials that were within the fish and could find no harmful bacteria such as we find in animal species of the land variety.

In other words, we did not find any coliform bacteria which is a group of organisms which is associated with filth and filthy materials.

We did not find any excessive bacteria count within the interior of the fish.

We did not find any pathogenical organisms within the interior of the fish.

We then obtained samples of the fish processed with the grinding, washing, and dehydrating process which had been made from whole fish and those which had been made from fish with the head, tail, and viscera removed.

We could not in our laboratory find any distinction between any of these samples.

Of course, we must realize that the interior of a fish is not comparable with the interior of an animal or the land animals such as we know.

For instance, we cannot compare as a matter of filth, the interior of a horse, cow, dog, or the like with the interior of a fish.

There is no contaminating or filthy substance within the fish such as we associate with the filth of these animals I have mentioned to you, the warm-blooded animal.

We have made an analysis on the protein content of the finished product and find it to be very high. We all know that there is a definite, crying need in underprivileged countries and in this country also for a high-protein-animal-derived food which can be sold very economically and sold cheaply.

This word "filth" has been bandied around quite a bit and what the consuming public will accept has been bandied around quite a bit and I think for the information of the committee, if you would allow me I would like to give you a few examples of what I have in mind.

None of us are without some knowledge as to the tremendous sanitation problem that concerns the grain storage areas in the Middle West and the Far West and New York State, the grain that is being stored in boats and ships, and so forth.

We all know of the many problems that have been encountered, unfortunately, in the storage of these materials. We have had evidences of urine from various members of the rodent family contaminating these stockpiles.

Evidence has been found at one time of these types of animals making their homes within these piles of stored grains and so forth.

With this material permeating and soaking into the grains, through methods of cleansing and processing and so forth, this grain has been made available for the consumption of the American public. There is on the market today such things as canned ants, canned cockroaches, and all these items have been sold to the general public and with the approval of the Federal Food and Drug Administration taking into consideration that the Administration has not removed them from the market.

I will say this, that we, as American people, should be extremely grateful to the dedication of the Food and Drug Administration and its personnel. They have done a tremendous job and I am sure they will continue to do a better one.

However, we have some differences when it comes to the expression of opinion as to what constitutes an actual health hazard.

For instance, as an example, we, in Massachusetts, will not allow certain frozen foods which have certain bacteriological contents, or exceed certain bacteriological standards, to be sold in Massachusetts.

We have very stringent regulations as far as milk and shellfish and the like are concerned.

We attempt to base and do base our standards on bacteriological and actual potential health matters that may be concerned with the product.

In our examination of this particular product that is being discussed before you, we do not find anything to indicate that it is made

from a filthy substance as such and we do not find any reason why such a product should not be made and sold for human consumption.

Of course, we are predicating our statement on the basis that clean, wholesome fish will be used; that proper inspectional methods will be set up to insure that an approved process will be used in the manufacture of the product.

We are also assuming that the sanitation of the plant will be of the highest order and that the process conducted will be suitable to everybody in the health protection field.

If the product is processed in Massachusetts, we would be very much interested that it be processed in this manner and this manner only.

If you have questions, I will try to answer them.

Mr. ROBERTS. Do you agree, Mr. Michael, with the statement previously made that so far the manufactured product that we speak about has only been used in animal feeds?

Mr. MICHAEL. As far as I know, there has been no batch made for human consumption on a large scale.

We have received samples from the manufacturers which have been produced in a process which would be enlarged upon in production for human purposes.

In other words, we have had experimental batches submitted to us of these samples.

Mr. ROBERTS. To go back to one of your other statements, I believe you mentioned that where only clean, wholesome fish are used.

I believe you used those exact words. Am I correct?

Mr. MICHAEL. That is correct, sir.

Mr. ROBERTS. Well, how could you possibly mean that it can be clean and wholesome if you use fins, tails, heads, entrails, and everything else?

Mr. MICHAEL. Well, sir, the matter of wholesomeness is one of degree.

You are one of the members of the committee, or perhaps it was Mr. Rogers, who pointed out the sardine problem where the entire sardine is placed in the can and eaten.

We in New England have eaten fish chowder, made from the heads, tails, or whatever is left over. The material that is within this trash fish as such has not indicated any contamination which, in our interpretation, would classify it as filth.

Therefore, we feel as long as the product is not going to create any health hazard and that it is not going to constitute a filthy material as such that we would consider it as wholesome.

Mr. ROBERTS. But your tests so far have been limited to that presented to you by the manufacturer, this being used for animal consumption.

Mr. MICHAEL. No, sir, this is the process that would be used for human consumption.

Mr. ROBERTS. Is it actually being used at the present time?

Are we exporting any of this for human consumption?

Mr. MICHAEL. Not that I know of. This was prepared only for testing purposes.

Mr. ROBERTS. How many batches were prepared?

Mr. MICHAEL. We analyzed approximately eight batches or samples from eight batches.

Mr. ROBERTS. Did you or any of the members of your staff actually consume any of this?

Mr. MICHAEL. No.

Mr. ROBERTS. How did you test it?

Mr. MICHAEL. In the laboratory by bacteriological, chemical, and microscopic analysis.

Mr. ROBERTS. As to bacteria count and that sort of thing?

Mr. MICHAEL. That is right.

Mr. ROBERTS. No test as to palatability or ultimate effect on human beings?

Mr. MICHAEL. No, sir, not as far as ultimate effect on human beings. Our only analysis as to what we would assume the final effect to be would be as the result of our analysis.

Mr. ROBERTS. That is all I have.

Mr. Nelsen?

Mr. NELSEN. You mentioned that your tests gave you the indication that there would be no health hazard presented.

Mr. MICHAEL. Yes.

Mr. NELSEN. And your tests were conducted strictly on the bacteria count and what have you. Is that true?

Mr. MICHAEL. That is true, bacteria count and microscopic tests.

Mr. NELSEN. Now we buy fish meal and products for animal feeds. I presume you could say that actually the fish meal that we buy does not contain anything in it that would be a health hazard. Animals eat it and they thrive on it.

Have you ever conducted a bacteria count on tankage?

Mr. MICHAEL. No, sir. If it was tankage, we know we would get a high count.

Mr. NELSEN. Of bacteria?

Mr. MICHAEL. After it has been dehydrated?

Mr. NELSEN. Yes.

Mr. MICHAEL. I do not have any experience with that, sir.

Mr. NELSEN. My point is that you could use the same argument on many, many products that you are using in fish meal.

No more questions.

Mr. ROBERTS. Our next witness will be the Honorable Antone L. Silva, State senator of Massachusetts.

STATEMENT OF HON. ANTONE L. SILVA, STATE SENATOR, STATE OF MASSACHUSETTS

Mr. SILVA. Mr. Chairman and members of the committee, I have come here to this meeeting because as a State senator from New Bedford, I know the great boon that New Bedford, now a depressed area, would enjoy and—all of New England—if the present ban on fish flour for human consumption were lifted.

In New Bedford, the citizens have voluntarily contributed over one-half million dollars to the foundation to attract new industry.

The taxpayers have expended many thousands more in public funds for this same purpose.

Many concessions have been made to outside businesses to induce them to locate in our city.

Yet, we have here a potentially great fishery product and corporations that could keep hundreds of men employed and pump millions of dollars annually into our economy.

This business asks for no tax concessions. They ask for no subsidies, gentlemen. We in the coastal regions ask only for an honest ruling from the Food and Drug Administration. We fought valiantly to save our ailing textile industry. We have lost all but a very minor portion of that industry to the South.

We are now fighting to build up our fishing industry with very little assistance from the Federal Government, except until very recently.

Unless the Federal Government acts swiftly our fishing grounds will be depleted by the Russian trawlers, taking back into the Communist world millions of tons of high-protein food, a powerful weapon, gentlemen, in the cold war.

I recently traveled to Brazil and extensively in the northeast section of that country. I witnessed a terrible and appalling lack of high-protein foods. I say, gentlemen, that this high-protein concentrate would fit very well into their diets.

At the present time because of a lack of high-protein food, they have, I guess, for many, many years used a coarse flour made from the root of a plant and this flour is poured over meat, potatoes at any meal that might be on the dinner table. It is used as a supplement to the diet. This could very well be used in place of this certain flour made from the root of a bush.

The Brazilians could very well use this high-protein concentrate to add protein to their meager diets, especially in the northeast area, and what is true there is also true of other parts of South America and other parts of the world.

We only ask for fair treatment, gentlemen.

The Food and Drug Administration says that whole fish flour is not fit for human consumption.

Fish protein concentrate contains 80-percent protein, more protein than beef or skim milk. It costs only 14 cents per pound.

The esthetic objection set up by the FDA is truly an aside. The American people eat whole clams, whole sardines, chocolate-covered ants and grasshoppers.

Any consumer who might consider fish protein concentrate objectionable would be protected by suitable labeling of the product.

The decision should be that of the consumer, not of the Food and Drug Administration. This decision is arbitrary. It cannot be morally defended when we know that millions of people are starving throughout the world.

I want to thank you gentlemen and I also wish to commend our very able Congressman from Massachusetts, Mr. Keith, for his efforts in behalf of this measure.

Thank you.

Mr. ROBERTS. Thank you, Senator. This committee has the same high regard for the gentleman from Massachusetts, Mr. Keith, as you have. We know he is able and dedicated.

I appreciate your appearance here.

There are one or two statements I would like to ask you about.

You say that we should leave this up to the consumer. Let me ask you what, in your opinion, would have happened had we allowed consumers to make the decision on the use of the drug Dr. Kelsey stopped the use of, thalidomide?

Mr. SILVA. Mr. Chairman, I do not believe in this instance, there is any question about the wholesomeness of this product.

I do not think there is any evidence that the product is not wholesome or safe for human consumption.

It is only a matter of an esthetic objection that we are concerned with and that is a matter that should be decided by the consumer.

Were the consumer to eat this high-protetin concentrate he would not be made ill. That has been found to be true by chemists, Mr. Chairman.

Mr. ROBERTS. Well, we have had the protection of the Food and Drug Act for over a half century. I think that most people would agree had the Food and Drug Administration not been very careful about what foods we eat and what medicines we take, we would have many more deaths than we have had from the use of foods and drugs that should not have been placed on the market.

I certainly do not believe that the Senator would want this committee to do anything that would weaken the protection in this act as far as the American public is concerned.

Mr. SILVA. Mr. Chairman, if the Food and Drug Administration had evidence that the fish flour was not fit for human consumption, I would be the first one to support their decision and position.

They have no such evidence, Mr. Chairman.

Mr. ROBERTS. The Chair would disagree with that statement.

Mr. SCHENCK. May I say, Mr. Chairman, that the Food and Drug Administration has not foreclosed this.

The Food and Drug Administration has merely delayed their decision and we are not in position here to substitute our judgment for that of the Food and Drug Administration which has the actual administrative responsibility for formulating a judgment.

Mr. ROBERTS. Anything further?

Mr. NELSEN. I wish to thank the gentleman for his very fine statement and join with our chairman in complimenting our colleague from Massachusetts, Mr. Keith.

Frankly, Hastings, you have had us eating cranberries for breakfast.

Mr. SILVA. There is nothing wrong with that.

Mr. ROBERTS. Mr. Dominick?

Mr. DOMINICK. No questions.

Mr. ROBERTS. The gentleman from Massachusetts?

Mr. KEITH. I am appreciative of all the fine things you have said about me today.

Mr. ROBERTS. The next witness is Mr. Howard O. Hunter, president of the American Institute of Baking, 400 East Ontario Street, Chicago, Ill.

You may proceed, Mr. Hunter.

STATEMENT OF HOWARD HUNTER, PRESIDENT, AMERICAN INSTITUTE OF BAKING, CHICAGO, ILL.

Mr. HUNTER. My name is Howard O. Hunter, and I am president of the American Institute of Baking, a not-for-profit corporation in the State of Illinois.

The American Institute of Baking is an educational and research organization serving the baking industry and the consumer. Its membership includes the great majority of wholesale bakers in the United States.

I am here today on behalf of the American Institute of Baking and its members to oppose the enactment of H.R. 9101, and several identical bills before your committee which are for the purpose of amending clause 3 of section 402A of the Federal Food, Drug, and Cosmetic Act in order to permit the introduction into the human food supply of substances processed from whole fish.

As I am sure you are aware, a proposal to establish Federal standards of identity for whole fish meal or fish protein concentrate was published in the Federal Register, September 15, 1961. This proposal was made by several groups in the fishing industry.

The Food and Drug Administration denied this petition, and, as a substitute, proposed a Federal standard of identity for products made from the thoroughly cleaned fish.

The fishing industry objected to the Food and Drug Administration's proposed standard and requested public hearings for the purpose of reinstating their original proposal of a standard for whole fish meal.

Recently, at the request of the attorneys for the fishing industry and others, these proposed public hearings were indefinitely postponed, and the Secretary of the Interior requested the National Academy of Sciences through the National Research Council to make an investigation of the proposal specifically on the questions of:

1. Can a suitable protein concentrate be made from whole fish?
2. Does a suitable protein concentrate made from whole fish now exist?
3. Is there a need in the United States for protein concentrate made from whole fish?

No reply to these questions has been made by the National Research Council and obviously cannot be made without adequate study.

Consequently, it would seem premature to propose legislation authorizing the use of a food substance about which so little is known.

We primarily object to the enactment of this legislation because we believe this would reverse the continuous progress which has been made toward sanitary processing of foods intended for the consuming public in the United States through the past 56 years.

Great improvement has been made in the wholesomeness of our food supply through the Food and Drug Administration's enforcement of the Food and Drug Act and the Department of Agriculture's Meat Inspection Act.

The proposed legislation now before you would permit the processing of filthy substances into human food and would also permit inferiority to be concealed by a processing procedure and thus cause consumer deception.

Under section 402(a)(3) of the Federal Food, Drug, and Cosmetic Act, a food made from processing of whole fish would contain substances properly described as "filthy, putrid, or decomposed."

I feel sure that if either a Federal standard of identity or a congressional act were passed to permit whole fish mean in our food supply, it would open the floodgates for proposals to approve many other unwholesome products.

The baking industry spends over $60 million annually to keep this sort of stuff out of our products. It costs us this much for direct sanitation control. We are constantly required by the law and good practice to keep infestation out of our products, both as raw materials and finished goods.

Most of the infestation which we try to keep out of our products is much less objectionable than whole fish powder which contains heads, eyes, tails, scales, fins, gonads, intestines, and all intestinal contents.

In reviewing official petitions made by the fishing industry and its friends as well as a great mass of publicity given to this proposal, it would appear that there are two main arguments used in favor of the approval of whole fish products.

The first argument in favor is that there is a widespread animal protein shortage in the diets of many nations, and that whole fish powder would be an economical product and would furnish a high quality animal protein to these people.

To this, we could agree if the product can be made free from toxicity and safe for human consumption. There is nothing in the law that prevents any manufacturer in this country from exporting whole fish powder or whole fish protein concentrate to any country whose laws do not prohibit such a product.

Apparently, very little is being exported because, insofar as we can find out, very little of the whole fish product is being made in the United States.

The fishing industry and its friends supplement this argument by stating that foreign countries would not use this whole fish concentrate unless it were officially approved for human consumption in the United States.

In the first place, there is no evidence that this statement is true.

In the second place, some foreign countries are already using whole fish products usually made in the country itself.

The fact of the matter is, that the fishing industry, if they get this product approved, definitely intends to promote its sale in the United States as an additive to foods—especially in the baking industry.

Even if their intent was to sell this to underdeveloped nations, it would probably be impractical because most of these nations can make the product at home cheaper than they could buy it in the United States.

The second argument used in favor of the approval of whole fish flour is that there is a shortage of protein in the American diet.

This statement is made in the official petitions of the fishing industry to the Food and Drug Administration. This is an amazing statement. All of the scientific evidence available is that there is no shortage of animal protein in the diet but, in fact, the evidence shows that there is a great surplus.

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The Commissioner of the Food and Drug Administration is quoted as saying:

> Protein consumption in the United States is over 100 grams per person daily, whereas the average adult needs only about 30 grams daily of the proteins supplied by the ordinary diet.

The National Research Council in a report by its Food and Nutrition Board says that for the United States as a whole data indicates that the average diet in 1955 provided 103 grams of protein per person per day, approximately two-thirds of which came from animal sources. This indicates that the protein consumption in the American diet is about three times as high as the daily requirements.

This same report of the Food and Nutrition Board concludes that upon the evidence available to date, "malnutrition due to protein deficiency is not a general public health problem in the United States."

Of course, we would agree that in some individual cases, there might be a deficiency in the protein intake. In such cases, it is probable that the diet as a whole is deficient. However, this would not be due to the lack of availability of protein of high quality nor would it be due to excessive cost of such protein.

There is another very serious question in regard to the use of whole fish powder in the human diet in this country to which, it is apparent, very little attention has been paid—that is the question of possible toxicity.

Certainly, we have seen no evidence of scientific study being made as to the safety of products made from whole fish.

In fact, the reverse is true. Serious questions have been raised by eminent authorities as to the potential toxicity of whole fish products. Statements relative to this by scientists of unquestioned ability and reputation are available to this committee. I do not pretend to be an authority on this subject, but I am told that many of the scab fish are toxic. I have been told also that other fish, usually nonpoisonous, may be poisonous at certain times of the year or when feeding on toxic sea plants.

It has been stated that the poisons are apt to be concentrated in parts of the fish which are discarded when fish are cleaned.

Because of these variables, the task of establishing nontoxicity of whole fish powder produced from numerous species of fish from widely separated fishing grounds and during every season of the year, would be much greater than establishing nontoxicity of a chemically pure drug such as thalidomide.

We are all aware of the error made in other countries in their interpretation of the presumed harmlessness of this drug.

Incidentally, the U.S. low rate of deformed babies, which can be caused by this drug, has been credited to the scrupulous care with which the Food and Drug Administration enforces the Food, Drug, and Cosmetic Act which H.R. 9101 intends to circumvent.

The proponents of whole fish powder make much of the point that it could be used in bread and other bakery products as a cheap substitute for ingredients such as dry milk solids.

If, as it appears, this is one of the objectives of the whole fish processors, they may as well relax because I can assure this committee that bakers in the United States would never use this product.

The protein content of enriched bread in this country, particularly when it includes dry milk solids in its formula, is already of a good quality and especially so when used in the average mixed diet.

Bakers would never use this whole fish product because:

1. We consider it to be filthy under the definitions of the Food and Drug Act.

2. If there were ever shown to be a protein shortage in the American diet, which could be relieved by adding protein to bread, we would find a much cleaner and more satisfactory ingredient.

In summary, we object to enacting this legislation. First, there is no justification for lowering our standards of food cleanliness and wholesomeness, and second, there is no need in the United States for a protein supplement to a diet which is already superabundant in protein.

Thank you, Mr. Chairman.

Mr. Chairman, Dr. Gail Monroe Dack is available at any time the committee wishes him to appear in person or to prepare a statement for the record.

Mr. ROBERTS. The clerk has brought me a statement which he has made and if there is no objection on the part of the committee, it will be included in the record.

I would ask the clerk to make additional copies of this statement, however.

(The statement and biography of Dr. Gail Monroe Dack is as follows:)

PUBLIC HEALTH HAZARD IN THE PRODUCTION OF FISH FLOUR

(By G. M. Dack, M.D.)

The purpose for the production of fish flour is to provide protein as a supplement to the diet which is inexpensive and which makes use of fish not commonly used for human food. Thus, a cheap source of protein would be available to peoples in economic groups unable to afford the more expensive protein foods. The production of fish flour is subject to many public health hazards, e.g., many fish of the same species may be edible when caught in certain waters at certain times of the year. However, the same species during the same part of the year caught in other waters may contain potent toxins in some of their tissues. Dr. Kazuyoshi Aiso of the Laboratory of Sanitary Bacteriology, Japan, reported, in the Annual Report of the Institute of Food Microbiology, volume 12, November 1959, poisoning by cuttlefish and pompano. He makes the statement "These fishes are originally nontoxic and very popular food in Japan." However, outbreaks of food poisoning were subsequently reported from these fish and Dr. Aiso makes the statement: "The reason why these fishes happen to become poisonous in any year or in any season is yet unknown." It is well known in the case of mussels that during certain warm seasons of the year a particular plankton may grow abundantly in the water and this plankton is extremely toxic to man and serves as food for the mussels concentrating in the liver of these animals.

Dr. Bruce W. Halstead of the School of Tropical and Preventive Medicine, College of Medical Evangelists, Loma Linda, Calif., in an article in Public Health Reports on poisonous fishes, volume 73, No. 4, April 1958 makes the following statement in summarizing his article: "Fish poisoning is a disease of antiquity. Fishes are believed to become poisonous as a result of their food habits—feeding on marine algae. There is no evidence that plankton or radioactive substances are a factor in the production of the poisons. Poisonous fishes are largely circumtropical in their distribution. Toxin content is greatest in puffers during their reproductive season of the year, but this is probably not true of most other fishes. The distribution of the toxin within the body of the fish is subject to considerable fluctuation, but if the fish is poisonous, some

of the poison will be present in the viscera in about 90 percent of the cases. Poisonous fishes cannot be detected by their appearance."

In an editorial in the Journal of the American Medical Association for January 12, 1957, the following statements are made: "Many commercially valuable species of fish have been found to be highly toxic at certain times of the year. Serving herring in restaurants is illegal in Cuba and Tahiti from May to October. In New Hebrides fish are most poisonous from April to July, a period in which the coral on which many fish feed flowers. In New Hebrides many poisonous fish are caught in Segond Canal, but at Shark Bay only 20 miles away fish of the same species are not poisonous." The literature on this subject is filled with contradictions. Mills states that, although fish living in coral reefs and feeding on coral are more likely to be poisonous than other fish, the red snapper is a reef fish that is never poisonous. Halstead on the other hand says that red snapper may be poisonous. Shore feeders are said to be more dangerous than deep sea fish, but Paetro says that poisonous fish may be found at any depth. The puff toad is very poisonous unless the gonads and digestive tract are removed before cooking.

"A few of the commonly eaten fish that may be poisonous at times are pompano, horse mackerel, sea bass, perch, moonfish, and moray eels. * * * Fresh water fish (minnow) poisoning results from eating ovaries or roe during the reproductive season and is characterized by headache, fever, vertigo, vomiting, abdominal cramps, and diarrhea. * * * The Japanese remove the viscera of fish of the type that cause ciguatera and soak the flesh in ice water over night. They then pound the flesh to a pulp and wash it several times, add flour, and make fish cakes. No cases of poisoning have been reported from fish so prepared. Various theories have been proposed to explain the occurrence of this disease. Some observers have tried to link the poisoning to the presence of poisonous metallic ions in the fishes' environment; the size, sex, or stage of maturity of the fish; bacterial contamination; or spawning activity, but none of these theories explain all cases, and for some there is little or no supporting evidence. The most popular theory assumes the presence of some poisonous element in the diet of the fish, but there is as yet no conclusive evidence that this is the cause."

Dr. Edward Larson and his associates from the Department of Zoology, University of Miami, Coral Gables, Fla., in the Pharmacologist, volume 1, No. 2, fall 1959, studied Atlantic Ocean fish, the Atlantic puffers, and found that the skin and ovary have proven toxic in most cases, whereas the liver, testes, and muscle have proven nontoxic.

From the evidence available it becomes very clear that the incorporation of whole fish including the scales, heads, viscera, and bone structure may present public health hazards. Since our knowledge of what constitutes edible fish is inadequate it is premature to permit the production of fish flour from whole edible fish.

Since the operation of producing fish flour which involves the handling of fish which attract common pests such as rodents, birds, flies which have been associated with spreading enteric diseases there is no shortcut in sanitation requirements for the production of this product. Fish meal which goes into animal foods has been notorious in the spread of salmonellosis to man and animals. Good sanitation is expensive and must be added to the cost of fish flour.

GAIL MONROE DACK, PHYSICIAN AND EDUCATOR

Received B.S. at University of Illinois; Ph. D. and M.D. from University of Chicago.

Instructor in hygiene and bacteriology at University of Chicago, 1925–29; assistant professor, 1929–37; associate professor of bacteriology, 1937–46; professor since 1946; director of Food Research Institute since 1946.

Chairman, National Research Council Committee on Foods, 1951–54; Chairman, Committee on Microbiology of National Academy of Sciences, NRC, 1958 to date; member of consumer panel of Robert A. Taft Sanitation Engineering Center, 1956 to date; member of advisory board of Lobund Institute, 1956 to date. Served as medical consultant, chief, safety division, Camp Dietrick, Md., 1943–46.

Awarded Ricketts' prize, University of Chicago in 1925; received Exceptional Performance of Duty Citation from Secretary of War, 1946; Babcock-Hart

Award from Institute of Food Technologists in 1956; Pasteur Award from Society of Illinois Bacteriologists in 1957.

Members of Quartermaster Food and Container Institute, Society of Experimental Biologists and Medicine, Society of American Bacteriologists (president in 1953, and Chairman of Advisory Committee to Chief, Chemical Corps, from 1955). Members of Central Society Clinical Research, American Association for the Advancement of Science, American Public Health Association, Food Technologists, Society Illinois Bacteriologists, WHO (expert advisory panel on environmental sanitation), Research and Development Association (chairman of the board), American Academy of Microbiology. Members of Sigma Xi, Gamma Alpha, Alpha Omega Alpha. Author of "Food Poisoning" 1946, 3d edition, 1956.

Mr. ROBERTS. Are there questions, gentlemen?

Mr. NELSEN. Mr. Chairman, I notice in Mr. Hunter's statement on page 5 he says:

I have been told also that other fish, usually nonpoisonous may be poisonous at certain times of the year or when feeding on toxic sea plants.

Could you get any documented information for us relative to that statement?

Mr. HUNTER. That is Dr. Dack's statement and he does have documentation on it.

Mr. NELSON. I thank the gentleman for his statement.

Mr. ROBERTS. Mr. Dominick?

Mr. DOMINICK. No questions.

Mr. ROBERTS. Mr. Keith?

Mr. KEITH. Just one observation, Mr. Chairman.

All the fishing industry is asking really is that they may be given the same opportunity to cleanse the fish through the chemical process that the wheat industry is given by the Food and Drug Administration to cleanse wheat of similar toxic substances.

Mr. HUNTER. I would like to insert this, although I am certainly not a qualified expert, but the point Dr. Dack and other toxicologists have made is not so much the danger of food poisoning from salmonello or parasites because we believe that they could be sterilized, but the danger is in a toxin which is found in these fish which is completely heat resistant and which would not be destroyed by any of the processing procedures that we have heard about.

Dr. Dack has used the word "lethal" in many cases. I think when you indiscriminately grind up whole fish from all sections of the country or world, it can be dangerous.

Thank you.

Mr. ROBERTS. Thank you, Mr. Hunter.

(The following statement was furnished by Congressman Keith in response to statement of Dr. G. M. Dack:)

SUPPLEMENTAL STATEMENT FURNISHED BY CONGRESSMAN HASTINGS KEITH IN RESPONSE TO STATEMENT OF DR. G. M. DACK WITH REGARD TO POTENTIAL PUBLIC HEALTH HAZARDS IN THE PRODUCTION OF FISH FLOUR

Dr. G. M. Dack in his adverse report "Public Health Hazards in the Production of Fish Flour" discusses the subject of poisonous fish. The report covers a review of some of the literature on the subject and includes quotations from various investigators of poisonous fishes. He summarizes his review as follows: "From the evidence available it becomes very clear that the incorporation of whole fish including the scales, heads, viscera, and bone structure may present public health hazards." The primary basis for this judgment appears to be the much greater tendency of the viscera, rather than the flesh of fish, to contain toxins poisonous to man.

In order to evaluate the seriousness of the problem that poisonous fishes may present to manufacturers of fish protein concentrate in the United States, one must examine the distribution, abundance, and species of fish involved. If toxic species of fish are rare in our waters, or if they inhabit areas unfishable by convention fishing gear, the problem is more academic than real.

It should be emphasized that the U.S. fishing industry has been engaged for many years in the manufacture of fish meal as a supplement to the diet of poultry and swine. For example in 1960, 56 percent of the U.S. catch of almost 5 billion pounds was reduced to fish meal and oil. This meal was manufactured from both whole fish and fish waste and it is noteworthy that there has not occurred in the past any incidence of fish meal toxicity to animals. On the basis of this background and since the same species of fish would be used, there appears to be no reason to expect toxic materials to appear in fish protein concentrate.

The fact that most poisonous fishes are not schooling types and are inhabitants of tropical coral reefs accounts for their infrequency in U.S. commercial catches. Furthermore, the low incidence of poisonous fishes in U.S. waters also contributes to their scarcity in catches.

The report by C. J. Fish and M. C. Cobb ("Noxious Marine Animals of the Central and Western Pacific Ocean," U.S. Fish and Wildlife Service, Research Rept. 36, 1954) provides a good summary of the poisonous fishes of the central and western Pacific Ocean. The authors point out that almost all of the fishes reported to be poisonous in this area are residents of the coral reef belt. Charts are presented to show the similarity between the distribution of coral reefs and poisonous fishes. The authors also reported that, "There appear to be few, if any, poisonous teleosts (fish having bones) in the pelagic high seas fauna." Concerning the northern versus southern distribution of poisonous fish they say "Temperate, boreal, and arctic waters are relatively free from dangerous toxic species except for occasional invasions of southern migrants during the summer months." The findings of B. W. Halstead in his book "Dangerous Marine Animals," Cornell Maritime Press, Cambridge, Md., 1959 substantiate those of Fish and Cobb.

Although many fishes have been reported to be poisonous, the question arises as to whether U.S. fishermen would take these species. According to the known records of the distribution of poisonous fish, it would be rare indeed for fishermen to take poisonous fish in the North Pacific and Atlantic Oceans. In our southern waters, the principal poisonous fishes, namely, barracuda and puffers (toxic viscera), most likely would seldom be taken by the type of gear to be used in harvesting fish for fish protein concentrate. These species inhabit shallow waters and the barracuda is usually present adjacent to natural or manmade bottom obstructions. Fishing gear designed to capture large quantities of fish cannot be profitably operated in such localities.

For the fish protein concentrate business to be profitable, large seines or trawls must be used in areas where fish are abundant and easily captured, as the price of fish flour will be low per ton. Gear of this type cannot be used on coral reefs, where poisonous fish are most common, as the bottom is to irregular. Trawling gear must be employed on offshore trawling grounds where the bottom is more suitable. Purse seine gear would be used for highly selective harvesting of schooling fishes such as menhaden and sardines.

Should toxic species be taken in these operations their numbers would be infinitely small in relation to the harvested biomass. Routine precautions, such as visual inspection of the fish on conveyor belts as now practiced for other food fishes, would prevent even this extremely small possible quantity from entering the manufacturing process.

Dr. Dack has wisely pointed out that there can be no shortcuts in the sanitary requirements for producing fish protein concentrate and that good sanitation in processing is expensive and must be added to the cost of the end product. He is absoultely correct in this matter. All estimates for the cost of manufacturing FPC have included the use of refrigerated fishing vessels and new processing equipment which meets all domestic sanitary standards for food production. It should also be pointed out that FPC is basically less perishable and subject to contamination by bacteria and other pests than is a wet or frozen food product such as poultry or meat pies. As FPC comes from the end of the production line, it is bacteriologically sterile and free from pests. It does not require refrigeration. Sanitation and storage problems from this point on are limited to clean and proper packaging and warehousing.

Fishmeal has been implicated by Dr. Dack as being "notorious" in the spread of salmonellosis to man and animals. This statement is based upon the fact that under certain conditions fishmeal for animal feed is handled in bulk. Although the product is virtually free of disease-producing organisms as it leaves the plant, it is often transported in large multipurpose trucks or vessels which have been previously used to haul fertilizers such as Peruvian guano. Thus, contamination of the fishmeal takes place in the transporting vehicle. No such problem can occur with a properly bagged FPC transported in food-handling vehicles.

Mr. ROBERTS. Our next witness is Mr. John T. Walsh, Director of the American Dry Milk Institute, Inc., 221 North LaSalle Street, Chicago, Ill.

STATEMENT OF JOHN T. WALSH, DIRECTOR, AMERICAN DRY MILK INSTITUTE, INC., CHICAGO, ILL.

Mr. WALSH. Mr. Chairman and members of the committee, I will try to summarize my statement.

My name is John T. Walsh. I am executive director of the American Dry Milk Institute, 221 North LaSalle Street, Chicago, Ill.

The membership of the American Dry Milk Institute represents a majority of the production of the dry products of milk made in the United States.

I very greatly appreciate the opportunity of appearing before your committee to express, on behalf of the American Dry Milk Institute, its strong opposition to the passage of H.R. 9102 and companion bills.

The pending bills would exclude and except certain products made from whole fish from one of the most important provisions of the Food and Drug Act, insuring consumers a food supply which is not adulterated.

The precise provision of the Food and Drug Act, which these bills would amend, provides that a food shall be deemed to be adulterated if it consists in whole or in part of any filthy, putrid, or decomposed substance. It is not an overstatement to say that this cornerstone of U.S. food law has been a strong bulwark against adulterated products being marketed to the American public.

This committee is well aware that the industry which proposes to manufacture the product which has come to be known as "whole fish flour" intends that the raw material from which their product is to be made will include the head, tail, the scales, the intestines, and the intestinal contents of fish, and include "trash" fish which normally are not considered as food fish, even when cleaned.

If the pending legislation were enacted, it would permit the manufacture and interstate movement of a finished product made from the portions of the fish to which I have referred.

The opposition of the American Dry Milk Institute is based on two grounds:

1. We believe that manufacturers and processors of all foods should be subject to the same rules governing adulteration in the raw materials and finished product.

The American Dry Milk Institute has been continuously and effectively engaged in furthering basic sanitary and quality requirements for the milk supplies and the finished products of its industry.

In addition, nonfat dry milk, its method of manufacture, and the raw material from which it is made, is subject to rigid regulatory con-

trol, not only by the Food and Drug Administration, but also by U.S. Department of Agriculture and State regulatory officials.

This consistent concern of the industry and governmental agencies with quality production and control has yielded rich dividends to the American consumer in the form of high quality, wholesome, nutritious, nonfat dry milk.

Indeed, such dividends extend to the needy peoples of the world receiving nonfat dry milk under U.S. aid programs and in areas where protein deficiences have been recognized.

If the basic policy of considering the quality and nature of raw materials from which the American food supply is derived should be abandoned, it easily could result in a lowering of quality standards that have been responsible for making the American food supply the most wholesome of any nation in the world.

It should not be necessary for me to point out to this committee that if the test of the wholesomeness of a finished food product is to be solely the nutrition of the finished product, many raw materials not now considered to be suitable for human food purposes would meet such a test.

The portions of the fish which are objectionable for food use, but which would be allowed for such use under the bills, have been dried and ground in factories on the east coast, and other regions for many years.

The end product is considered an excellent fertilizer, and it is also considered suitable to be fed as meal to animals; but the use of heads, tails, viscera, and intestinal content for human food has always been prohibited, and, in our view, should continue to be prohibited.

In a word, this bill, in effect, would call something pure and wholesome which has always been regarded as adulterated and unwholesome because of the nature of the raw materials.

The second reason for opposition by the institute is:

2. The whole fish product which would be given legal legitimacy if this legislation were enacted is proposed in one principal usage to replace nonfat dry milk in bread.

We believe that if the so-called fish flour industry intends to participate in the market of supplying protein in the baking industry, it should be required to meet the same or comparable sanitary and quality control provisions that are observed and required by the other ingredient suppliers to that industry in order to provide consumers with wholesome baked foods.

For the committee's interest and review, I have with me, today, two American Dry Milk Institute and dry milk industry publications:

1. A grading manual setting forth specifications for grades of the finished product, nonfat dry milk, and other products of dry milk, and

2. Equally important, the recommended and used sanitary and quality standards for the production and processing of the raw milk supplies used in the manufacture of nonfat dry milk. The USDA has similar requirements.

It seems inequitable to us that considering our industry's endeavors, together with those of Federal and State regulatory people in developing the type of high quality requirements embodied in these two publications, that another food which is intended as a replacement for nonfat dry milk should not be required to conform to recognized basic,

reasonable requirements governing the raw materials of manufacture with respect to adulteration, filth, decomposed matter, and the like.

While we have not undertaken a formal consumer survey in the matter, a goodly number of consumers with whom I have discussed the subject have been repulsed by the idea of including intestines and intestinal contents in their food supply.

Hundreds upon hundreds of comments made to the Food and Drug Administration, when some months ago they published a proposal to establish a standard of identity for "whole fish flour" made with heads, tails, scales, intestines, and intestinal contents, expressed the same reaction.

The argument appears to have been advanced that it would be more costly to make whole fish flour if those portions of fish not normally regarded as acceptable for human food usage in this country were to be removed prior to processing.

Undoubtedly, this would be true and if this argument is allowed and applied in every case, it is equally true that the dry products of milk may also be made more economically in the absence of present expenditures of money, effort, and industry-Government interests to maintain quality products suitable and acceptable for human food consumption.

Reference has been made to possible sediment in raw milk supplies. The fact is that despite every precaution there may be instances when minute particles of sediment will find their way into raw milk supplies, but such sediment, usually airborne, is properly removed from the milk supply prior to any processing.

Specifications for the finished product nonfat dry milk do not contain a standard or tolerance for sediment of any nature.

Any dairy product which contains extraneous matter is deemed adulterated under the law and should be.

We hold no brief for such products. Contrast this situation with the proposed legislation for whole fish flour, where the offending portions which are putrid and decomposed are not required to be eliminated and no effort to remove them is made.

I am sure that fish filets would make a product equal in nutrition to fish flour made from intestinal contents and there would then be no need to "gut" our pure food law, if you will excuse the expression.

We have heard that the process of manufacture of whole fish flour involves a chemical cleaning of the fish, the eyes, scales, and internal organs and their contents.

Is this, in fact, cleaning the fish, or is it not a reduction of the fish, including filth, decomposed material in the internal organs to a finished product of a particular composition?

It has been said that certain parts of the population of the United States is suffering from protein deficiency.

I personally am not qualified to concur in or deny this assertion. I do know however, that the production of nonfat dry milk for the year 1961 was over 1 billion pounds in excess of actual domestic consumption resulting in the continuing availability of an economical, highly nutritious, high-protein nonfat dry milk; and this product which is available in large quantities in the United States, is in compliance with all of the requirements of the Food and Drug Act as well as the standard for grades of the U.S. Department of Agriculture.

It would be inequitable and unrealistic to the dry milk industry and unquestionably other segments of the food industry if Government sanction should be extended to a food product failing to meet basic sanitary and quality requirements established for existing high-quality nutritional food products with which that food would compete.

Proponents of so-called whole fish flour have, to a considerable extent, based their appeal on the need to confer legitimacy on the product so that hungry people of the world outside the United States may receive this cheap protein.

The humanitarian impulse which has led proponents—other than the prospective manufacturers—to support this bill is laudable.

If foreign aid is a principal objective we should like to offer a constructive suggestion for consideration. The kinds of fish suggested suitable for processing into whole fish flour are abundant in the waters of the world as I understand. Aid could be given these countries to construct, on their own soil, processing plants to manufacture the product which would be in conformance with the food laws of the respective countries.

This makes more sense than violating our long-established world recognized and envied concept of pure, wholesome foods.

Further, at least four additional objectives could be achieved:

1. The economy of the country would be benefited by the added industry;

2. The nutritional needs of the various populations would be better served;

3. There would be no need to import over long distances the cheap protein which is the principal nutrient of the end product; and

4. The integrity of our own pure food laws would be maintained.

It seems reasonable and logical that the same basic principals of sanitation and quality of raw materials and finished food products should govern in all instances.

Adulteration and filth, no matter how disguised, should have no place in our food supply. The bill under consideration provides that the processed fish products be processed under sanitary conditions.

It would appear that requiring a product containing filth and decomposed materials to be processed in a sanitary manner does not purge that product of its inherent adulteration.

Thank you, Mr. Chairman.

Mr. ROBERTS. Thank you, Mr. Walsh.

Any questions, gentlemen?

Mr. NELSEN. I wish to thank the gentleman for his fine statement.

I was interested in your reference to our foreign aid program and it brings up the point that actually, as far as foreign governments are concerned, if there is a nutritional problem, unless there is some drive by their own leadership to get the product for their people, there is very little we can do about it.

This seems to be a constructive suggestion, Mr. Chairman.

Mr. ROBERTS. Mr. Keith?

Mr. KEITH. I would request the record be kept open at this point so that the fishing industry may reply to your comments concerning the poisonous fish and I would like to point out at this time this is not intended to replace skim milk or dried milk.

Mr. WALSH. I made no reference to poisonous fish, Mr. Keith.

Mr. KEITH. I beg your pardon. It was the other witness.

Mr. ROBERTS. You were addressing your remarks to Mr. Hunter.

Mr. KEITH. Yes, Mr. Chairman.

Mr. ROBERTS. The Chair will take the gentleman's request under consideration and certainly give you an opportunity to answer that. Thank you, Mr. Walsh.

Our next witness is Mr. Glenn G. Paxton, Millers' National Federation, National Press Building, Washington, D.C.

I see that we have our distinguished colleague, Mr. Judd, from Minnesota, who will introduce Mr. Paxton.

Mr. JUDD. Mr. Chairman, I am interested in this subject first as a physician who naturally is concerned about nutrition and the health of the people and the necessity for the best kind of food.

Secondly, I am interested in it as a Representative from the city of Minneapolis and the State of Minnesota which produces pure food and good food in large quantities made out of wheat and various kinds of flour, and also a great State for dairy production.

I appreciate the opportunity to introduce, first, Mr. Ellis English. He has been chairman for 2 years of the Millers' National Federation, and he is also a vice president of Archer Daniels' Midland Co., which has among its many activities in my area a very large flour-milling operation, and also with him is Mr. Glenn Paxton, who is the attorney for the Millers' National Federation.

Mr. ROBERTS. Mr. Paxton, are you going to make the principal statement?

STATEMENT OF GLENN G. PAXTON, ESQ., COUNSEL FOR THE MILLERS' NATIONAL FEDERATION, NATIONAL PRESS BUILDING, WASHINGTON, D.C.; ACCOMPANIED BY MR. ELLIS ENGLISH, CHAIRMAN, MILLERS' NATIONAL FEDERATION

Mr. PAXTON. I will undertake to make a brief statement, if the chairman please.

Mr. Chairman and members of the committee, I have a prepared statement which I think has been distributed, and in the interest of time and to avoid repetition, I will try to summarize it and trust that the members of the committee will find time to read it.

This would be, gentlemen, the first exception to the basic principle of purity in foods that has occurred in over a half century of pure food legislation, both State and Federal.

This is an effort to legalize sanitized filth. If we opened the door for a product which is made from the raw material that consists, in part, of filth, and if we do that at the insistence of the fisheries interests, it is not very difficult to imagine that there will be other interests, special interests before Congress, seeking an exception for a food product that is made from filthy material that emanates from their industry.

Let us talk about tankage, and let us talk about animal entrails that come out of packing plants. These are loaded with protein, and would be cheap to make if made by this kind of method.

If we let the bars down here, we have opened the door to a complete reversal of a half century of experience and progress in sanitation of food.

It becomes a little wearisome to me to hear the proponents of this product talk about an occasional rodent pellet in a sack of wheat, or some insect fragment in wheat or even flour.

If this has happened occasionally, it is accidental when millions and millions of dollars are spent annually, hundreds of millions from the farm on up to the processor, in keeping that out.

We are not down here trying to get a law passed to legalize the inclusion of those materials in our raw materials or finished product.

We spend hundreds of millions of dollars to keep that sort of thing out, and here, by contrast, we have before us a bill or a group of bills that would seek an exception in the raw material for the filthy substances that we, by comparison, spend millions of dollars out of our pockets and expect to continue to spend to keep out.

It has been pointed out here that there has been a discussion about the undernourished nations of the world for whom I am sure we are all sympathetic, but it must become rather obvious that the market at which this legislation is aimed, is the U.S. market.

The foreign, undernourished consumer can have the product now and it can be made here legally and shipped there under our present law if it can be sold there.

Obviously, as one of the preceding witnesses pointed out, we cannot pay the high wages that we pay to manufacture the product here and then pay the transportation costs to the undernourished nations and lay the product down there and do it for the price it can be made there.

We have heard here today that the product is being made in a number of nations, maybe not this identical product but a whole fish product for human consumption.

We will not be able to make that market. Economically, we cannot handle it. The market that the proponents of this product are after is our domestic U.S. market.

There is another point that has not been mentioned here this morning. I am just highlighting a few of the things in my statement, if the committee please, and that is that the enactment of this law making an exception for this product would create a conflict between the Federal pure food laws and the pure food laws of, I think, all of the States and the municipalities.

Most of them are patterned after our present act, that is our Federal act. Most of them, if not all of them, forbid the sale of sanitized filth in any form.

Mr. ROBERTS. Let me interrupt you at this point. It is your feeling if we make an exception in this particular case, we would override any State that has a similar food law which prohibits the use of this particular type of product?

Mr. PAXTON. That could be the result. I do not know that this particular bill, Mr. Chairman, would preempt the field.

If it were intended to, it could be so stated, of course. There is always a difficult legal question as to whether a piece of Federal legislation actually preempts the field.

Mr. ROBERTS. Then it would undoubtedly set a dangerous precedent.

Mr. PAXTON. It certainly would. It would make the job of Federal-State cooperation much more difficult.

It would make it almost impossible for the State officials to enforce their own laws.

I have attached to my statement, Mr. Chairman, a copy of a statement filed by the director of the food and drug division of the Kansas State Board of Health, a statement filed last October with the Food and Drug Administration in response to an invitation for comments on the proposed definition and standards of identity for whole fish flour and he points out in this statement very succinctly the problem that would result from the enactment of this Federal legislation.

He also has one interesting sentence that I would like to read from his statement in response to a statement that was made by the Massachusetts food and drug man here this morning who indicated that, in his opinion, the fecal matter of fish is much more palatable, let us say, to the American consumer than the fecal matter of some other animal.

Mr. Wright says in his statement, and it is attached to mine:

> The American consumer does not want fecal material in his food. To say that he prefers fish feces to the feces of other animals is making a statement which cannot be substantiated.

We in the milling industry agree with him.

I would like to conclude by reading the last paragraph of my prepared statement.

> The concern of our industry is with the continued purity of our food supply; the continuation of progress in achieving the goal of pure and wholesome foods and the maintenance of public confidence in the integrity of the foods which are manufactured and distributed in tremendous quantities in our modern economy.

Mr. English, with experience in the milling industry and the 2 years as head of our trade association, is here, and if I have omitted something, he would like to fill in now.

Mr. ROBERTS. We would be glad to hear from you, Mr. English.

Mr. ENGLISH. I can second what Mr. Paxton has said. I will mention the economics since it has been brought up here today and give you a few figures on what our industry spends to comply with FDA regulations because we believe in making a pure product.

We do not need national legislation to legalize filth. I have checked these figures carefully. We produce 2½ percent of the flour produced in the United States and yet, our sanitation bill last year—and when I say sanitation bill I am talking only about dollars we spend to comply with food and drug regulations—was over $500,000.

When you see what our industry spends as a whole, you realize how important this money is. These dollars are spent by the grain and milling industries going from the farm to the subterminal to the terminal by the railroads, then milling, and so on.

If, by unfortunate circumstances, we do get extraneous matter in our product, it is by accident and not by intent.

Mr. ROBERTS. Now, in the process of making flour from grain, are there any foreign substances that you introduce into the mixture?

Mr. ENGLISH. On the contrary, sir, we take out the foreign substance.

The only ingredients allowed in flour would be the enrichment ingredients approved by FDA and required in certain States and in certain types of products: vitamins and minerals.

Mr. ROBERTS. No impurities then.

I probably phrased my question incorrectly, but you do have additives. What are these that you use in the enriched flour?

Mr. ENGLISH. We can use thiamine, riboflavin, niacine, and iron, all four, and the Government has a standard for enrichment, both a minimum and maximum.

Now this, sir, is very vigorously policed by the Food and Drug Administration.

Mr. ROBERTS. Mr. Nelsen?

Mr. NELSEN. I wish to thank the witness and Mr. English for their statements and I think it has been covered very well.

I wondered what steps the milling industry has taken over a period of many years to bring up the standards in the flour that you are selling.

Could you give us some history, Mr. English?

Mr. ENGLISH. Most of us in the milling business have our own country stations. We start there with rodent and insect control program, with approved insecticides and approved rodenticides.

We have a program of cleaning boxcars or the trucks, shipping containers, whatever they might be.

We practice vigorous control in our elevators, fumigation, pest controls of all types. This cleaning program process follows clear through and where wheat gets to the mill it is drycleaned, washed, and again cleaned before going to the rollers. During the milling process, it is sifted after every operation through very fine silk cloth and by the time flour gets to the packer, we have a finished product that is just as clean as human ingenuity knows how to make it.

Mr. NELSEN. For many years I was chairman of the committee on dairy products in the State senate, and legislation in that committee dealt with sanitation.

One of my real concerns with this legislation is what this step would do relative to deteriorating standards that for many years we so carefully formulated.

I wondered what your judgment is as to the historical effect of an amendment such as this relative to standards in the food industry.

Mr. ENGLISH. Mr. Nelsen, I would come up with just one word. It would be a tragedy. It would be a tragic step backward.

Mr. ROBERTS. Mr. Paxton, if there is no objection, your prepared statement may appear at this point in the record.

(The statement of Mr. Paxton follows:)

STATEMENT OF GLENN G. PAXTON

Mr. Chairman and members of the committee, my name is Glenn G. Paxton. I am a member of the law firm of Campbell, Miller, Carroll & Paxton, and am engaged in the general practice of law in Chicago, Ill. I am appearing today on behalf of Millers' National Federation, and its members. This organization, for which I am general counsel, is a trade association whose members produce approximately 90 percent of the wheat flour milled in the United States.

I am appearing in opposition to H.R. 9101, H.R. 9102, and H.R. 9331. These bills would amend the Federal Food, Drug, and Cosmetic Act to make an express exception to the provisions prohibiting adulterated foods in order to permit the manufacture and sale to the American consumer of a product made by grinding and processing whole fish. This product has sometimes been called fish protein concentrate. Some of its proponents sometimes call it whole fish flour.

THE PRODUCT WOULD CONSIST IN PART OF FILTHY AND PUTRID MATTER

So far as has been disclosed by the proponents of the proposed product, it would be made by grinding whole fish, including everything in and on the fish—head, eyes, scales, fins, viscera, intestines, fecal matter, worms, and parasites—and by extraction of the oil by some kind of solvent extraction process and by drying, leaving a powderlike substance with a high protein content. Nothing would be removed before the whole fish is ground into one mass or mixture. Thus the raw material from which the product is made would consist in part of filthy and putrid matter.

Incidentally, the fish to be used for the product could include scavenger fish, trash fish, and fish of any other variety, whether or not considered edible, caught in any waters, including oceans, inland lakes, and waterways, whether or not polluted. Proponents of the product have stated that one of the species which they would consider most likely to be used for the purpose is menhaden, a species of ocean fish generally considered inedible.

Since the first Federal pure food legislation in this country more than 50 years ago, it has been the consistent policy of Congress and the enforcement authorities to prohibit food products in interstate commerce which consist in whole or in part of filthy or putrid substances. Section 402 of the present act provides in pertinent part that a food shall be deemed to be adulterated "if it consists in whole or in part of any filthy, putrid, or decomposed substance, or if it is otherwise unfit for food."

Under this concept the Food and Drug Administration and its predecessors for more than half a century have consistently taken the position, which the courts have consistently upheld, that an article of food containing substances of the kind sought to be legalized by the proposed legislation is adulterated and cannot legally be sold in interstate commerce. For example, the Food and Drug Administration has consistently been upheld by the courts in condemning such products as fish containing parasites and worms, butter containing rodent hair, feather parts or insect filth, sugar, bread or flour containing rodent hairs, rodent excreta or insect fragments, tomato paste containing corn-ear worms and their excreta, all on the ground that such substances are filthy and putrid within the commonly accepted meaning of those words when considered for human consumption. Fecal matter in the intestines of a fish, worms and parasites in or on a fish, the viscera, fins, eyes, and other portions of the head of a fish are at least as filthy and putrid as the substances condemned in any of the foregoing examples.

THE PROPOSED LEGISLATION WOULD BE A BACKWARD STEP

The Nation's food supply is the safest in the world and as clean as modern technology can make it. Years of legislation by the Congress and by the States, years of effort on the part of the Food and Drug Administration and the U.S. Department of Agriculture, as well as State authorities, have been devoted to this end. Vast sums have been spent by farmers, warehousemen, grain dealers, railroads, flour millers, bakers, dairymen, packinghouses, canners, and food manufacturers in general to eliminate infestation and to improve sanitation in the handling of grains, animal, dairy, and other agricultural products, and all articles of food. To enact the proposed legislation would be to sacrifice the principles underlying this program and to open the door to a general breakdown of the high standards consistently sought after and progressively achieved. To make an exception for this product would mark the first step backward and would inevitably lead to further exceptions.

If a special exception in the act can be carved out for whole fish flour at the instance of the fishery interests, how long, once the example is set, will it be before other special exceptions will be sought by other special interests? Once the act ceases to have universal application to all foods it will be only a matter of time until it is shot through with exceptions.

The proponents of the proposed product claim that the nature of the product would be changed in the manufacturing process, with the result that the product would not consist in whole or in part of filthy or putrid matter. They do not claim that all such matter would be removed, but insist that its character would be somehow changed and that the resulting product would be nontoxic and otherwise harmless to man. Laying aside questions of possible toxicity and harmfulness, which will be discussed later in this statement, it is pertinent to say at this point that the Food and Drug Administration has consistently ruled

and the courts have consistently held that it is no answer to the charge of adulteration that the filthy and putrid matter in the raw materials from which a food product is made has been rendered nontoxic and harmless to man by the processing of such raw materials into the end product. For example, foods containing worms, rodent hair, insect fragments and other foreign substances have been and are condemned even though evidence is available to prove that such substances have been rendered harmless to health by the manufacturing processes resulting in the end product. Sanitized filth has always been prohibited. The proposed legislation would seek by act of Congress to make clean that which is now filthy.

If this exception were granted it would set a precedent wherein the basic concept of our pure food laws would change from that of purity to one of mere harmlessness or nontoxicity. We do not believe that the American public is ready at this time to accept this change.

It is argued by the proponents of the proposed product that these considerations are mere aesthetic considerations, which they would brush aside as of no importance. We submit that these are valid and vital considerations to the consumer as well as to the responsible food manufacturer. The American consumer has been and is constantly being educated to higher standards of cleanliness and sanitation in foods. It is highly important that public confidence in the integrity of our food supply and in the continuing efforts of our legislative and executive departments to insure such integrity be maintained. If the average American consumer is not to be served sanitized filth all branches of our Government must hold the line against a surrender of the basic principle of sanitary food from clean and wholesome raw materials.

The proponents of the product seek to justify it by comparison with such foods as shellfish or sardines, which are generally consumed in uneviscerated form. There are important distinctions. Such foods are historically part of the diet of some people, on the basis of centuries of experience. When people eat a food of this kind they know exactly what they are getting—they can see it, examine it, recognize it, and eat it if they like—although many choose not to do so. But fish protein concentrate is a product that would not be eaten in a natural state or in any recognizable form. It would not in itself constitute an item in the diet. On the contrary its use would be as a protein supplement in other foods such as breads, cereals, soups, gravies, baby foods, and similar foods wherein its presence would go undetected. One of the leading proponents and a prospective manufacturer of the product has stated in writing: "It cannot be used alone to make food as such. It is purely a supplement." Regardless of label declarations the average consumer would not know what he is eating and how it is made. He would not have the same choice that he has in the case of shellfish and similar items.

If aesthetic considerations are to be disregarded there is no limit to the type of products that might find their way into the food stream. Where is the line to be drawn? Expert testimony can be produced in support of food products made from animal offal, tankage, or whole animals of various species, including their intestines and feces, which would have recognizable nutritional values and would be harmless to man.

THERE IS NO NEED FOR THE PROPOSED PRODUCT IN THE AMERICAN DIET

It is generally recognized by competent scientists that the U.S. diet is not deficient in protein. An impressive array of scientific testimony to that effect is available. In a report of the Food and Nutrition Board, Division of Biology and Agriculture, National Academy of Sciences-National Research Council, published in 1959 (Publication 711), it was concluded upon the evidence available to date "that malnutrition due to protein deficiency is not a general public health problem in the United States." The report also stated that no convincing evidence has as yet been presented of a need for protein supplementation for the individual eating an average mixed diet in the United States. The report also stated that whether there are any health problems from excessive protein intake remains to be investigated.

If there is no protein deficiency in the U.S. diet there is no need to lower the standards of purity inherent in the present act in order to permit the sale of a product whose only function would be to supplement the protein content in the national diet.

Even if the reverse were true and the U.S. diet were deficient in protein the deficiency could be supplied at low cost from pure and wholesome raw materials

that are now available and that comply with the standards of the present act. Examples of such protein sources are soybean products and milk solids, both of which are in surplus supply.

It has been claimed by proponents of the product that it should be legalized for the American diet in order that it may be sold and exported to the undernourished nations of the world. The answer to this is that under section 801(d) of the act it may now be sold and exported to those countries whose laws permit it to be sold. Clearing it for sale in the United States might be helpful in deluding the foreign consumer that it is a standard item in the American diet, but would not serve any other purpose so far as exportation is concerned.

As a matter of fact, the product is being manufactured and sold for human consumption in various other countries. It is not realistic to believe that American manufacturers could meet their comparatively high production costs, plus the costs of transportation, and lay the product down in a foreign country at a price competitive with the like product manufactured in that country with lower labor costs and generally lower operating costs. The need for the proposed legislation as a boon to undernourished nations cannot be demonstrated. The market obviously sought by the proponents of the product is the U.S. market.

THE SAFETY OF THE PROPOSED PRODUCT HAS NOT BEEN ESTABLISHED

Notwithstanding the proviso in the pending bills that the product would be "processed under sanitary conditions" and would be "in no manner harmful to the health of consumers thereof," we submit that the safety of the product has not been established, and that the proposed legislation is at best premature.

There has not been adequate scientific experimentation and investigation of typical batches of the product to establish:

(*a*) That no toxic reaction product is formed during solvent extraction.

(*b*) That the amount of residual solvent remaining in the product under proposed manufacturing procedures is consistently less than a safe tolerance level to be established on the basis of animal feeding tests employed to demonstrate the extent of toxic hazard involved in using a given solvent extracted fish flour in the human diet.

(*c*) The reliability of the method for determining and controlling the solvent residue of the product derived from a given manufacturing procedure.

(*d*) That toxins present in certain parts of certain species of fish to be used for the product, caught at certain times in certain waters, would not remain in the finished product.

Qualified expert testimony can be produced to demonstrate the possibility of the presence of such toxic reaction products and harmful solvent residues in the proposed product as well as toxic substances that may be present in certain parts of the fish—particularly the skin, head, liver, and gonads—and would not be eliminated by the manufacturing procedures. These possibilities cannot be ruled out except through scientifically approved tests and experimentation conducted over a substantial period of time. Evidence is lacking that such experimentation on an adequate scale has been conducted. There is not enough knowledge of the product to be certain of its safety.

If a special exception were to be made in the act in favor of this product or any product, the safety of the product should be first established beyond question.

THE PROPOSED LEGISLATION WOULD HAMPER THE ENFORCEMENT OF MANY STATE AND LOCAL LAWS

Following the lead of the Federal Government, the several States and various local political subdivisions have enacted pure-food legislation designed to promote sanitation and purity in foods for human consumption. When the Food and Drug Administration, in 1961, published notice of a proposal to establish a definition and standard of identity for "fish protein concentrate, whole fish flour" (the same product for which an exception is sought here), many State and local food-control agencies opposed the proposal, and expressed the view that the proposed product would be classed as in violation of State and local laws. As an example, I have attached, as an appendix to this statement, the statement filed by the Director of the Food and Drug Division of the Kansas State Board of Health.

CONCLUSION

The concern of our industry is with the continued purity of our food supply, the continuation of progress in achieving the goal of pure and wholesome foods, and the maintenance of public confidence in the integrity of the foods which are manufactured and distributed in tremendous quantities in our modern economy. We urge a continuation of the legislative and enforcement policies which have resulted in that confidence.

AUGUST 9, 1962.

APPENDIX TO STATEMENT BY GLENN G. PAXTON, CHICAGO, ILL.

THE KANSAS STATE BOARD OF HEALTH,
Topeka, Kans., October 2, 1961.

HEARING CLERK,
Department of Health, Education, and Welfare,
Washington, D.C.

DEAR SIR: We wish to express our unalterable opposition to the adoption of the definition and standard of identity for fish protein concentrate, whole fish flour, as proposed and published in the Federal Register, September 15, 1961.

We oppose the adoption of the standard for fish protein concentrate, whole fish flour, for the following reasons:

(1) It would be an illegal administrative act.

(2) It would make Federal-State cooperation difficult.

(3) It would make the enforcement of State food, drug and cosmetic acts more difficult.

(4) It would not promote honesty and fair dealing in the interest of the consumer.

(5) It would be repugnant to the basic philosophies of food-adulteration laws.

(6) There is no economic or nutritional need for such a product in the American food market.

(7) It would introduce unfair competition against clean protein foods.

We oppose the adoption of this standard because its adoption would be an illegal Act. The Federal Food, Drug and Cosmetic Act specifically declares a food to be adulterated "if it consists in whole or in part of a diseased, contaminated, filthy, putrid, or decomposed substance, or if it is otherwise unfit for food; * * *." The product for which a standard is proposed would include the scales, heads, eyes, fins, tails, intestines, and their contents and various other inedible parts. By what stretch of the imagination could these be called fit for food?

The Uniform Food, Drug and Cosmetic Act adopted by many of the States, has an identical prohibition against articles such as that proposed. The old Wiley-type laws of some of the States have similar sections prohibiting filth in foods. The adoption of such a Federal standard, if legalized by any such law as anticipated by H.R. 9101 and H.R. 9102, would make legal, under the Federal law, an article which would be in violation of every State food and drug act in the Nation. The ability of the States to cooperate with the Federal Food, and Drug Administration would be impaired. We are certain that public opinion in most States, and the official opinions of the State administrators, would prohibit the amendment of the State laws in a manner to accept filth as a proper article of food.

The trash fish of the fisheries are not the only source of high quality protein available for food, if filth and the esthetic ideas of the consumer are ignored. Common tankage, which is now produced in huge tonnage from the wastes of packinghouses and the bodies of various animals which have died of disease or accident, could be defatted, deodorized, and decolored to produce an animal protein substance as safe and nutritious as the proposed filthy fish flour. Is there any logical reason why such a nutritious animal product should be denied equal status with the fish product?

Perhaps 20 percent of the eggs set to hatch in our commercial hatcheries fail to hatch for reasons of nonfertility, death of embryo, etc. Incubator rejects from these hatcheries consist of sterile eggs which have been considerably dried by 18 days' incubation, eggs with dead embryos, including nearly fully formed chicks, and various rots. Rejects from candling rooms include eggs with blood spots, meat spots, chicks, and rots. By simple removal of the rots, a product could be made from the remaining eggs—chicks, shells, and all—a highly nu-

tritious, safe, and palatable animal protein product with other useful nutritional factors. Why should this great source of animal protein be given less kindly treatment than filthy fish flour?

Some sections of the country produce millions of tons of animal protein as pests. The plains States have the jackrabbit, a thoroughly edible cousin of the domestic rabbits used for food. Tons of these pests have gone into tankage, and there is a considerable traffic in their carcasses for fox and mink food. The jackrabbit is a very clean herbivorous animal. He is not a scavenger who eats decomposed animal or vegetable matter as many fish do. His intestinal contents consist universally of clean, usually fresh, vegetable matter, in various stages of digestion. A highly nutritious and palatable whole jackrabbit flour could be made. The plains States could furnish millions of pounds of this product annually. Should the interests of the small businessmen of Kansas or South Dakota be of less significance than those in Massachusetts or Maine?

And what objection could the consumer take to cereal products with insects, whole or floured? The insects are in fact as nutritious as the bread or rolls they might be consumed in, if the cereal industries were not as conscientious about insect control as they are.

Our laws prohibit filth in our foods, because our culture has established taboos against many nutritious products. But out consumers have the right to set these standards against filth and expect their Government to keep esthetically unacceptable materials out of our food. Fish chitlins and eyeballs are unacceptable, except in "Dogpatch."

There is no reason for the acceptance of filthy fish flour as an ingredient in foods for Americans. There has been no showing of any protein or amino acid deficiency in the whole American diet or in the diet of any significant segment of our population. Before it is necessary for us to accept filthy fish flour as part of our diet, there are many untapped sources of high quality protein which may be utilized without the inclusion of unacceptable material such as would become part of whole fish flour.

Proponents of the filthy fish flour have indicated that the consumer would not object to it, knowing of its source. The American consumer does not want fecal material in his food. To say that he prefers fish feces to the feces of other animals is making a statement which cannot be substantiated. It has been pointed out that most sardines are not eviscerated and that oysters are eaten whole. A large segment of our population does not eat oysters, because they consider them unfit for food. A large portion of our population does not eat sardines because they know they are not eviscerated. Another large group would not eat them if they did know it.

We object to the names "fish protein concentrate" and "whole fish flour" as being inadequately descriptive of the product and, in fact, misleading. The average American consumer, reading these names, would assume that the product was derived from fish properly dressed for human food with all offensive parts removed. This product would not be, in itself, a food entity, but rather a food ingredient. Its presence would be disclosed only in small type in the ingredient statement on the label of manufactured articles composed of numerous ingredients. In case, if the proponents were able to have this product accepted as an ingredient of a standardized food, such as bread, its presence might not even be disclosed to the purchaser.

The idea of whole fish flour is repugnant to the basic philosophy of legislation against adulteration of foods.

Yours very truly,

EVAN WRIGHT,
Director, Food and Drug Division.

Mr. ROBERTS. The Chair would like to observe that we have six witnesses remaining to be heard.

I sincerely regret that we have not been able to reach all witnesses this morning.

The subcomittee will recess now and reconvene at 2 o'clock this afternoon.

(Whereupon, at 12:30 p.m., the subcommittee recessed, to reconvene at 2 p.m.)

AFTERNOON SESSION

Mr. ROBERTS. Mr. Berry, will you come around to the witness stand? Do you want to make your appearances together?

Mr. BERRY. Yes, sir.

Mr. ROBERTS. Fine. Now, this is Dr. Constable.

STATEMENTS OF RODNEY C. BERRY, DIRECTOR, DIVISION OF CHEMISTRY AND FOODS, VIRGINIA DEPARTMENT OF AGRICULTURE, RICHMOND, VA., AND DR. E. W. CONSTABLE, STATE CHEMIST, NORTH CAROLINA DEPARTMENT OF AGRICULTURE, RALEIGH, N.C., ON BEHALF OF THE NORTH CAROLINA DEPARTMENT OF AGRICULTURE, FOOD LAW DIVISION; ASSOCIATION OF FOOD AND DRUG OFFICIALS OF THE SOUTHERN STATES; ASSOCIATION OF FOOD AND DRUG OFFICIALS OF THE UNITED STATES; AND NATIONAL ASSOCIATION OF STATE DEPARTMENTS OF AGRICULTURE

Mr. ROBERTS. Mr. Berry, you are director of the Division of Chemistry and Foods in the Virginia Department of Agriculture?

Mr. BERRY. Yes, sir.

Mr. ROBERTS. And Dr. E. W. Constable——

Dr. CONSTABLE. Yes, sir.

Mr. ROBERTS (continuing). Is State chemist of the North Carolina Department of Agriculture in Raleigh, N.C.

He also represents, besides that department, the Association of Food and Drug Officials of the Southern States, the Association of Food and Drug Officials of the United States, and the National Association of State Departments of Agriculture.

Dr. CONSTABLE. The latter three, Mr. Berry and myself represent together, and then we each represent our respective States.

Mr. ROBERTS. I understand. All right, sir, you may proceed.

Mr. BERRY. Mr. Chairman, this hearing only came to my attention late Monday evening, and it gave me no opportunity to prepare a statement, or a satisfactory statement, in opposition to this bill.

I would like to read and present, into the record, a resolution which was acted upon by the Association of Food and Drug Officials of the Southern States, held at Hollywood, Fla., on June 17, 1962.

Mr. ROBERTS. Without objection.

(The resolution referred to follows:)

I hereby certify that the following resolution is an exact copy taken from the minutes of the 14th annual meeting of the Association of Food and Drug Officials of the Southern States held at Hollywood, Fla., on June 17–22, 1962:

"Whereas the Association of Food and Drug Officials of the Southern States assembled in annual meeting at Hollywood, Fla., on Wednesday, June 20, 1962, go on record as unequivocally opposed to any standard for fish flour, or any other food product intended for human consumption which is composed of or contains fish fins, heads, scales, intestines, or fecal matter or any other filth or decomposed substance: Now, therefore, be it

"*Resolved*, That multiple copies of this resolution be forwarded to the hearing clerk, Department of Health, Education, and Welfare, Washington, D.C."

Motion was duly made by Rodney C. Berry and seconded by Eugene H. Holeman and was unanimously pased by a count of votes.

RODNEY C. BERRY,
Director and State Chemist, Division of Chemistry and Foods, Department of Agriculture, Richmond, Va.

Mr. Rodney C. Berry appeared before me on this 7th day of August 1962 and made oath that the above statement is true and correct.

[SEAL] MAURICE B. ROWE, *Notary Public.*

My commission expires February 21, 1964.

(The resolution was read by Mr. Berry.)

Mr. BERRY. That is the end of the resolution.

I would like to say to the committee that at the time we did not know that a hearing was being called, and this was merely expressing the views of the officials of the Southern States to the hearing clerk of the ATW.

I have nothing else to present that would not be a duplication of Dr. Constable's presentation.

So unless you have a question I will defer to Dr. Constable.

Mr. ROBERTS. I have no questions, Mr. Berry, but I do want to thank you though for coming to our hearing and making your presentation.

I have no questions.

Mr. NELSEN. I have no questions other than to thank the witnesses for taking the time to appear here and to give us the benefit of their knowledge on this particular type of legislation.

Thank you, Mr. Chairman.

Mr. ROBERTS. All right, Doctor.

Dr. CONSTABLE. Well, I would like to start with the presentation of a resolution by the Association of Food and Drug Officials and the resolution will give the full data:

Whereas here was published in the Federal Register, January 25, 1962, an order establishing a standard of identity for fish flour for use as human food under the U.S. Food, Drug and Cosmetic Act, which standard excluded from fish flour such items as fish heads, fins, tails, viscera, and intestinal contents including fecal matter; and

Whereas under date of April 28, 1962, there was published in the Federal Register an additional order staying in its entirety the order of January 25, 1962, this stay ordered upon request of proponents of a standard of identity for fish flour, which standard would permit fish heads, fins, tails, viscera, and intestinal contents including fecal matter as components; and

"Whereas, a standard of identity for fish flour which would permit as components fish heads, fins, tails, viscera, and intestinal contents including fecal matter would qualify such product as adulterated with filth and offensive to the human sense of decency; and

Whereas such promulgation would, in fact, constitute the principle of using the standardsmaking provision of the food law to violate and vitiate the provision prohibiting the adulteration of foods with filth, and such practice and principle would be destructive of the food law and detrimental to consumers: Therefore, be it

Resolved by the Association of Food and Drug Officials of the United States in session in Holywood, Florida, June 21, 1962, That this association is unalterably opposed to the promulgation of any standard for fish flour or for any food for human use which standard would permit components such as fish heads, fins, tails, viscera, and intestinal contents including fecal mater; and be it also

Resolved, That the association is unalterably opposed to establishment of the principle of using any provision of the food law to violate or vitiate any other provision; or to the employment of any strategem which would compromise or defeat the purposes of the law or prove deterimental to consumer interest; and be it further

Resolved, That multiple copies of this resolution be forwarded to the hearing clerk, Department of Health, Education, and Welfare, Washington, D.C., to congressional committees to which this or related matters may be referred, and to any other agency or committee which may become interested in declaration of the stand of the association in these matters.

And this was adopted June 21, 1962. It is signed "E. W. Constable, Chairman," and it is followed by the certification of our secretary.

I certify that the foregoing is a true and correct copy of a resolution adopted by the Association of Food and Drug Officials of the United States at its 66th Annual Conference held in Hollywood, Fla., June 17–22, 1962.

It is signed by Joe F. Lakey, secretary-treasurer of the Association of Food and Drug Officials of the United States.

Sworn to and subscribed before me by the above, Joe F. Lakey, this 7th day of August 1962, James Lee Marten, Notary Public, County of Travis, Tex.

That will be passed to your secretary.

Now, covering that one and, moving to a telegram I received in Washington after reaching here, it was addressed to Dr. E. W. Constable in care of Pick-Lee Hotel, Washington, D.C.:

Discussed your appearance before House committee on amendments to H.R. 9109, regarding fish flour with Commissioner Ballentine.

Will you please represent National Association of the State Departments of Agriculture before the committe stating opposition of this amendment and the entire bill.

It is signed "G. S. McIntyre, president, National Association, State Departments of Agriculture."

Now, in line with that and the request of our Commissioner, I will follow with a letter that was written to him, and I think it is of interest not only with respect to contents but with respect to difficulties brought up earlier in the hearing regarding conflicts between Federal and State laws which might be produced by such an amendment.

This letter was written to Mr. George Larrick, Commissioner, U.S. Food and Drug Administration, Washington, D.C.

DEAR COMMISSIONER LARRICK: As executive secretary of the National Association of State Departments of Agriculture I enclose herewith a motion that was unanimously adopted by the executive committee of the association. That motion is self-explanatory.

As was written in that motion, the executive committee is unalterably opposed to any attempt to approve sale of whole fish flour for human consumption or to the adoption of the definition and standard for such a product.

As executive secretary, may I urge you to consider the effect that the approval of this product will have on the relationship between the Federal Government and the State departments of agriculture?

At the present time we are enjoying a very desirable relationship, and it is felt that there is better coordination between Federal and State programs than has transpired before. It is the feeling of this committee that, in the event of Federal approval, the several States will take appropriate action to condemn the product as being adulterated to the food laws of the several State departments of agriculture notwithstanding Federal approval.

May I urge you, in this connection, to consider this relationship and the possible confusion and discrepancy that will result if Federal approval is given.

May I assure you of the complete cooperation of the executive committee in your deliberations of the matter and if I can be of service, please do not hesitate to call upon me.

It is signed "Very truly yours, Phil Campbell."

(The resolution referred to is as follows:)

Executive committee meeting, National Association of State Departments of Agriculture, Washington, D.C.:

A motion made by Director McIntyre, of Michigan, and seconded by Commissioner Gill, of Connecticut, that the executive committee of the National Association of State Departments of Agriculture go on record as being: (1) unalterably opposed to any attempt to approve for sale whole fish flour for human consumption, and further, (2) unalterably opposed to the adoption of the definition and standard of identity for fish protein concentrate, whole fish flour, by the U.S. Food and Drug Administration, as proposed and published in the Federal Register September 15, 1961.

The executive secretary is authorized and directed to send copy of this motion to Commissioner, U.S. Food and Drug Administration, with appropriate transmittal letter.

Unanimously adopted this 18th day of December, 1961.

It is signed "Phil Campbell, executive secretary."

Now, Mr. Chairman, one or two more items I would like to bring in a little further to illustrate the feeling of the group that we represent, although I recognize that I am quite inadequate of giving their full impression.

Mr. ROBERTS. Dr. Constable, may I break in for just one question at this point?

Dr. CONSTABLE. Yes, sir.

Mr. ROBERTS. Were the States, respectively, of Massachusetts and Illinois represented at these particular meetings?

Dr. CONSTABLE. Were these Commissioners?

Mr. ROBERTS. Yes.

Dr. CONSTABLE. Regretfully, I do not have that information.

Mr. ROBERTS. These resolutions to which you referred and read for the record, were unanimously adopted.

Is that correct?

Dr. CONSTABLE. No, sir; I am presenting this as a messenger from these people.

I was not present at the adoption of this.

Mr. ROBERTS. But I say, if I understand your reading of these resolutions, they were unanimously adopted?

There were no dissenting votes?

Dr. CONSTABLE. That is right. The one that I was present at in Florida, the Food and Drug Control Officials of the United States, that was unanimous by count of votes.

No dissenting vote whatever.

(The following excerpt of a letter signed by Dr. E. W. Constable was submitted for clarification of the record:)

Referring to page 178 of the testimony, last eight lines on the page; we wish to be clear that both Mr. Berry and I were present and participating when the resolutions of both the National and Southern Associations of Food Control Officials were passed. Both of these resolutions passed without a single dissenting vote, the checking of that feature being emphasized before both groups. Neither of us was present when the resolution of the Commissioners of Agriculture was passed, that resolution and accompanying letter being handed to us with instructions to us to present them at the hearing.

Dr. CONSTABLE. The State of Illinois, I believe, was present at the time.

Mr. ROBERTS. Was present?

Mr. BERRY. Mr. Oranger was present, I believe, representing the State of Illinois.

(The following excerpt of a letter signed by Dr. E. W. Constable was submitted for clarification of the record:)

Referring to page 179 of the testimony, lines 6, 7, 8 and 9, Mr. Lowell D. Oranger was present at the Florida meetings of the Food and Drug Officials. He had just prior to that time been Superintendent of the Division of Foods, Dairies, and Standards of Illinois, but, unknown to Mr. Berry at the time of his testimony, Mr. Oranger had recently transferred his connections to the food industry. I do not have information if Illinois was represented in these meetings.

Dr. CONSTABLE. Now, I refer to another resolution that was sent to me. It is along the same vein.

It was passed by the Central Atlantic States Association of Food and Drug Control Officials.

I was not authorized to represent them. I only refer to a copy that they sent me, showing what their stand was.

I can let it rest at that or put that in the record if you wish.

Mr. ROBERTS. Without objection, we will put that in the record.

Dr. CONSTABLE. How is that?

Mr. ROBERTS. Without objection you may put that and the other one in the record.

(The resolutions referred to follow:)

THE CENTRAL ATLANTIC STATES ASSOCIATION OF FOOD AND DRUG OFFICIALS

Whereas the Commissioner of the Federal Food and Drug Administration published, in the Federal Register, a standard for fish flour; and

Whereas the standard provided that this fish flour be made from wholesome, edible portions of fish; and

Whereas the standard has been stayed and a public hearing has been called for June 18, 1962, because of objections to the standard for fish flour as published; and

Whereas one of the objections was because the standard for fish flour did not permit the inclusion of fins, bones, heads, and intestines, and its contents; Therefore, be it

Resolved by the Central Atlantic States, Association of Food and Drug Officials in session in New York City, May 24, 1962, That the association is opposed to the inclusion in standard for fish flour of the fins, heads, intestines and their content, because the association has always opposed the inclusion of filthy and decomposed ingredients in processed food: And be it further

Resolved, That five copies of this resolution be forwarded to the hearing clerk, Department of Health, Education, and Welfare, Washington, D.C.

A. E. ABRAHAMSON, *Chairman.*
MARGARETHE OAKLEY,
ROBERT J. THOMAS.
Resolutions Committee.

Dr. CONSTABLE. Well, their resolution reads:

Whereas the Commissioner of the Federal Food and Drug Administration published in the Federal Register a standard for fish flour, and

Whereas the standard provided that this fish flour be made from wholesome edible portion of fish, and

Whereas the standard has been stayed and a public hearing has been called for June 18, 1962, because of objections to the standard for fish flour as published, and

Whereas one of the objections was because the standard for fish flour did not permit the inclusion of fins, bones, heads, and intestines and its contents: Therefore, be it

Resolved by the Central Atlantic States Association of Food and Drug Officials in session in New York City, May 24, 1962, That the association is opposed to the inclusion in standard for fish flour of the fins, head, intestines, and their content,

because the association has always opposed the inclusion of filthy and decomposed ingredients in processed food; and be it further

Resolved, That five copies of this resolution be forwarded to the hearing clerk, Department of Health, Education, and Welfare, Washington, D.C.

It is signed by the resolutions committee, A. E. Abrahamson, chairman; Margarethe Oakley, and Robert J. Thomas.

Now, as expressing the feeling of these groups, Mr. Chairman, I would like to review, briefly, some statements drawn from other commitments written to the U.S. Food and Drug Administration, but they set forth essentially the type of material that we would have presented here had we had an opportunity to get it up.

Mr. ROBERTS. Very well.

Dr. CONSTABLE. And the first one is taken from a commitment that we wrote from the North Carolina Department of Agriculture in North Carolina, at the direction of Commissioner L. Y. Ballentine, regarding this standard which would have permitted these materials to which we object.

I will read as follows, and then I would be glad to turn copies over for the record, too.

Considering this article "fish protein concentrate" or "whole fish flour" under North Carolina food laws, for use in or as human food, we cannot see that it can be classified in any way other than in two prohibited categories, namely, "Misbranding" with respect to the name of the article, and "Adulterated" with respect to its composition.

Misbranding, among other things, would derive from the fact that the terms "fish protein concentrate" or "whole fish flour," when used to name a food for human consumption or to name an ingredient in human food, would fail to reveal or convey to consumers the material fact that the product contained offal or inedible tissues and repulsive materials such as intestines, heads, gills, fins, scales, and fecal matter. These names, when used in connection with human food, would amount to subterfuge, since, under such names, consumers normally would no more anticipate fish which had not been properly dressed for human consumption than they would anticipate in "whole chicken stew" chickens which had not been properly dressed for human consumption.

Adulteration, among other things, would derive from the fact that as human food or a component of human food, the article would contain or introduce into the food such adulterants as intestines, heads, gills, scales, fins, and fecal matter.

The statement that "—consumers generally were fully informed of the nature of the article, they would regard it as suitable for use in their food supply" hardly appears credible. Additional to the basic principles of pure food laws, any question on this point would be settled precipitately by plainly and conspicuously setting forth in ingredient lists, in the common or usual names, such items as "fish dung, fish scales, fish heads, fish intestines."

Product such as "whole fish," "whole animals," and "whole fowl," or offal from such sources, when properly processed, can qualify under North Carolina law as materials for use in fertilizers or livestock and poultry feeds, but not as human food. In the category of "human foods" they would qualify as "adulterants" and would have to be dealt with as such.

It appears inevitable that under other State laws, offal and fecal matter in human foods must qualify as adulterants. Further, it is untenable that any form of rationalizing could qualify these substances as acceptable food ingredients under Federal food laws. Any definition and standard of identity which imposed offal and fecal matter as permissible food ingredients would constitute affront to the sanitary, safety, and esthetic senses of consumers, and obviously would be unacceptable.

In view of these facts, and in view of responsibilities under the North Carolina Food, Drug, and Cosmetic Act, the North Carolina Department of Agriculture would neither be at liberty to concur in nor accept a definition and standard of identity for fish protein concentrate and whole fish flour such as is set forth in the above-identified proposal.

Therefore, the North Carolina Department of Agriculture hereby states its position as specifically opposed to, and its feeling of necessity to employ its facilities against the establishment of this definition and standard of identity.

(The letter mentioned above follows:)

NORTH CAROLINA DEPARTMENT OF AGRICULTURE,
Raleigh, September 25, 1961.

To: Hearing clerk, Department of Health, Education, and Welfare, room 5440, 330 Independence Avenue SW., Washington, D.C.

Re proposed establishment of a definition and standard of identity for fish protein concentrate and whole fish flour, as per Release of U.S. Department of Health, Education, and Welfare, Food and Drug Administration, Washington, D.C., Thursday, September 14, 1961; Giles—WO 2-4171, HEW-Q94.

Considering this article "fish protein concentrate" or "whole fish flour" under North Carolina food laws, for use in or as human food, we cannot see that it can be classified in anyway other than in two prohibited categories, namely, "Misbranding" with respect to the name of the article and "Adulterated" with re-respect to its composition.

Misbranding, among other things, would derive from the fact that the terms "fish protein concentrate" or "whole fish flour," when used to name a food for human consumption or to name an ingredient in human food, would fail to reveal or convey to consumers the material fact that the product contained offal or inedible tissues and repulsive materials such as intestines, heads, gills, fins, scales, and fecal matter. These names, when used in connection with human food would amount to subterfuge since, under such names, consumers normally would no more anticipate fish which had not been been properly dressed for human consumption than they would anticipate in "whole chicken stew" chickens which had not been properly dressed for human consumption.

Adulteration, among other things, would derive from the fact that as human food or a component of human food, the article would contain or introduce into the food such adulterants as intestines, heads, gills, scales, fins, and fecal matter.

The statement that "if consumers generally were fully informed of the nature of the article they would regard it as suitable for use in their food supply" hardly appears credible. Additional to the basic principles of pure food laws, any question on this point would be settled precipitately by plainly and conspicuously setting forth in ingredients lists, in the common or usual names, such items as "fish dung, fish scales, fish heads, fish intestines."

Products such as "whole fish," "whole animals," and "whole fowl," or offal from such sources, when properly processed, can qualify under North Carolina law as materials for use in fertilizers or livestock and poultry feeds, but not as human food. In the category of "human foods" they would qualify as "adulterants" and would have to be dealt with as such.

It appears inevitable that under other State laws, offal and fecal matter in human foods must qualify as adulterants. Further, it is untenable that any form of rationalizing could qualify these substances as acceptable food ingredients under Federal food laws. Any definition and standard of identity which imposed offal and fecal matter as permissible food ingredients would constitute affront to the sanitary, safety, and esthetic senses of consumers and obviously would be unacceptable.

In view of these facts, and in view of responsibilities under the North Carolina Food, Drug, and Cosmetic Act, the North Carolina Department of Agriculture would neither be at liberty to concur in nor accept a definition and standard of identity for fish protein concentrate and whole fish flour such as is set forth in the above identified proposal.

Therefore, the North Carolina Department of Agriculture hereby states its position as specifically opposed to, and its feeling of necessity to employ its faciilties against the establishment of this definition and standard of identity.

E. W. CONSTABLE, *State Chemist.*

Dr. CONSTABLE. Now, one other similar letter that I would like to quote from, if that is permissible, is this one, and I will leave a copy of it.

It was addressed to Dr. John L. Harvey in an inquiry about the matter. He is with the Food and Drug Administration.

DEAR DR. HARVEY: We refer to the "Stay of Order and Notice of Public Hearing" which was published in the Federal Register of April 28, 1962, in connection with the standard of identity established for fish flour under the U.S. Food, Drug, and Cosmetic Act, published January 25, 1962 (27 F.R. 740).

In our concern with food laws, with the responsibilities of food control officials, and with consumer interest and welfare, we have to admit that the objections expressed and the move made against that standard places us in a greater quandary than did the original proposal of offering for human consumption a food composed of unscavenged fish.

In response to the release on the subject of Thursday, September 14, 1961, we submitted to the hearing clerk, Department of Health, Education, and Welfare, room 5440, 330 Independence Avenue SW., Washington, D.C., a written statement of the views and position of this Department in unequivocal opposition to the proposed unscavenger fish standard. Copy of that commitment is attached hereto.

In view of that commitment, it appears needless to state that our views and position are no less positive now than they were on the date of issue. Further, the commitment should leave no question of our fully endorsing and supporting the standard of identity which was promulgated under the Federal law, that standard being in full concurrence with the legally required, proper selection, and proper scavenging of all raw materials to be used as or in human food.

Our further concern now is not only to oppose in our own capacity this continued move which, if successful, obviously will be retrogressive and destructive of food standards, both present and future, of the integrity of foods, and of the laws which support and promote these; but also to aid in every possible way in the consolidation and bringing to bear of all forces necessary to clearly and irrevocably unmask and set forth the basic nature of this type of proposal which, whether or not so intended, evolves to be the misuse of one provision of the law (the provision for establishing standards) in the evasion and vitiating of another provision (the prohibition of filth and unfit substances in food).

In these issues it is acutely critical and morally mandatory to clarify and set forth for all time that, as with the regulationmaking authority of the law, the provision for establishing standards cannot validly or legally be used either in self-debasement or to circumvent or set at naught any other provision of the law.

We have just received information that the National Association of Commissioners and Secretaries of Agriculture has taken official action in opposition to a standard which would permit the use of unscavenged and nonselected fish, and in favor of a standard such as was established federally and published January 25, 1962. That action doubtless has been or will be officially transmitted through appropriate channels.

We feel that there is no question that the national association and all sectional associations of food and drug control officials also would wish to exert every effort against this move which, whether or not so intended or foreseen, constitutes the use of the foods standards principle in a manner that would refute and prostitute the principle itself.

Now, the rest of it deals with our own plans to try to find what means must be used to fully clarify and set forth what appears to us as a move which on one side might appear attractive financially, and if that were true North Carolina could profit greatly by it since we are a fishing State with relatively three coastlines because of the banks, but we cannot see that is permissible.

(The letter referred to follows:)

NORTH CAROLINA DEPARTMENT OF AGRICULTURE,
Raleigh, May 17, 1962.

Dr. JOHN L. HARVEY,
Deputy Commissioner of Food and Drugs,
Department of Health, Education, and Welfare,
Food and Drug Administration, Washington, D.C.

DEAR DR. HARVEY: We refer to the "Stay of Order and Notice of Public Hearing" which was published in the Federal Register of April 28, 1962, in connection with the standard of identity established for fish flour under the U.S. Food, Drug, and Cosmetic Act, published January 25, 1962 (27 F.R. 740).

In our concern with food laws, with the responsibilities of food-control officials, and with consumer interest and welfare, we have to admit that the objections expressed and the move made against that standard places us in a greater quandary than did the original proposal of offering for human consumption a food composed of unscavenged fish.

In response to the release on the subject of Thursday, September 14, 1961, we submitted to the hearing clerk, Department of Health, Education, and Welfare, room 5440, 330 Independence Avenue, SW., Washington, D.C., a written statement of the views and position of this Department in unequivocal opposition to the proposed "unscavenged fish" standard. Copy of that commitment is attached hereto.

In view of that commitment, it appears needless to state that our views and posiiton are no less positive now than they were on the date of issue. Further, the commitment should leave no question of our fully endorsing and supporting the standard of identity which was promulgated under the Federal law, that standard being in full concurrence with the legally required, proper selection and proper scavenging of all raw materials to be used as, or in, human food.

Our further concern now is not only to oppose, in our own capacity, this continued move which, if successful, obviously will be retrogressive and destructive of food standards, both present and future, of the integrity of foods, and of the laws which support and promote these; but also to aid in every possible way in the consolidation and bringing to bear of all forces necessary to clearly and irrevocably unmask and set forth the basic nature of this type of proposal which, whether or not so intended, evolves to be the misuse of one provision of the law (the provision for establishing standards) in the evasion and vitiation of another provision (the prohibition of filth and unfit substances in food).

In these issues it is acutely critical and morally mandatory to clarify and set forth for all time that, as with the regulation-making authority of the law, the provision for establishing standards cannot validly or legally be used either in self-debasement or to circumvent or set at naught any other provision of the law.

We have just received information that the National Association of Commissioners and Secretaries of Agriculture has taken official action in opposition to a standard which would permit the use of unscavenged and nonselected fish, and in favor of a standard such as was established federally and published January 25, 1962. That action doubtless has been or will be officially transmitted through appropriate channels.

We feel that there is no question that the National Association and all sectional associations of food and drug control officials also would wish to exert every effort against this move which, whether or not so intended or foreseen, constitues the use of the foods standards principle in a manner that would refute and prostitute the principle itself.

The writer here does not have in mind, currently, what further remedial moves would be appropriate or effective. The National and the Southern States Associations have their annual meetings scheduled jointly in Hollywood-by-the-Sea, Fla., June 18–22, 1962. In-session attention, therefore, cannot be given in time for the June 12, 1962, prehearing in Washington, but, if these associations so elected, telegraphic or other commitment might be gotten to the hearing examiner on June 18.

In absence of information on opinions or actions by other control officials or groups on the "Stay of Order" notice of April 28, 1962, and in avoidance of possible misconception of the attention necessary to prevent hurtful standards or principles becoming a reality, copies of this letter are being forwarded to officials of the several associations in advisement of our views and position and suggestive of such actions, individual or organizational, as they may deem needed.

Very truly yours,

E. W. CONSTABLE,
State Chemist.

Dr. CONSTABLE. One other point which I wish to emphasize is that much has been said or inferred to the effect that food laws apply paternalistically, dictating to consumers what they can or cannot like or have, thus denying them of having whole fish flour. Therefore, inference is that there is conflict between consumers and food laws.

This sort of reasoning may be applied to both Federal and State laws. I wish to emphasize that there is no conflict between consumers and food laws.

These laws, in fact, are laws of and by consumers. We are merely the hired men, assigned the duty of carrying out what these laws

prescribe. In applying them, we are representing the people who employ us.

Mr. ROBERTS. Thank you, Dr. Constable, and the chairman would like to say that I think you have made a very fine statement—you and Mr. Berry. This committee is always interested in the position taken by the States and by the local subdivisions of Government because we feel that in many, many respects, you are closer to the people than we are at the Federal level.

I was glad that you pointed out that there could be a great possibility of damage to this relationship that has existed between the State heads of various food and drug divisions of the Department of Agriculture, and with the Federal Food and Drug Administration, and that there could be a great danger of permanently injuring that relationship if we departed from precedent, and in this one particular instance, relaxing the position that has existed for the past 50 years.

I have no further questions.

Mr. NELSON. Mr. Chairman——

Mr. ROBERTS. However, I would like to thank you again and compliment both of you gentlemen on your statements and thank you for your appearance on behalf of the subcommittee.

Dr. CONSTABLE. We would like to express our appreciation both for your statement regarding our presentation, and we might say that it is a mark of our success in trying to emulate the good work of you gentlemen of the committee and also we wish to thank you for having given us an opportunity to carry out this assignment for a large number of people.

Mr. ROBERTS. Mr. Nelson?

Mr. NELSON. I wish to join the chairman in thanking the witnesses for their appearance here and, knowing of the work of the various State departments of agriculture and the tremendous influence and leadership which they wield in their communities, we certainly prize their testimony.

It has been called to my attention that under the language in this particular bill that it might even appear that the waste material alone could make this foul and not a whole fish sir. Is there not that distinction?

And it could well be that fillets could be made and the waste material tossed into the flourbin, and I think that is something we would want to check into very carefully also, because certainly, we would not want that to happen.

Dr. CONSTABLE. We might bring in a point along that line. North Carolina has a large volume of waste material, or byproducts from its fishing industry.

A byproduct from menhaden fish processing is fishmeal, consisting of the steamed, pressed, whole fish carcasses, without prior cleaning or dressing, only oil and water having been removed. Another is fish meal or scrap from "cutting herring" for brining. This waste consists of dried, chopped, or ground heads, lower belly strip, and offal, including feces. There also are whole carcasses remaining after removal of fillets without prior evisceration or dressing. There also are similar poultry and animal wastes.

I might ask for a "raincheck" should this proposed amendment become law, and then, in avoidance of possible claims of discrimination, propose that this refuse from fish, animals, and poultry—now used in livestock feeds, fertilizer, and pet foods—be processed into whole fish flour or other similar products for human foods.

Should I presume to seriously make such a proposal to North Carolina consumers, I would expect to find myself under the necessity of seeking asylum elsewhere.

We appreciate your bringing that point up. It is a critical one.

Mr. ROBERTS. Mr. Berry?

Mr. BERRY. Mr. Chairman, in the interest of saving the time of the committee, Dr. Constable and I, rather than duplicate our positions, presented them as we did.

I, too, want to thank the committee for the courtesy that you have extended and say that I concur in the positions taken by him.

Mr. ROBERTS. Thank you very, very much.

The next witness is Mr. M. B. Pike, general manager of the Holmes Packing Corp., and he is also representing the Maine Sardine Packers Association of Eastport, Maine.

STATEMENT OF M. B. PIKE, GENERAL MANAGER, HOLMES PACKING CORP., ALSO REPRESENTING THE MAINE SARDINE PACKERS ASSOCIATION, EASTPORT, MAINE

Mr. PIKE. Mr. Chairman, I want to thank you for reconvening the hearing. I have listened very attentatively today and to date I appear to be the only person actively engaged in the fish industry who is testifying. This perhaps, is because we are the only industry I know of which has been directly hit or will be by this bill if it passes.

My name is Moses Pike. I am treasurer of the Holmes Packing Corp. of Eastport, Maine. We are engaged in the packing of Maine sardines. This is our only business. I am representing my own company and also the Maine Sardine Packers Association which includes almost all of the 19 sardine companies and 30 factories in Maine.

First we wish to go on record as being in favor of the production of fish flour for human consumption. We think it is a fine way to use surplus fish and varieties of fish not otherwise utilized.

However we believe H.R. 9101 and companion bills pose a direct threat to the continued existence of the Maine Sardine Industry. The industry is old, dating from 1875, but it is small, employing some 4,000 people on a seasonal basis and with an annual average output value of about $15 million. This may not weigh much when compared with global social objectives, but it is about all we have and we think that the social objectives of fish flour can be met without putting this industry on the block.

At the present time in this country, fish, which are not in good health or in good condition, are not allowed to be processed and sold for human consumption. This is true even if the end product meets the criteria laid down in H.R. 9101. It is the contention of the Maine sardine packers that any product which is not in good condition or is decomposed before processing should not be sold for human consumption regardless of whether it is harmful.

The situation is not altered if the product is ground up so that the purchaser cannot see the evidence of such decomposition.

We believe that this bill will open the door to the importation of sardines at prices with which we cannot compete.

At this time I would like to interject that I am speaking primarily of immature herrings which are what Maine sardines are packed from.

I would like to speak of something which may or may not be peculiar to fish and varies somewhat among the various species.

When fish die, if they have food in their stomachs, the gastric juices and enzymes may keep on working, dissolving the stomach, other viscera, and finally the belly wall itself. This decomposition can take place in as short a time as 2 hours. It is prevented with Maine sardines by holding the fish alive until their stomachs are empty. It is enforced by inspection of each lot of fish and a written report. We feel that H.R. 9101 will subject us to competition which we cannot meet from countries where regulations on raw material are not as stringent as ours.

If the social objectives of this bill are so overwhelming that it must be passed, then we ask you to modify it by adding to it the clause, "*Provided further*, That such whole fish shall be free of disease and of decomposition."

If the above clause is not added, our Communist critics will be able to tell the recipients of the fish flour that we are giving them something made from fish which can be in any state of health, preservation, or nonpreservation.

In conclusion, the Maine sardine industry asks that if this bill must be passed that you will heed our request and attach the suggested clause, "that such whole fish shall be free of disease and of decomposition."

This will do two things: It will protect the Maine sardine industry and assure that fish flour is made of sound raw material.

In other words, I put my emphasis, Mr. Chairman, on the fish from which the flour is made.

Mr. ROBERTS. Thank you very much, Mr. Pike. I believe that you referred several times to H.R. 9109. I think you meant to say 9101.

Mr. PIKE. Yes, sir; 9101.

Mr. ROBERTS. And 9102 and 9331, as those are the three bills that are before us.

I appreciate your appearance and your concern as to what it will do to your particular industry, but I think you can rest assured that this subcommittee is not going to be carried away by the so-called social objectives that you mentioned.

I think you can rest assured that we will give this very serious consideration before passage of the bill.

Mr. PIKE. Excuse me, but we are under direct instructions from the Food and Drug, and have been for 40 years, that we cannot pack fish with food in their stomachs, or in the intestinal tract.

Mr. ROBERTS. Now, I did want to ask you about that. I am not too familiar with your industry, but I do admit that I do like sardines, but when you were talking about decomposition, you said that it is prevented from happening by holding the fish alive until their stomachs are empty.

I would like to know how you accomplish that, or what you meant by that.

Mr. PIKE. Well, they are held in either fishtraps, weirs, or seines. They are held in large quantities. I do not mean individually.

The fish, perhaps, are dammed up in a cove by a net or in a fishtrap. The quantity of fish held at one time may be from 5 to 500 tons.

Maine does this through the Food and Drug, by having inspectors on each wharf for each lot of fish.

Norway does it by requiring the fish to be held for 3 days. In Venezuela it is 72 hours.

So it is customary, where you are dealing with small fish, to require an extensive holding alive period to clear the stomachs and intestinal tracts.

In other words, the fish are held alive when they are too small to clean mechanically.

Mr. ROBERTS. Now, what is about the average size of the sardine that you can?

Mr. PIKE. Five to eight inches.

Mr. ROBERTS. Five to eight inches?

Mr. PIKE. In total length.

Mr. ROBERTS. Do you detach any part of the sardine's body before packing?

Mr. PIKE. The heads and tails. The cans are 4 inches long and the fish are trimmed to that size if they are longer.

Mr. ROBERTS. And are they slit?

Mr. PIKE. They are not slit. I said they are held alive until there is no food in the stomachs or intestinal tract, so that decomposition from the gastric juices does not take place. It is a worldwide practice. This competition that I speak of is not a theoretical matter.

I am speaking primarily of Canadian competition. We are on the border, and their factories are 2 to 10 miles away.

This is an actual instance where they can and do take fish which we cannot take because of "feed," but the results of taking "feedy" fish is that they do not bring them into this country.

Mr. ROBERTS. I think your are certainly being fair to the proponents of this bill.

I know that you say "We wish to go on record as being in favor of the production of fish flour for human consumption" but I assume you mean that the whole fish not be used.

Mr. PIKE. That is right.

Mr. ROBERTS. That it would be after the removal of the objectionable or, rather—I will not try to name all of the parts—but the fins, heads, eyes, and so forth?

Mr. PIKE. I do not mind those if the stomach and intestinal tract is empty. Then I can eat it.

Mr. ROBERTS. That is all.

Mr. Nelsen?

Mr. NELSEN. Yes. On page 2 you mention that if the social objectives of this bill are so overwhelming that it must be passed "then we ask you to modify it by adding to it the clause, 'provided further, that such whole fish shall be free of disease and of decomposition.'"

Now, I gather that the process that is proposed would bring the fish in a large quantity and run them through some kind of a process.

Now, if you are going to examine them for disease, would you not have to individually handle the product to do that, and would that be the process that is proposed according to this suggestion?

Mr. PIKE. Of course, a certain number would have to be handled and examined, and are; that is done to see if they are free of disease and to see if they are free of decomposition (a fair sample is 200 to 300 fish).

And we prevent this—it is not bacterial, but rather digestive decomposition—by holding them alive before they are brought in to the factory.

They are not brought in alive to the factory to be held. They are held right where they are caught.

Mr. NELSEN. Those are all the questions I have.

Mr. ROBERTS. Thank you very much.

Mr. PIKE. Thank you very much, sir.

Mr. ROBERTS. Our next witness is Mr. Marx Koehnke, Washington director of the Great Plains Wheat Corp.

Will you come forward, please, sir.

STATEMENT OF MARX KOEHNKE, WASHINGTON DIRECTOR, GREAT PLAINS WHEAT, INC., WASHINGTON, D.C.

Mr. ROBERTS. Do I pronounce your name correctly?

Mr. KOEHNKE. Yes, sir.

Mr. ROBERTS. You may proceed.

Mr. KOEHNKE. Mr. Chairman and members of the committee, my name is Marx Koehnke; I am Washington director of Great Plains Wheat, Inc., a market development organization established and supported by wheatgrowers and the wheat commissions of North Dakota, South Dakota, Kansas, Nebraska, and Colorado. My remarks are also concurred in by Western Wheat Associates, which is a similar organization of wheatgrowers in Washington, Oregon, and Idaho, and by the National Association of Wheat Growers, whose representatives could not be present today. I am grateful for the opportunity to appear before you at this time.

Our purpose and interest in the amendment under consideration by this subcommittee today is based upon our stated objective to promote and establish markets for U.S. wheat products, including wheat flour. Within both these objectives are the development of new markets and maintaining established markets. These activities are on a worldwide basis.

Without any reservation, I wish to state that the principal purpose of our market-development activities eventually relates to the reliability and past performance that U.S. standards assure for wheat and flour products. Our largest problem develops when foreign governments and importers feel that these standards have been violated. Our greatest successes have been achieved when these standards have been strictly adhered to. This situation exists particularly with relation to exports of U.S. wheat flour.

It may interest the members of this committee to know that countries in Asia, Africa, and South America, which are usually considered to be underdeveloped, and, therefore, might be less critical of standards

of quality under which flour is manufactured, are actually among the most critical buyers of flour in the world.

We, as representatives of 487,000 farmers who produce wheat and other farm commodities, are concerned that the reputation of U.S. wheat flour will be jeopardized should the Congress of the United States decide that it is legal, and in the best interest of the people, to permit the blending of fish protein concentrate, made from whole fish, with U.S. wheat flour, as is proposed by the fish-processing industry.

Should this amendment pass, domestic wheat-flour consumption will also stand in jeopardy. Whether or not the fish processing industry can produce whole-fish protein concentrate that is "processed under sanitary conditions and, after processing, is nutritious and in no manner harmful to the health of consumers thereof" is basically an academic question, and one which is of secondary importance.

The wheatgrowers, with whom we are identified, feel that there are two other considerations which are of primary importance:

1. As consumers of American wheat food products, we do not wish to spend our personal food budgets on products that contain fish heads, eyes, scales, fins, entrails, and their contents, no matter how sanitary or nutritious they may be.

2. We do not want to run the risk of losing established foreign markets for flour, or be forever forbidden from establishing markets in new countries, because the foreign buyer may be afraid that the flour contains whole-fish protein concentrate.

I would like to draw, from past experience, three illustrations of ways in which foreign markets can discriminate against U.S. food products:

(*a*) An attempt was made last year by an American firm to establish a market for instant potatoes in a European country. The product, which would actually be the same as that which is produced and sold to American consumers, had been approved under the standards set by our Federal Food and Drug Administration. The manufacturer was confident that the market potential was worth the effort. He was unable, however, to have a regulation in the importing country set aside, which prohibited his product on the grounds that it contained minute residue of a chemical used in the bleaching process. This, then, is an example of a market that could not be developed for a U.S. processed food product because of a chemical residue which the foreign officials felt was harmful.

In the case before us here, whole-fish concentrate will be processed through some chemical action and hence there is likely to be minute residue of these chemicals, which presumably will be approved by our Federal Food and Drug Administration. This concentrate, when blended with U.S. wheat flour, could be the cause for discrimination in foreign trade.

(*b*) Foreign markets are being rapidly developed for U.S. poultry and poultry products. Some foreign countries, however, will not permit the importation of these products unless the seller can certify that the poultry was raised entirely free of disease. Falsifying such certification carries a stiff penalty.

In the United States, for domestic consumption of poultry, we have no such restriction. As long as the individual birds are able to pass

antimortem and postmortem inspections for wholesomeness, the product can move anywhere in the United States.

However, some countries have seen fit to discriminate against U.S. poultry products for this one reason and opportunities for development in those countries are very limited. Reconciling this example with today's topic of discussion, I foresee difficulties in securing approval for imports in foreign countries of U.S. flour blended with whole-fish protein concentrate, which is produced from massive tons of fishes that have not been inspected for disease, parasites, or other unwholesome conditions.

(*c*) One week ago an unpleasant situation developed in India in some communities where people consumed some U.S.-donated wheat flour. Apparently a few hundred people were stricken with a type of paralysis. Our office in India, in view of this development, is cooperating with Government agencies in India in the investigation of this report. Latest information indicates that the flour definitely was contaminated with a chemical commonly used as an insecticide. The flour involved had been in India 2 months and had been transshipped several times in the country and was stored in various warehouses. The chemical involved was used in the United States at one time but several years ago was prohibited from use in this country because of its highly potent nature. It is at once obvious to each of you how fast an event of this kind can be picked up by Communist interests and used to their best advantage. This is precisely what happened. Within 48 hours the story of this contaminated flour appeared in three newspapers in Lima, Peru, where ill will toward the United States is being exploited wherever possible.

I would like to comment at this moment that perhaps you all have read the article that appeared in the Washington Star last night headed "630 Paralyzed in India: Impure U.S. Flour Cited."

And I quote also from our own interest or from our own office, I should say, in Lima, Peru, where this story was sent to our office in the last few days.

I relate this incident into these proceedings today to illustrate how important it is to maintain the highest possible food standards in this country. As soon as the incident occurred in India, and the facts of the matter had been ascertained, statements were released by the U.S. Embassy revealing the nature of the chemical contamination, the fact that the use of this chemical is prohibited in the United States, and explaining the high standards of quality maintained by the U.S. Food and Drug Administration in the production of flour. Concurrently, an Indian official stated that it was obvious that the chemical contamination had occurred after the flour shipment had arrived in India and could not possibly be blamed on the United States. We maintain, however, that such standards would not have been possible had the flour been blended with whole fish protein concentrate made from the heads, tails, fins, eyeballs, entrails, and their contents. I wish to further point out that in a situation such as this, the matter becomes more than one of market development and economizing. It becomes a problem of international significance in the struggle between democracy and communism.

That is the end of our statement, Mr. Chairman.

Mr. ROBERTS. Thank you, Mr. Koehnke. I think you have made a very fine contribution to the work of our subcommittee, and I appreciate very much your appearance here today.

Do you foresee that, in this instance, if this legislation passes we would possibly be weakening the whole structure of the Food and Drug Act?

Mr. KOEHNKE. Well, Mr. Chairman, I do not believe that I am in a position to comment on that particular phase since the activities of our organization are primarily designed for market development for wheat and wheat products.

We are concerned with any activity or any development, let us say, in the United States that would weaken this.

We have many other obstacles already, and I know from personal experience that anything that enters into the picture which, let us say, reflects upon the quality of the products that we use overseas or which is used under shadow of a doubt in the United States, has a definite influence overseas in our market development activities.

Mr. ROBERTS. I think you pointed out the danger that, certainly, the subcommittee should take into consideration before passage of this bill.

Again, I want to thank you for your appearance.

Mr. KOEHNKE. Thank you for the time, Mr. Chairman.

Mr. ROBERTS. Mrs. Sarah Newman, of the National Consumers' League.

Will you come forward, please.

STATEMENT OF MRS. SARAH NEWMAN, ON BEHALF OF THE NATIONAL CONSUMERS' LEAGUE

Mr. ROBERTS. You may proceed, Mrs. Newman.

Mrs. NEWMAN. Thank you.

My name is Sarah Newman. I am the general secretary of the National Consumers' League, which has for many years been concerned with the protection and well being of consumers. As early as 1938 the league, at its 38th annual meeting, passed a resolution urging upon Congress and the State legislatures the creation of departments or bureaus of the consumers whose function it would be to represent, protect, and advance the interest of the consumer. It has taken us a long time to see some of our recommendations implemented.

Before 1906, and the establishment of what is now the Food and Drug Administration, we were in the forefront of the fight for the legislation to set up the FDA. You may not know that it was largely through the united action of the National Consumers' League and the General Federation of Women's Clubs that public interest was aroused which resulted in the passage of the pure food bill.

Food processing had begun to move from the homes to the factories and processing plants, where the housewife was unable to check the wholesomeness of the products, and there were shocking exposures of filthy, fraudulent, and dangerous practices. Led by Dr. Harvey W. Wiley, the campaign to provide foods and drugs free from poisons and adulterants, and to insure that foods were safe, pure, and wholesome, culminated in the pure food law of 1906.

Since that time, constant vigilance has been necessary to guard against unsanitary and unsafe practices. From time to time we have had to take action to keep the pure food laws from being weakened by a whittling away of the protection to consumers guaranteed by the law. In going back over some past minutes of the league I came across resolutions sent to President Taft in 1910 and 1912 recommending against attempts to weakening of this protection.

We are opposed to H.R. 9101 and the companion bills before this subcommittee because we feel these bills, if passed, would result in such a weakening of the protection offered by our pure food laws. Moreover, we believe it would be an entering wedge into possible further weakening of the law in the future.

Let me elaborate a little. One of the basic and most important principles of pure food and drug legislation in the United States has been the right of the consumer to know what he was getting. We are fortunate to be living in an era of abundance and technical development, which makes possible more and better foods than any society has ever had available to it before.

Despite these advances, however, there are no automatic guarantees that our food supply is always safe and wholesome. In the production and processing procedures, foodstuffs are subject to contamination and adulteration, whose effects on the human body are not even fully known.

To be constantly alert and vigilant is absolutely necessary. The tons of filthy or spoiled foods seized annually by the FDA amply attest to this need. Consumers are not personally able to do this job. To protect the American consumer the Congress gave to the FDA appropriate powers.

Many consumers even today are fearful about some of the food products on the market, and need to feel confidence in the FDA to protect them. The standards and regulations set up by the FDA help assure the consumer that his food dollar is buying safe and nutritious food.

We can seldom see the foods themselves nowadays, when so many are prepackaged. We must depend on informative labeling, and on continual Federal checks. We must depend on FDA to specify what ingredients may be included, what processes may be used, and what information must be printed on the labels.

The issue here is whether or not we should change the basic standards of what is acceptable as food under the law. At present the Food, Drug, and Cosmetic Act defines a food as adulterated "if it consists in whole or in part of any filthy, putrid, or decomposed substance."

I was interested in the question raised by one of the members of this subcommittee at yesterday's hearing. He asked whether any decomposed fish in the entrails of a fish caught for use in preparation of fish flour would also be included in the product. These bills before you today would make that inclusion legal.

And I think that question was answered a number of times during today's hearing.

We contend that passage of these bills would then nullify that part of the present law which prohibits decomposed substances in food. The mere fact that the fish is washed twice, and then defatted by alcohol treatment would not remove the decomposed fish inside the stomach of the fish which has swallowed it.

The process would merely wash and defat it. We do not now allow grains containing rodent excreta, or butter or any other food containing filthy or decomposed substances, on the basis that treatment of the product before consumption would make it harmless.

But if these bills are passed, what is to prevent other processors from asking for the same kind of exemption, with the argument that when prepared for eating these adulterants would no longer be harmful?

Much has been made of the fact that consumers eat whole oysters and clams, and some even eat fried grasshoppers or chocolate covered ants. The situation is not at all the same. We feel consumers may eat anything they want to, provided they know what they are eating. In the case of fish flour, by far the biggest use of the product would not be for sale the ultimate consumer in a package with complete information on the label.

When you buy oysters or fried grasshoppers you usually know what you are buying. The fish flour would be used mainly behind the scenes, in prepared and cooked foods by restaurant operators and the like. The consumer would not even be aware it was included. The right of the consumer to know what he is getting would be completely denied.

The National Consumers League is in complete sympathy with those who feel that whole fish flour could be a valuable source of protein in impoverished countries, where protein malnutrition is rampant. From the testimony presented here yesterday and today, it is apparent that it is already being used very effectively in some such areas.

This legislation is not needed to make possible expanded use in these countries where the need is so great. The powder could still be made in the United States and shipped abroad. Or better yet if we are interested in helping strengthen the economies of these countries, why not set up factories over there and do a double job at one time—provide jobs for the people in those lands at the same time as a cheap source of protein is provided for their people.

This, it seems to us, would be a double-barreled solution—if the problem we are trying to solve is how to help the needy in foreign countries, and not how to benefit one admittedly small segment of our own population at the expense of the protection to all consumers in the United States.

As to the argument that we would be criticized for making available to the needy elsewhere what we do not permit to be sold here, I think this has been greatly exaggerated.

And some of the witnesses today, I think, have indicated that this argument is not completely good.

Dr. Gomez, in Mexico, apparently does not care whether consumers in the United States can buy the fish flour for their own consumption. He finds it useful and will use it regardless of any U.S. prohibitions.

Sometimes the shoe has been on the other foot, so to speak. I can remember back in the thirties when fruit going to some of the European countries from the United States had to be treated so as to have a lower residue of insecticides than was permitted for fruit consumed in the United States. Each country has its own standards and own food customs. The Congress should not be spending its time to try to

make regulations regarding safety of food more uniform for all countries.

In conclusion, may I point out that the National Consumers League opposes these bills because:

1. They would lower the standards governing the safety and wholesomeness of our food supplies.

2. Passage of these bills would provide the entering wedge for increased weakening of consumer protection by the Food and Drug Administration.

3. Use of the fish protein in underdeveloped countries would not be prohibited without this dilution of our own protective standards, since the product could still be made here for shipment abroad, or better yet, be made in the countries where it would be used.

The National Consumers League, therefore, urges that this subcommittee not approve these bills.

Thank you very much for the opportunity to present our views.

Mr. ROBERTS. Thank you, Mrs. Newman. I agreed with most of your statement.

However, I might say this, that some of the charges of toxicity and poisoning are substantiated and some of these are detailed by the statement that Mr. Hunter referred to and they are being placed in the record.

I am not too sure whether this country would be doing these underdeveloped countries such a favor. I am quite concerned by the fact that Mr. Hunter pointed out, during certain periods of feeding and other conditions, that scab fish and others, which were nonpoisonous, at some times may be poisonous at this particular time.

However, I say this has not been absolutely demonstrated, but I think that is something that the National Academy of Science should also look into along with the other criteria on the other questions that have been propounded by the Department of the Interior.

Mrs. NEWMAN. I would certainly agree with that, because I think it would be doing nobody any good service to go into this without being sure.

Mr. ROBERTS. Thank you very much.

Mrs. NEWMAN. Thank you, sir.

Mr. ROBERTS. Our next witness is Mrs. Gordon B. Desmond, secretary of the Federation of Homemakers, in Arlington, Va.

STATEMENT OF MRS. GORDON B. DESMOND, SECRETARY; ACCOMPANIED BY MRS. A. I. MALSTROM, PRESIDENT, FEDERATION OF HOMEMAKERS, ARLINGTON, VA.

Mrs. DESMOND. Thank you, Mr. Chairman.

I am accompanied by Mrs. Malstrom, the president of the Federation of Homemakers.

Mr. ROBERTS. We are glad to have you, ladies.

I am impressed with your short statement.

Mrs. DESMOND. It is to the point.

I am Ruth Desmond, secretary of the Federation of Homemakers, a nationwide organization of public-spirited housewives. The need for such an organization became evident when its founders either attended the food additives hearings or read the printed record of the

hearings and realized how little information of vital interest to homemakers regarding legislation dealing with the treatment of food is published in newspapers and magazines.

The food additives hearings also made it plain that the homemakers of this country must, in fairness, be permitted to give their views to Congress on the probable harmful, cumulative effects of extensive treatment of foods with newly developed substances on humans, and whether they wish to take these potential risks, especially with regard to their children.

At the color additives hearing this federation had the privilege of presenting a statement before this committee. Our group was greatly encouraged when Representative Dingell complimented the federation on its statement and stated this organization is now fulfilling a need which had long existed in the Congress. It follows that members of this federation heartily endorse the President's statement that consumers have the right to knowledge and the right to be heard, and certainly these rights are especially important where the public's health and well-being is concerned.

Now that the world has been shocked by the knowledge that a previously regarded as innocuous drug "thalidomide" has been capable of causing great damage to unborn babies when taken by pregnant women in the early stages of their pregnancy—the advice of the late Sir Edward Mellanby seems more significant than ever to members of this federation. I am referring to Sir Mellanby's Sanderson-Wells lecture, "The Chemical Manipulation of Food," delivered at the Middlesex Hospital on May 4, 1951, and published in the British Medical Journal, October 13, 1951. I quote briefly from this lecture:

> At the present time, both in the United States and in this country, it is possible for chemical substances to be used in food manipulation and production which ultimately prove to be harmful and deleterious. This does not mean that substances known to be harmful can be added to food but only that chemicals are often assumed to be harmless and, after being used for a longer or shorter time, are then proved to have harmful properties. This kind of incident is constantly happening. It was at a recent inquiry in the United States that of 700 chemical agents at present used in food preparation 246 had not been studied enough from a toxioclogical angle to satisfy the FDA of that country that they were innocuous. Even when such chemical substances have passed through a battery of tests from the point of view of toxicology, unexpected harmful results have often ultimately been demonstrated.

Scientists and physicians echoed similar advice at the food additives hearings which apparently was not heeded. In a recent speech before the International Ladies' Garment Workers' Union leaders on July 24, 1962, at Bushkill, Pa., Commissioner Larrick notes that now about 4,000 additives are used in food production, some, of course, in the packaging and wrapping materials and the coatings.

The thalidomide tragedy emphasizes the need for more realistic and thorough testing of drugs and food additives. Larger animals will need to be used in these more valid tests and a variety of species will need to be used. We hope the total impact of the environmental (potentialism) as endured by humans will also be considered in undertaking these future tests of chemicals for safety when their use is contemplated in drugs and foods.

This federation spoke of the need for research along these lines in its statement on color additives legislation and especially commented

on the effects chemicals may have upon pregnant women. We see now that we should have stressed the probable harm to the unborn child. At the lipstick hearings conducted by FDA this federation again brought up the need for better animal testing methods. Later, Dr. Harold Stewart, pathologist with the National Institutes of Health, in commenting on the need for the Delaney anticancer clause in food legislation, stressed the need or extensive testing of chemicals—taking into consideration the effect of the whole environment upon laboratory animals.

Dr. Stewart appeared before this committee as a member of a scientific panel, so advising this committee.

Now, a process has been developed for converting whole fish into a fish protein concentrate. It is our understanding that fins, gills, eyes, scales, intestines, stomach contents—all will be utilized in this process. The public is assured the final prdouct will be esthetic in appearance and taste, will be clean, and will store indefinitely. Surely a drastic process must be necessary to convert such offensive items into a pure, almost odorless product.

It is the understanding of this federation that first the whole fish and its stomach contents will be placed in a boiling solvent until the bones and fat and distressing items are removed or disappear or disintegrate. Then the protein which is left is subjected to boiling alcohol to remove the odor. Surely residues of the solvent and alcohol will remain in this final product—even if only in minute traces. The question follows, Have animal and human tests been of sufficient duration to determine its cumulative effect on humans?

The need for such a protein is justified in areas where the tiny children will starve to death without a cheap, complete protein added to their diets or else will live on permanently maimed for life because of inadequate food at this particular stage of their development.

The calculated risks would be justified in such a situation; especially until they are old enough to eat and assimilate properly an adult diet. Perhaps members of this committee recall the "Brinkley Journal" last winter on local TV where schoolchildren of Peru were shown eating their one substantial meal of the day—sometimes it was their only meal—which appeared to consist of American whole wheat cooked with native vegetables and I presume infrequently some meat was added. Although viewers were told it was difficult for these underfed or infrequently fed children to concentrate on their school lessons—understandably food and their lunch occupied their thoughts—these children appeared surprisingly attractive and wholesome on this film.

This federation is not opposed to the use of this cheap whole fish product to save the lives of small children in underdeveloped, impoverished countries. But our members see no justification for its addition the diet of Americans who have an ample supply of protein in this country—sometimes at very reasonable prices. We have in mind supermarket sales of chickens, as an example. Nevertheless it is seriously being contemplated to add this drastically processed substance or concentrate to bread, cookies, cakes, cereals, and other food items already extensively processed for consumption by people who have an abundance of food. Our members are opposed to this concentrate being added to the food supplies of this country until it has

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been tested for years to determine its ultimate effect on the human body. Its value as an emergency ration certainly could be justified even in this country. If we were ever so unfortunate as to be engaged in an atomic war this item could be invaluable. Possibly it might be needed in times of a natural disaster, such as a hurricane.

If the precedent to use whole fish in a fish flour is established by changing our Food, Drug, and Cosmetic Act, will this later result in a flood of requests to use other previously ruled undesirable food products in our foods?

Later, as a result of this concession, will FDA officials be able to refuse permission to use rotten eggs or slightly decomposed eggs, chemically treated to insure cleanliness, in foods? Cannot certain portion of poultry and livestock, previously used in livestock feeds, now be incorporated in our foods?

Last year a member of this federation studied the FDA file on fish flour concentrate and observed at that time many letters in opposition to using whole fish in this product. Some were afraid that decomposed fish might also be utilized. Quite a few of these letters in opposition to the use of whole fish were from housewives and from women's clubs and organizations. The General Federated Women's Clubs issued a resolution against the use of whole fish for this protein concentrate. This federation was not only opposed to the use of the whole fish but also to the method to be employed in such processing.

In view of the foregoing, this federation believes there is no justification—except perhaps profits of a financial nature—for foisting this fish concentrate product upon the American people who have access to a plentiful supply of complete protein for their diets.

Thank you for this opportunity to speak on behalf of a dedicated group of housewives.

Mr. ROBERTS. Thank you, Mrs. Desmond.

This will conclude the presentation of the federation which you represent?

Mrs. DESMOND. I believe so unless we could, perhaps, make a suggestion. We understand that there is an oversupply of trash fish.

It might not be a profitable way to dispose of it, but could it not be used to fertilize the soil?

Mr. ROBERTS. No such question is before the subcommittee.

Mrs. DESMOND. No, but it is just a suggestion that this might be a way to utilize these fish. It is very much to the advantage of consumers.

Mr. ROBERTS. Well, as I say, that will have to be gone into by some other——

Mrs. DESMOND. Yes.

Mr. ROBERTS. Committee. It may be the Committee on Agriculture.

Mrs. DESMOND. Our group is very much concerned, though, to have a more realistic method of testing animals and a varied selection of test animals besides rats and mice. We understand that rats and mice are not as sensitive usually to chemicals as humans. Especially, they were not as sensitive to dyes as humans.

Mr. ROBERTS. Well, I think in that whole field, insecticides and coatings for vegetables being shipped and many other things which

are being done where the consumers need more protection, a whole scale study of this whole field might well be undertaken.

I know I have been concerned about the use of highly toxic materials in various areas where food is harvested and prepared for shipment.

I wondered many times if some of these protections to the vegetables and fruit, that is, if some may not be very harmful to the people and may not be completely removed by repeated warnings.

I think that we are going to have to be more and more concerned with possible poisoning and maybe some other effects.

Mrs. DESMOND. Well, we are certainly happy to learn of this concern on your part, Mr. Chairman.

Mr. ROBERTS. Thank you.

This will conclude the hearings. The hearing record will remain open for the next several days so that parties may file additional papers. This material may appear at this point in the record.

(The following material was submitted for the record:)

STATEMENT OF FRANKLIN C. BING

My name is Franklin C. Bing. My home address is 2651 Hurd Avenue, Evanston, Ill. My office address is 36 South Wabash Avenue, Chicago, where I practice as an independent, self-empolyed consultant on foods and drugs.

Because this statement is submitted by me as an individual, and not as a representative of any company or organization, it may be desirable for me to provide some background information about myself.

I am a biochemist, and received a degree of Ph. D. in that subject from Yale University in 1930; my undergraduate training was received at the University of Pennsylvania, from which institution I was graduated in 1924. For several years I was engaged in academic work, teaching and research on a full-time basis, at Western Reserve University in Cleveland, Ohio. Beginning with 1936 I have resided in Evanston, and for 7 years was employed as secretary of the Council on Foods and Nutrition of the American Medical Association, and then for about an equal length of time as director of the American Institue of Baking, both in Chicago. Since 1950 I have practiced as a consulting chemist, offering advice and scientific services on a fee basis to companies in the food and pharmaceutical industries. In the course of this practice I have performed services for approximately 100 companies and organization. Among my clients, if I may call them that, was for a time, a number of years ago, a House Select Committee on Chemicals in Foods and Cosmetics, under the chairmanship of Congressman James J. Delaney, as a member of the committee's staff.

I belong to various scientific societies in my field, have been an officer of some, have served as a member of the Food and Nutrition Board of the National Research Council, as a member of the staff of Northwestern University School of medicine, as a member of various editorial boards of scientific publications, and as a consultant to the Food and Drug Administration. At present, among other activities, I serve as chairman of an Advisory Committee on Nutrition to the Chicago Board of Health.

For about 25 years, therefore, I have been intimately acquainted with many aspects of our food and drug laws and regulations, and their application to products and to the companies that make and distribute foods and drugs. In this phase of my activities, my policy is and has been to help clients to comply with all applicable laws and regulations, and not to circumvent them.

As stated, I speak for myself, and on behalf of no client, although I have reason to believe that my views in opposition to H.R. 9101, and similar bills, are not inconsistent with those held by others who have given the matter before this committee careful consideration. That matter is, to decide what action if any should be taken on certain bills that have been introduced in the House for the purpose of removing a product known as fish flour, and by other names, from the application of section 402(a)3 of the Federal Food, Drug, and Cosmetic Act. This section of the act declares that "* * * a food shall be deemed to be adulterated * * * if it consists in whole or in part of any filthy, putrid, or decomposed substance, or if it is otherwise unfit for food * * *." The objective of the proponents of these bills is to legalize by congressional action a fish flour that

is made from whole fish without first cleaning the fish, by removal of the scales, fins, intestines, and their contents, and in general doing what is usually done when fish are prepared for use in the home. It is not that cleaning cannot be done, but that the proponents of whole fish flour do not want to perform this chore, because of the labor and costs involved, and because they consider that such cleaning is not necessary.

The characteristics of the product, fish flour, certainly demand attention in these proceedings. But I should like, for the purpose of orderly progression, first to explain the statement just made, to the effect that a fish flour can be made from edible fish that have been suitably cleaned before processing. Several years ago, Mr. Ezra Levin of the VioBin Corp., Monticello, Ill., whom I have known as a businessman for about 25 years, sent me as a matter of interest a sample of a fish fillet powder, together with some information about its preparation, and its composition as shown by partial analysis. It was a light tan-colored powder, containing over 90 percent protein, which his company had made from the muscle tissue of fish by dehydration, defatting, and grinding. It appeared to me to be a fine product; it was tasteless and odorless and, provided that it had been made from suitable species of fish and its protein had not been denatured in processing and that undesirable residues of the solvent used to extract the water and fat were not present, to be a useful source of high quality protein for human food purposes. It did present some questions to my mind about its suitability for food use, as you can see, but there was no question about its being a clean product, if made under modern sanitary conditions commonly employed in the food processing industries. So I feel sure that it has been demonstrated that a fish protein product could be made which would comply with that section of the Federal law under discussion.

But a fish protein powder made from fillets of edible fish is not the product which is being considered now. What we are considering is a fish flour, made from whole, uncleaned fish, of species ordinarily considered to be inedible, a product which contains not more than about 60 or 70 percent protein, instead of the better than 90 percent protein of a fish fillet flour. We are considering an inferior product, not the best that can be made.

The name "fish flour" for this inferior product, incidentally, is objectionable to me, for the word "flour" as part of it may be misleading. The term "fish protein concentrate" is inexact, so I should like, henceforth in this statement at least, to refer to this article under consideration as fish powder, by which I mean the dry powder produced from whole, uncleaned fish by removal of the water and fat and by grinding—the material called by others "fish flour."

Proponents of what I call fish powder assert that the product is to be made from any species of edible fish, though I have found no attempt to define what they mean by the term "edible." From the numerous pieces of publicity about the product I gather that they mean primarily coarse fish, as caught, which are commonly used in animal feeds or for industrial purposes, and not as human food. Now it is not commonly known that there are many species of fish that are toxic to human beings. Some are poisonous at certain times of the year, and not at others, perhaps owning to the food that the fish consume. Whether the toxins which these fish may contain would be removed by processing in the production of fish powder, I do not know, but it is a question which can be answered experimentally. This should be done, in my opinion, before any unusual fish is used for human food, either by people in this country or in any other country. Incidentally, there is evidence that toxic substances, when present, are often present in higher concentration in the livers of the fish than in other organs of the body and, as we know, the livers would be retained in making a fish powder. Let me conclude this allusion to naturally occurring toxic substances in fish by stating that, while there is much room for further exploration of the facts, we do know that the ordinary fish in our markets, and the processed fish products such as sardines, and all edible shellfish, are free from toxic substances. Our present knowledge, however, should impress us with the desirability of looking quizzically at any strange fish not ordinarily eaten, before it is selected for use as human food.

The proponents of fish powder may assert that the processing procedures render the article safe for use as food, but this is a matter for consideration by scientific experts rather than the members of a legislative body—at this time, certainly. The problem of the fish powder people of supplying proof would be simplified if they first selected the species of fish they want to use and, secondly, if they cleaned the fish. This is because the food upon which the fish feed may itself

contain materials toxic to man, if not at one time of the year then at some other, and if not in one locality then in a different part of the waters of the earth.

Fish powder is declared by those who have ventured to eat a sample to be almost tasteless and capable of being incorporated, without consumers being aware of its presence, into foods such as bread and other bakery products in appreciable quantities, thereby increasing the protein content of these foods, and the protein intake of those who may consume the products. But I know of no evidence that protein deficiency occurs in the United States. Protein is needed, of course, but our people get what they need from ordinary foods, in quantities which are sufficient to meet all ordinary nutritional requirements. If more protein were to be needed, or if a high-protein food is to be made, for any purpose, there are commercially available abundant supplies of suitable foods; among these are various soybean products, nonfat dry milk, and other foods that are rich in proteins of high nutritive quality. There is no compelling reason for considering fish powder as a possible human food in the United States at the present time, and the product should be cleaned up before it is considered at any time. There is protein deficiency of the diets of people in some other countries, but the bills before this committee are concerned with fish powder for domestic use, whether made in this country or imported from abroad. If fish powder is to be considered only as a food for shipment to those countries where protein is needed, the least that should be done, in my opinion, is to assure those countries that any product shipped from here is uniform, safe to eat, and suitable for use as a food for human beings. Fish powder, as proposed, does not in my opinion meet these requirements.

The proponents of fish powder assert that they are seeking by act of Congress the kind of exemption that hisorically, since before the enactment of our present basic food laws, has been accorded the producers of seafoods such as clams and oysters and sardines. This argument is not valid. It is true that clams and oysters cannot be cleaned in the sense of separating muscle tissue from other organs. But the food of these shellfish consists of microscopic forms of marine life. In the case of sardines, American producers remove the head and tail and first allow the live fish to be penned long enough to assure the emptying of their intestinal tracts before further processing. Above all, the public health aspects of oysters and clams and sardines are well known, and suitable precautions are exercised to assure the safety of these foods. People who eat these foods know what they are getting, and they get safe, wholesome, and nourishing foods. These things cannot be said at this time for a fish powder such as is proposed.

There seem to be several methods of producing fish powder. One method involves the use of an organic solvent for removal of both water and fat. Residues of the solvent remain in the fish powder. I have not been able to find any detailed reports about how much residue remains, and whether or not these residues may be harmful. One report in the scientific literature shows clearly that fish powder when made by one solvent-extraction process does not produce as good growth of laboratory rats as a fish powder made by other methods. Whether this is an indication of toxicity from residues of the solvent used, or simply of a deleterious effect on the nutritive quality of the protein, or some other factor, has not to my knowledge been reported.

The wisdom of providing an exception to the law, to permit the performance of what would otherwise appear to be illegal, is questionable. Experience has shown that the creation of exceptions, even when they appear to be relatively unobjectionable at the time, may produce unforeseen consequences. A case in point, I believe, is that congressional exception to the basic food law which causes us now to call what we used to designate as dried skimmed milk by the name of nonfat dry milk. As a result, it is held by legal experts that vitamin A and vitamin D may not be added to nonfat dry milk, simply because the congressional act did not provide for their addition a number of years ago. Both the American Medical Association and the National Research Council have gone on record recently as being in favor of the addition of both vitamin A and vitamin D to nonfat dry milk, although both bodies knew at the time when these recommendations were made that there are legal objections to so doing. There are cases of infantile rickets, preventable by ordinary doses of vitamin D, in the United States—not too many, perhaps, but more than there would be, in my opinion, if we had a vitamin D fortified nonfat dry milk available.

I mention this mater because I want to indicate why I am concerned when an attempt is made to alter a good law, dealing as it does with health matters, for reasons unrelated to health. The enactment of new legislation that would create an exception to that section of the general law which prohibits filth in

foods would, it seems to me, weaken the efforts of government and legitimate food industries to keep extraneous matter our of foods. What the proponents of these bills assume is that solvent extracted filth is safe to eat, which has not been demonstrated. They also assume that the people will not object to eating avoidable filth, and I am definitely convinced that the contrary is true.

For all of the reasons presented in this statement, I am opposed to H.R. 9101 and similar bills which would legalize a fish power that cannot meet the present requirements of the Federal Food, Drug, and Cosmetic Act on its own merits.

STATEMENT OF NATIONAL MILK PRODUCERS FEDERATION BY E. M. NORTON, SECRETARY

The National Milk Producers Federation is a national farm organization. It represents dairy farmers and the dairy cooperative associations which they own and operate and through which they act together to process and market at cost the milk and butterfat produced on their farms.

Dairy cooperatives represented through the federation are engaged in the manufacture and sale of nonfat dry milk solids.

Nonfat dry milk is composed of the milk solids remaining in milk after the butterfat has been removed and used for other purposes such as butter or cream. The nonfat milk solids are a valuable source of food minerals and of protein. The product is storable and easy to manufacture and transport. It is made of a clean and wholesome food which has been produced and handled under the highest sanitary conditions.

Substantial quantities of the product are used domestically. It is used in the manufacture of dairy products; as a supplement in other foods, such as bread; and to recombine with water for use as skim milk.

It is one of the important products in the relief feeding programs both domestic and foreign. It is particularly well suited for foreign relief and is accepted in the diets of needy peoples of foreign nations. It provides a ready source of highly nutritious proteins and food minerals.

Approximately 2 billion pounds of nonfat dry milk solids are produced in the United States annually. It is a very important outlet for the nonfat portion of the Nation's milk supply.

Nonfat dry milk solids play an important part in the agricultural price support programs. Surplus milk which does not find a commercial outlet is converted into butter and nonfat dry milk solids and sold to the Commodity Credit Corporation under the support program. Approximately 1 billion pounds of nonfat dry milk solids were acquired by CCC in 1961.

CCC purchases this year are far above last year's level. Purchases since April 1 are approximately 600 million pounds. Uncommitted stocks in the hands of CCC as of August 8 of this year total 568,592,000 pounds.

Thus there is available in the hands of the Government tremendous stocks of a sanitary, highly nutritious, high-protein food which can be used for foreign relief purposes. Although great amounts of the product are being used for this purpose, purchases are exceeding disposal. The Government is trying to give away this food so it can be put to a useful purpose.

There is, therefore, no current need to turn to other sources for high-protein food for foreign relief distribution. We have more of it than can be used—already manufactured, paid for, and in the warehouse.

Nonfat dry milk solids contain 35.6 percent protein, 52 percent carbohydrates, and substantial contributions of phosphorus and calcium.

While there might be some sound basis for turning to questionable sources of supply for protein food in times of great emergency and shortage, there does not appear to be any valid reason for using matter ordinarily considered not suitable for food when we have on hand surpluses of high-protein food more than adequate to meet all needs including foreign relief.

Surely it would be unwise to recover protein from fish waste and leave unused present stocks of a high-quality food the acceptance of which both at home and abroad is unquestioned.

There is nothing new about the recovery of foods from material which ordinarily is considered unfit for food. This is merely a new application of the idea to fish including the offal and waste. If it is to be applied here, it would be equally logical to apply it to other wastes which ordinarily go into fertilizer and feed.

There is no need for fish flour made from inedible portions of fish, and, in the absence of a compelling emergency, its sale ought not to be permitted.

The Federal Food and Drug Administration has indicated a solution of this problem which is fair to the proponents of this legislation as well as to other industries and the consuming public. It has proposed a standard for fish flour made from edible portions of fish, but has not recognized fish flour made from whole fish including the offal and waste portions.

The bills pending before the committee would exempt processed seafood products from being declared adulterated on the ground that they contain whole fish including the offal and waste.

The provision which would be amended is the one which says that a food shall be deemed to be adulterated if it consists in whole or in part of any filthy, putrid, or decomposed substance or is otherwise unfit for food. There are no exceptions for any food in this part of the statute at the present time.

This statue is much too important a part of our whole pure food program to start writing exceptions into it, particularly in a case such as this, where there is no real need for the questionable product.

Enactment of this legislation would undermine the confidence of consumers in our food and drug laws.

It would tend also to break down other sanitary standards as other products sought to meet lower prices by relaxation of the requirements applicable to them.

The product has been rendered bland so that its origin cannot be recognized by taste or smell. Running through the arguments in support of the product is the inference that esthetic tastes would not be affected unless consumers knew that the fish flour was made from fish including the offal and waste.

We are concerned with this aspect of the matter. The product would be used in bread and in other foods so that the consumer, in most cases, would not know what he was getting. Even if the consumer noticed on the label that whole fish flour was used, he would assume that this meant only the edible portions of fish and that the Food and Drug Administration would not permit the article to be sold if it were made from inedible portions of the fish.

In conclusion, there is no real need for turning to such questionable sources of supply for food, and very great harm would be done to the whole pure food program in this country by enactment of this legislation.

STATEMENT OF DR. THOMAS H. JUKES, SKILLMAN, N.J.

Opposition to the proposed standard for fish protein concentrate (fish flour) has been centered on objections to the inclusion of viscera, heads, and intestinal contents. Repeated efforts have been made to arouse disgust by alluding to this point. We have drawn attention to the fact that this procedure is based on emotion rather than logic in view of the presence of such ingredients in widely accepted foods. It is most interesting to note that in spite of the attention that has been directed to the presence of so-called filth in fish protein concentrate, several distinguished Senators and Members of Congress evidently feel no repugnance toward eating the product. The alleged esthetic objections are obviously due to the manner in which the subject has been presented and not to any inherent property of fish protein concentrate.

The use of the term "flour" has aroused some objections as implying some relationship to flours produced from grains. However, the terms "blood flour" and "oyster shell flour" are established terms for commercial products defined by the Association of American Feed Control Officials, an organization in which the FDA is represented.

It is perhaps, difficult for those who have not seen the ravages of malnutrition in countries where the food supply is limited to realize the great need for fish protein concentrate in such countries. I have traveled in such places and I have collaborated with clinical nutritionists who are trying to fight protein deficiency. The Congressmen who are supporting the proposed standards are doing so because of their deep interest in helping people in other lands. Let me conclude my statement with a plea to the opposition of this bill to pause and weigh these humanitarian considerations. This is not a scheme to contaminate the American food supply or to break down existing food standards. It is an effort to make a new source of food cheaply available to those who need it.

STATEMENT OF FRANK E. FISHER, DIRECTOR, DIVISION OF FOOD AND DRUG, INDIANA STATE BOARD OF HEALTH

My name is Frank E. Fisher. I am employed by the Indiana State Board of Health as the director of the division of food and drugs. It is my responsibility to administer the enforcement of the Indiana Food, Drug, and Cosmetic Act. The Indiana act is uniform with the Federal Food, Drug, and Cosmetic Act, and section 1951(3) of the Indiana act is identical in wording with section 402(a)(3) of the Federal act which reads: "A food shall be deemed to be adulterated: * * * (3) if it consists in whole or in part of a diseased, contaminated, filthy, putrid, or decomposed substance, or if it is otherwise unfit for food; * * *."

Amendment of the Federal Food, Drug, and Cosmetic Act as contemplated by H.R. 9101, H.R. 9102, H.R. 9331, and H.R. 10587 would permit the manufacture, distribution, and sale of a food product prepared from whole fish and would include the scales, fins, tail, head, eyes, intestines, intestinal contents, and other inedible parts. These parts are not commonly accepted by consumers as human food and are, therefore, unfit for food. The intestines and intestinal contents of fish are certainly filthy materials. Any food product prepared in part from filthy materials and other materials unfit for food would be adulterated under the Indiana statute. If the Federal Food, Drug, and Cosmetic Act is amended as proposed, this would legalize under Federal law, an article of food which would be illegal under the Indiana law. This would force the State of Indiana either to refrain from enforcing the applicable provisions of the Indiana Food, Drug, and Cosmetic Act with respect to processed seafood products derived from whole fish, a manifestly illegal act on the part of the administrator, or to take regulatory action against all such products, even though they would be legal under Federal law. This would be highly undesirable.

We cannot, in good conscience, change the rules for one segment of the food industry and permit that segment to produce food products with components which would, if found in any other food, render those foods illegal and subject to legal action. If we are to permit filth in food products processed from whole fish, then we must, in all fairness, permit the baking industry to produce bread prepared from flour which is infested with insects or contaminated by rodent urine or excreta. Such materials, when subjected to high heat in the baking ovens, would be rendered sterile and the resultant product would be "in no manner harmful to the health of the consumers thereof." A good case could also be made for the meat industry wherein the entire animal—head, horns, hooves, hide, tail, and uncleaned viscera—could be ground up and processed into a cooked product which would present no health hazard to the consumer.

It is my considered belief that the American consumer does not want filth in his food. The Federal law and all State food laws prohibit filth in food because the consumer expects that filthy materials will be excluded from the food supply. I am firmly convinced that the American consumer does not want fecal material in his food—not even fish feces. I am sure that public opinion in Indiana would prevent the amendment of our State law to accept filth—even sterilized filth—as a proper ingredient of a food product. Legalizing the addition of filthy materials to our food supply is repugnant to the basic philosophy of legislation against the adulteration of foods.

SUPPLEMENTARY STATEMENT BY EZRA LEVIN, PRESIDENT AND DIRECTOR OF RESEARCH, VIOBIN CORP., MONTICELLO, ILL.

I am filing this supplementary statement for the record at the hearing of the Subcommittee on Health and Safety, House Committee on Interstate and Foreign Commerce, August 8 and 9. This is necessary because of several matters which were discussed subsequent to my statement.

1. One of the members of the committee asked a very pertinent question about the possibility of using land animals, with their carcasses in their entirety, as a source of food. Dr. Michael made the distinction quite clearly. Animals living in water like fish are different in their digestive processes than land animals. They are much cleaner, with no coli organisms, pathogens, and are quite distinct from land animals in the character of the visceral contents. Therefore the distinction could be made in any regulation, that we are dealing here only with fish as distinct from any other type of animal. It would not "open the door" to permitting land animals to be used with their visceral contents.

2. The FDA representative attempted to define "filth" and to apply this definition to the fish protein concentrate. The inconsistency of the agency is apparent when the following facts are considered.

There is a published standard of dried cow manure which is used to determine the accepted tolerance of manure permitted in milk.

Tomato products have tolerances of insert eggs accepted by the FDA.

All grain products have tolerances of insect fragments and rodent hairs and urine.

These conditions are tolerated by the FDA, and are not considered "filth" as defined by the FDA.

Drinking water derived from sewage pollution is not considered filthy. Oysters and clams are eaten raw, with viscera in the raw state, and are not considered containing filth. Lobsters including viscera are not considered filthy. Whole sardines, and smelts with viscera are not considered as containing filth within the legal interpretation of the FDA. Yet fish flour which is whole fish, cooked, washed, chemically treated, and cleaner than the finest fish fillet by bacteriological and chemical measurement is interpreted as containing filth.

I would like to ask the FDA:

If we processed sardines ready for canning, into fish flour, under observations by FDA inspectors, would this fish flour, which by every known criterion is cleaner than the canned sardines, be approved by the FDA for sale in the United States?

3. The FDA official at the hearing indicated that we did not provide samples and therefore they could not study them. This is a half-truth. The facts are as follow: When Senator Douglas and I went to the FDA to discuss the character of our fish flour, Mr. Harvey stated, "I am not interested in how it is made. It is filthy if it is made from whole fish, in accordance with our regulations."

Later, due to pressure of the Department of the Interior, a meeting was held with Mr. Ribicoff and Mr. Larrick. Mr. Larrick insisted he was not interested in evaluating the product, but Mr. Ribicoff stated that he desired that the Administration evaluate the product. A few days later an FDA inspector came to our Monticello plant. We refused to permit the sample that he took to reflect the cleanliness of our plant. We knew very well that this sample was a good sample. We have thousands of pounds of our fish flour here which is in every respect exactly as it has been described, free from any contamination, pure and wholesome in every sense of the term, with no filth. Yet we feared to give the inspector the sample unless some independent agency took a sample of the same material at the same time.

We knew that the FDA was hostile to us. The agency had planted a story in the New York Times that was a deliberate slur against our company. We had evidence, that will be revealed under oath, that a leading member of the FDA stated to an engineer evaluating our process, "We don't like fish flour, and we don't like people who complain about us to Congress." We knew that the propaganda office of the agency attacked us personally to persons who were interviewed about their reactions to fish flour.

We were shocked to learn that a quasi-judicial agency would exert influence to obtain statements against fish flour by the various groups who are dependent on the FDA for tolerances of filth.

These are just a few reasons why I feared to give the FDA a sample on which they were to make an official judgment.

This explains why we provided the sample, with the qualification that it was not typical. We offered to process a batch of fish at any time the FDA wanted it processed, if a representative of another agency would be present so that the same sample could be checked by some other agency. Obviously the agency's interest was to make a gesture of fulfilling Secretary Ribicoff's request. It went no further.

I repeat that I am willing to process in our pilot plant a sample in the presence of the FDA officials, but with some other agency such as Fish and Wildlife present at the same time so that samples can be checked by an impartial agency.

I repeat that we have thousands of pounds of whole fish flour on hand. This is exactly the same material that was shown to the committee and that we have shipped for human food to South Africa, Salvador, and Mexico.

As I conclude this statement, I learn that President Kennedy has recommended that $500,000 be appropriated to the Department of the Interior for the study of processes for producing fish protein concentrate.

Thus we have the situation in which the President of the United States wants to speed up the development of a product that one of his agencies considers esthetically repugnant to the citizens of the United States.

HARVARD UNIVERSITY,
SCHOOL OF PUBLIC HEALTH,
Boston, Mass., August 7, 1962.

Congressman OREN HARRIS,
Chairman, House Committee on Interstate and Foreign Commerce,
House Office Building,
Washington, D.C.

DEAR CONGRESSMAN HARRIS: I should like to express a favorable opinion of fish flour properly prepared from whole fish. The overall nutritive value of such a product is high. If it can be blended well with other foods, primarily with cereals, and in appreciable quantities, it would greatly improve the nutritive qualities of the total diet.

While I realize some individuals may have some esthetic objection to such a product, I do not feel that these should stand in the way of making available to mankind, including Americans, the nutritive potentialities of such a product.

As I told Congressman Keith sometime ago, Dr. Frederico Gomez, director of the Children's Hospital of Mexico City, has probably had more careful experience with the use of this product, than anyone else. I know he is most enthusiastic about its value in infant and child nutrition where milk and the many prepared baby foods that we are so accustomed to are not available.

Sincerely yours,

FREDERICK J. STARE, M.D.,
Professor of Nutrition,
Chairman, Department of Nutrition.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Cambridge, Mass., August 2, 1962.

Dr. HUGH LEAVELL,
Harvard School of Public Health,
Boston, Mass.

DEAR DR. LEAVELL: We have been informed by Dr. Stare that you will be attending the congressional hearing on fishmeal on August 7 and 8, 1962. We would like to offer the following comments.

There is little doubt that protein malnutrition represents one of the major health problems in the world today. With a geometrically expanding population, current sources of good quality protein will have to be distributed among more and more people. It is therefore apparent that new sources of good quality protein are essential. Fish protein represents a potential source which hitherto has been largely unexploited. Modern methods of technology have made possible the production of fish protein supplements. In addition, there is, in our opinion, adequate evidence, derived from properly controlled studies, to support the contention that many fish protein supplements are of high nutritional quality and could play an important role in alleviating human protein malnutrition.

However, the use of processed fish protein supplements for human feeding programs must be governed by several considerations. In addition to the maintenance of high nutritional quality, it is important that these products be free from any toxic substance derived from the fish itself or from the process; that cost of production be kept as low as possible; that no significant deleterious changes in flavor occur as a result of the process.

We would therefore completely support the use of these fish protein supplements if due consideration is given to each of these factors at all stages of production and handling.

Sincerely yours,

A. E. HARPER, Ph. D.,
Professor in Nutrition.
S. A. MILLER, Ph. D.,
Assistant Professor in Nutrition.
G. N. WOGAN, Ph. D.,
Assistant Professor in Food Toxicology.

INTERNATIONAL LONGSHOREMEN'S & WAREHOUSEMEN'S UNION,
Washington, D.C., August 9, 1962.

HON. KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety, House Interstate and Foreign Affairs Committee, House Office Building, Washington, D.C.

DEAR REPRESENTATIVE ROBERTS: The fisheries division of the ILWU favors enactment of H.R. 9331 or similar bills which were the subject of a hearing before the subcommittee August 8 and 9. Since I was unable to appear, I am asking that this letter be inserted in the hearing record.

The objective of this legislation is to open the way for production of fish protein concentrate, or fish flour. This objective has the support of our members for two important reasons.

First, it will provide a new and substantial market for fishery products. Such a development is urgently required to help preserve what is left of our fishing industry and offer some hope for a forward movement.

Fishery resources now lying idle or being underutilized could be harvested as the raw material for protein concentrates. These resources, fishery scientists estimate, total from 3 to 4 billion pounds in the coastal waters off the shores of the United States.

Secondly, the production of fish protein concentrates will provide a cheap supply of critically needed food. Needs in Latin American alone could absorb tremendous quantities; and the teeming millions of underfed peoples in Asia would certainly provide an almost unlimited market.

In urging favorable action on this legislation, it is our understanding that the administration is presently proposing that funds be made available to perfect further techniques for the production of fish protein concentrates. This makes more urgent early congressional action to assure that the industry can move ahead with this important food development.

On behalf of the fisheries division, I wish to commend the subcommittee for its consideration of this legislation.

Very truly yours,

JEFF KIBRE,
Washington Representative.

THE JORDAN BAKERS, INC.,
Topeka, Kans., August 9, 1962.

WILLIAM H. AVERY,
House of Representatives,
Washington, D.C.

DEAR MR. AVERY: We have just been advised by the American Bakers Association, of which we are members, that hearings were scheduled to start Wednesday, August 8, in a subcommittee of the Committee on Interstate and Foreign Commerce of the House of Representatives, on the question of legalizing the use of whole fish flour for human consumption in the United States.

The proposal for use of whole fish flour, made from the entire fish including intestines and the contents thereof, includes a statement that "the final product should have no more than a faint fish odor and when baked in bread at the ratio of 1 part of fish protein to 11 parts of grain flour there should be no detectable odor or taste."

The Food and Drug Administration properly has concluded that the proposed product is composed of substances prohibited by law. The bills in the House of Representatives therefore would bypass the Food and Drug Administration and overturn practices which have prevailed for more than a half century.

As an operator of a bakery for many years in which we observe all food laws and make a wholesome product in the way of bread and rolls, we believe that the passage of such a law would be bad for all food industries and we hope that you will oppose any such law.

Yours truly,

G. L. JORDAN.

NORTH DAKOTA STATE WHEAT COMMISSION,
Bismarck, N. Dak., August 7, 1962.

Representative HJALMAR NYGAARD,
Member of Congress,
U.S. House of Representatives, Washington, D.C.

DEAR REPRESENTATIVE NYGAARD: It is noted that hearings dealing with H.R. 9101, H.R. 9102, and H.R. 9331 are presently being held. In these bills it is proposed that whole fish flour may be included in food preparations when properly processed. This matter and subject has been given serious consideration and study in the past and again reviewed by the North Dakota State Wheat Commission in regular quarterly meeting held at Bismarck, N. Dak., August 6 and 7, 1962. At this meeting after due study and consideration, we have concluded that we are definitely opposed to the use of whole fish flour in food preparation when properly processed. We do not feel it is advisable to make any exception of our food standards to include what is basically a filthy ingredient.

Further, there is no protein shortage in American diets and that there is an ample supply of protein from wholesome sources. Further, we feel that it is very important that there be protection by means of the food standards against the inclusion of filth in the products to consumers.

We request your support and influence in prohibiting that whole fish flour be included in food preparations when properly processed.

This statement is prepared in behalf and at the request of the North Dakota State Wheat Commission.

Sincerely yours,

PAUL E. R. ABRAHAMSON, *Administrator.*

CUMMINGS & SELLERS,
Washington, D.C., August 16, 1962.

Hon. KENNETH ROBERTS,
Chairman, Health and Safety Subcommittee, House Interstate and Foreign Commerce Committee, House Office Building, Washington, D.C.

DEAR SIR: This statement in opposition to H.R. 9101, H.R. 9102, H.R. 9331, and H.R. 10587 is submitted upon behalf of the National Soybean Processors Association and the American Soybean Association.

The members of the National Soybean Processors Association, with plants and offices in most of the Midwestern, Southwestern, and Southern States, processes over 90 percent of the domestic soybean crop. Its principal office is located at 3818 Board of Trade Building, Chicago 4, Ill.

The American Soybean Association is an association of soybean growers. Its principal office is located in Hudson, Iowa.

One of the products produced by domestic processors is an edible soy protein product containing a minimum of 50 percent protein. This product is produced in substantial quantities. Its price is modest. It is used in a wide variety of food products. The amount produced is limited only by the demand.

This product is produced in accordance with the standards imposed pursuant to the requirements of the Federal Food, Drug, and Cosmetic Act. Its use as a special protein product is based upon the public confidence of cleanliness and acceptability assured by these standards.

The proposed legislation would exempt whole fish flour from that portion of the Federal Food, Drug, and Cosmetic Act which specifies that a food shall be deemed to be adulterated * * * if it consists in whole or in part of any filthy, putrid, or decomposed substance or if it is otherwise unfit for food. Under this provision of law stringent standards of sanitation are imposed on the processors of other foods including soy protein products to assure their cleanliness and acceptability. Insofar as we are aware the only argument advanced in support of the exemption from this vital provision of the law is that the susbtances which would otherwise be deemed to be repugnant under this provision are sterilized during the processing. This same observation would apply to the processing of many other foods, but this has not been considered to be sufficient justification for depriving the consumer of the protection of this provision. If this committee considers this to be ample justification for the elimination of the protection of this provision in the case of whole fish flour, it should recommend that the same exemption be made applicable to all other products.

We have in this country an abundance of acceptable low-priced protein products including those produced from soybeans. These products have gained public acceptance on the basis of compliance with the present statutory standards. To permit the production of whole fish flour under circumstances that constitute a flagrant violation of these standards would be discriminatory and unwarranted.

For the foregoing reasons, the National Soybean Processors Association and the American Soybean Association respectfully oppose the proposed legislation and request that the committee report it unfavorably.

Very truly yours,

JOHN D. CONNER,
Counsel, National Soybean Processors Association.

GRAIN & FEED DEALERS NATIONAL ASSOCIATION,
Washington, D.C., August 15, 1962.

To: Health and Safety Subcommittee, House Committee on Interstate and Foreign Commerce, House of Representatives.

From: Grain & Feed Dealers National Association, Alvin E. Oliver, executive vice president.

Subject: Opposition to H.R. 9101, H.R. 9102 and H.R. 9331.

This National Association is opposed to enactment of H.R. 9101 and related bills which would amend the Federal Food, Drug and Cosmetic Act to permit the manufacture and sale of fish flour, made from whole ground fish, for human consumption.

Very little is known about fish flour or fish protein concentrate for human consumption, and the Food and Drug Administration questions the desirability of such a product. Grain products, however, are of known quality and are manufactured under high standards and regulations.

The production of grain on our Nation's farms has exceeded demands and Congress is presently striving to solve this problem of excess production. It would seem illogical then to approve the manufacture of a questionable product such as fish flour when this Nation has an oversupply of grain for manufacture of the well-known grain products.

The grain industry spends large sums of money to insure cleanliness in the handling of grain. The enactment of H.R. 9101 would change the cleanliness standards which have been established by making an exception for fish flour. Also, the proposed legislation would place Congress in the position of telling the Food and Drug Administration which products are to be considered clean.

Considering that so little is known about fish flour or fish protein supplement and considering the lack of a need for such a product, this association questions the need for the legislation proposed in H.R. 9101 and is opposed to its enactment.

Mr. ROBERTS. I want to thank all of the witnesses, the press, and the members of the staff, who have cooperated with the chairman and made it possible to have these hearings.

The hearing is now adjourned.

(Whereupon, at 3:55 p.m., the hearing was adjourned.)

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