# Do Wi Remys FATS and OILS SITUATION 

U.S. glycerine production increased from 188 million pounds in 1952 to an estimated 370 million pounds in 1967. The oubling of output during thi period is attributed to the sharp rise in synthetic glycerine production, since output of natural glycerine (a byproduct of fats and oils) remained relatively stable at about 150 million pounds per year. Growth in domestic and expr demand for glycerine, ch a limited ability of the industry to expand output, resulted in price increases of about one-third since 1963. Future increases in output required to meet expanding needs will continue to come from synthetic sources. Production of natural glycerine, a byp duct of soap manufactur, is not expected to change much in coming years. (See page 24.)

## U. S. GLYCERINE PRODUCTION


U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS SIOR-67(5) ECONOMIC RESEARCH SERVICE

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## GLYCERINE: DEMAND STRONG

## FOR LIMITED SUPPLIES

(Page 24)

Published five times a year by

Table l.--Hholesale and retail prices per pound for fats and oils


[^0]
# FATS AND OILS SITUATION 

Approved by the Outlook and Situation Board, June 26, 1967

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## SUMMARY

Supplies of soybeans available this summer are record large. The total disappearance of soybeans for the entire 1966/67 marketing year is expected to be about 3 percent above the 840 million bushels in 1965/66. This would leave carryover stocks on September 1, 1967, around 100 million bushels. The previous record high carryover of 88 million bushels was in 1959.

Soybean crushings during SeptemberMay 1966/67 totaled 413 million bushels-only 3 million more than a year ago. Lower processing margins have restrained the crush this year. With some pickup in crush expected this summer over last, crushings for the entire 1966/67 marketing year probably will be only slightly above the 538 million bushels in 1965/66.

Soybeans inspected for export through June 23, 1967, totaled 222 million bushels--about 2 million bushels less than in 1965/66. Israel and Western Europe-particularly Netherlands and Spain--have taken more U.S. soybeans so far this year than last, but such major countries as Japan and Canada have taken far less.
U. S. soybean exports during JulyAugust probably will average slightly larger than last year. Soybean exports for the entire 1966/67 marketing year may total 250-260 million bushels compared with 251 million bushels the year before.

Soybean prices (No. 1 yellow, Chicago) during October-June 1966/67 were relatively steady, the monthly average ranging between $\$ 2.87$ and $\$ 3.00$ per bushel. Soybean prices will start adjusting to new crop developments and economic conditions during the growing season this summer.

Monthly soybean oil prices (crude, Decatur) declined from 10.9 cents per pound in October 1966 to 10.3 cents in January 1967 and held steady at this level through May. The October-May average was 10.5 cents per pound--a cent less than in 1965/66. Prices declined further in June and were under 10 cents late in the month. Domestic disappearance of soybean oil in 1966/67 continues ahead of the 1965/66 record rate, but in the past 3 months it has lagged the year-earlier rate. Exports of soybean oil have picked up in recent months, but not enough to offset the recent drop in domestic use.

Soybean oil stocks (crude and refined) have increased moderately since last fall, and on May 1, 1967, totaled 601 million pounds, compared with 522 million the same date last year.

Monthly soybean meal prices ( 44 percent protein, bulk, Decatur) declined from $\$ 82$ per ton in October 1966 to $\$ 73$
in May 1967, averaging $\$ 79$ for the entire period, compared with $\$ 75$ a year earlier. Prices shot up to $\$ 80$ in early June during the Mid-East war, and were still relatively high later in the month. Domestic use is up 3 percent this year. This is due primarily to the sharp cutback in cottonseed meal. Exports are down 7 percent. Soybean meal prices during July-September 1967 probably will average sharply below the year-earlier level of $\$ 95$ per ton, when prices were rising due to limited soybean supplies.

Exports of edible vegetable oils (soybean and cottonseed) during OctoberMay 1966/67 totaled 709 million pounds, compared with 830 million pounds the previous year. Soybean oil exports were larger during this period, but cottonseed oil exports were down sharply. Barring extended shipping delays related to the closing of the Suez Canal, exports are expected to pick up sharply during June-September and total around 1.3 billion pounds for the entire 1966/67 marketing year, compared with 1.2 billion pounds in 1965/66. Larger exports under Government programs are expected to more than offset the drop in dollar sales.

Soybean and cottonseed oils are facing increased competition domestically
this year from larger imports of palm and palm kernel oils. Also, domestic production and use of lard, edible tallow, and peanut oil are up.

Lard production during the current marketing year is up around a tenth from 1965/66. Hog slaughter is higher by a greater percentage but lard yield per hog is down from last year. Most of the increased lard production is moving into domestic use, but exports and stocks are also up. Lard prices (tanks, loose, Chicago) dropped from 10.7 cents per pound last October to under 8 cents in June 1967. Lard stocks rose steadily from 64 million pounds on October 1 to 135 million on May $1,1967$.

Butter output is also running about a tenth above 1965/66, reflecting slightly larger farm marketings of milk, increased imports, and lower commercial disappearance of milkfat in products other than butter. Domestic disappearance of butter is down again this year so most of the increased production has been added to stocks. Butter stocks have risen each mont from 32 million pounds on January 1, 1967, to 153 million on June 1, 1967. Wholesale butter prices at Chicago have been at the CCC purchase price of $661 / 2$ cents per pound since early December.

## REVIEW AND OUTLOOK

## SOYBEANS

Crushings Slightly Ahead<br>of 1965/66; Narrow Margins<br>Restrain Crush Rate

Soybean crushings during SeptemberMay 1966/67, totaled 413 million bushels-about 3 million more than the year before (table 3). The relatively high price of soybeans, compared with product values, has reduced processing margins (the 9 -month average of spot prices was 16 cents per bushel, compared with the relatively wide margin of 30 cents a year earlier) and thereby restrained the crush. The industry has operated at about 80 percent of its estimated crushing capacity. The soybean crushing rate during JuneAugust is expected to pick up from year
earlier levels, as total requirements for soybean oil and meal increase and supplie: of competitive fats and oils and oilseed meals are seasonally reduced. Accordingly crushings for the entire 1966/67 marketing year may total around 550 million busk els, compared with 538 million in 1965/66.

Soybeans inspected for export through June 23 totaled 222 million bushels, approximately 2 million less than a year ago (table 3). Israel, and Western Europe--particularly Netherlands and Spain--have taken more U.S. soybeans so far this year than last, but such major countries as Japan and Canada have taken far less. High soybean prices during the surmer and fall of 1966 have held down

Table 2.--Soybeans: Supply and disposition, acreage and price, 1964-67

exports this year. Also, increased competition from relatively lower-priced fish meals (mainly from Peru) and foreign oils (Russian sunflower oil particularly) have reduced demand for soybeans and meal. Also, a lower level of economic activity and the relatively mild winter in Europe have been factors. U.S. soybean exports during July-August probably will average slightly larger than last year as availabilities will be larger, and prices more favorable. The rate during the closing weeks of the marketing year will also be affected by prospects for 1967-crop soybeans and new crop price levels. Soybean exports for the entire $1966 / 67$ marketing year may total 250-260 million bushels, compared with 251 million the year before.

Farm Prices Hit Seasonal
Peak Early in Year
Monthly average prices received by farmers for 1966 -crop soybeans drifted from $\$ 2.82$ per bushel last December to $\$ 2.69$ in May. Historically, soybean prices usually reach a seasonal peak in the spring months. But larger supplies and lagging demand depressed prices, although the CCC reseal program has helped to maintain soybean prices this year. The season average price (weighted by marketings) received by farmers for 1966-crop soybeans is estimated at $\$ 2.77$ per bushel, compared with $\$ 2.54$ for the 1965 crop. Prices are expected to start adjusting to new crop developments and economic conditions during the growing season this summer.

Farmers have placed record quantities of soybeans under support this year. Through May 31, about 150 million bushels of 1966-crop soybeans were under price support loans, compared with 87 million a year ago. Repayments of 1966 -crop loans through May totaled 55 million bushels, leaving a net loan entry of 94 million bushels. Loans mature July 31, 1967, and CCC takeover (including soybeans resealed) of 1966 -crop soybeans likely will be sizeable. The previous record CCC acquisition was from the 1958 soybean crop--85 million bushels, including 13 million reseal.

Under the sales policy in effect through August 31, 1968, any soybeans acquired by CCC will be sold at 105 percent of support plus carrying charges, or at the market price--whichever is higher. Carrying charges will be added in 9 monthly increments. The minimum CCC sale price for soybeans in August 1967 will average $\$ 2.86$ per bushel for No. 1 grade, or the market price if higher. On September 1 , 1967, the beginning of the new marketing year for soybeans, the national average minimum will drop to $\$ 2.725$, or will be at market price if higher. This national average minimum price will increase at the rate of 1.5 cents per month for No. 1 grade soybeans. (See April 1967 Fats and Oils Situation, page 9 for schedule of monthly CCC sale prices).

1967-68 Reseal Rates Amnounced;
Reseal in Warehouse Possible
for 1967 Crop Soybeans
Soybeans under price support loan in on-farm storage (about 51 million bushels on May 31) are eligible for loan extensions (reseal) before the loans mature on July 31, 1967. On May 22, 1967, USDA announced that the monthly reseal rate for on-farm storage of soybeans will be 1.095 cents per bushel for 1967/68. This is an annual rate of 13.14 cents per bushel.

On April 25, 1967, USDA announced the standby authority (to be used if needed) for extension of the maturity date for price-support loans on 1967 -crop grains and soybeans stored in commercial warehouses.

Action to extend the maturity date for crop loans normally is announced when supply, needs, and other factors are better known. No decisions will be made with respect to the actual use of reseal for any 1967 crop until early next year.

The warehouse loan extension would continue farmers' control over these commodities during the extended period, enabling them to take advantage of sales opportunities and to keep the commodities in producing areas. Storage after the

Table 3.--Soybeans: Monthly crushings and exports, year beginning September, 1964-66

initial loan maturity at government expense would eliminate any out-of-pocket costs for the longer holding period. It would enable farmers to participate in reseal in areas where farm storage is not practical because of the hazards of climate and insects. This action would also extend the benefits of the reseal program to tenants and others on farms without adequate farm storage.

## SOYBEAN OIL

Domestic Use Ahead of 1965/66, But Margin Narrows

The $1966 / 67$ supply of soybean oil is estimated at 6.3 billion pounds compared with 6.1 billion in 1965/66. Domestic use is placed around 4.7 billion pounds and exports about 1.2 billion. This would leave carryover stocks on October 1, 1967, around 0.4 billion pounds compared with 0.5 billion the same date in 1966.

Domestic disappearance of soybean oil during October-April $1966 / 67$ totaled 2,817 million pounds compared with 2,758 million a year earlier (table 4). During October-December the monthly disappearance rate was sharply ahead of last year's, but in recent months the rate of gain has dropped behind. Part of this cutback may be due to increased usage of other fats and oils. During october-April 1966/67, the combined increase over last year in domestic use of peanut oil, edible tallow, palm kernel oil, and palm oil was about 100 million pounds. Domestic use of lard during the same period was up about 75 million pounds, with most of the increase in shortening manufacture. Less soybean oil has been used in shortening this year, reflecting increased competition from lower-priced lard, edible tallow, and imported palm oils. Both lard and soybean oil prices are lower this year than last, but lard has shown the sharpest drop.

Exports of soybean oil during October-May $1966 / 67$ totaled 646 million pounds, compared with 591 million a year ago and 892 million in 1964/65. Berring extended shipping delays related to the closing of the Suez Canal, exports during

June-September 1967 may exceed last year's 332 million pounds by more than 50 percent, when P.I. 480 shipments pick up sharply. Dollar exports are down sharply this marketing year because of increased competition from Russian and East European sunflower oil.

A relatively new development this year is the export of edible oils under the CCC Export Credit Sales Program! a comercial dollar sales program). So far this year, about 44 million pounds have been shipped compared to only 21 million pounds for all of 1965/66, the first year of program shipments.

Oil Stocks Rise Moderately;
Prices Continue Below Last Year
Stocks of soybean oil (crude and refined) have increased modestly from 462 million pounds on October 1,1966 , to 601 miliion on May 1, 1967. Stocks on May I last year were 522 million pounds. Soybean oil stocks usually increase sharply during the heavy crushing period in the first part of the marketing year. Soybean oil stocks probably have passed their seasonal high and likely will decline over the rest of the marketing year. Soybean oil production during June-September is expected to be slightly higher than last year but total requirements will be greater. However, year end tightness of soybean oil supplies, such as occurred in September 1965, is not in prospect because of the plentiful supply of soybeans available for crushing this year.

[^1]Table 4.--Soybean oil: Monthly supply and disposition, 1965-1966

| Month | $: 1965-66$ |  |  |  |  |  | 1966-67 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Supply |  |  | Disposition |  |  | Supply |  |  | Disposition |  |  |
|  | Stocks, first .of month | Pro:duction | :Total : supply | Domestic <br> use | Exports and shipments | Total tion | Stocks Pirst of month | Pro:ductio | :Total <br> : supply | : Domestic:: use $: ~$ | Exports and <br> shipments | Total$\vdots$$:$disposi- <br> tion |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Mil. | MiI. | Mil. | Mi1. | Mil. | Mil. | Mil. | Mil. | Mil. | Mil. | Mil. | Mil. |
|  | 1b. | 1 lb . | 1 lb . | 1b. | 1 lb . | lb. | 1 b . | 1b. | 1 l . | 1 b . | 1 l . | Ib. |
| October | 297 | 475 | 772 | 360 | 39 | 399 | 462 | 482 | 944 | 451 | 35 | 486 |
| November | 373 | 510 | 883 | 440 | 42 | 482 | 458 | 522 | 980 | 424 | 68 | 492 |
| December | 401 | 520 | 921 | 357 | 189 | 546 | 488 | 513 | 1,001 | 376 | 114 | 490 |
| January | 375 | 533 | 908 | 430 | 64 | 494 | 511 | 529 | 1,040 | 431 | 43 | 474 |
| February | 415 | 478 | 893 | 378 | 71 | 449 | 566 | 469 | 1,035 | 367 | 86 | 453 |
| March | 444 | 526 | 970 | 412 | 72 | 484 | 582 | 497 | 1,079 | 401 | 142 | 543 |
| April | 486 | 468 | 954 | 381 | 51 | 432 | 536 | 503 | 1,039 | 368 | 70 | 438 |
| May | 522 | 538 | 1,060 | 399 | 78 | 477 | 601 | 510 | 1,111 |  | 104 |  |
| June | 582 | 481 | 1,063 | 394 | 79 | 473 |  |  |  |  |  |  |
| July | 590 | 452 | 1,042 | 378 | 66 | 444 |  |  |  |  |  |  |
| August | 598 | 437 | 1,035 | 419 | 105 | 524 |  |  |  |  |  |  |
| September | 511 | 382 | 893 | 341 | 90 | 431 |  |  |  |  |  |  |
| Total | 297 | 5,800 | 6,097 | 4,688 | 947 | 5,635 | 462 1 | 1/5,850 | 1/6,312 | $1 / 4,7501$ | 1/1,200 1/ | 1/5,950 |
|  | : |  |  |  |  | Cumula | tive data |  |  |  |  |  |
| October | : 297 | 475 | 772 | 360 | 39 | 399 | 462 | 482 | 944 | 451 | 35 | 486 |
| November | : | 985 | 1,282 | 800 | 81 | 881 |  | 1,004 | 1,466 | 875 | 103 | 978 |
| December | : | 1,505 | 1,802 | 1,157 | 270 | 1,427 |  | 1,516 | 1,978 | 1,251 | 217 | 1,468 |
| January | : | 2,038 | 2,335 | 1,587 | 334 | 1,921 |  | 2,045 | 2,507 | 1,682 | 260 | 1, 942 |
| February | : | 2,516 | 2,813 | 1,965 | 405 | 2,370 |  | 2,514 | 2,976 | 2,049 | 346 | 2,395 |
| March | : | 3,042 | 3,339 | 2,377 | 477 | 2,854 |  | 3,011 | 3,473 | 2,450 | 488 | 2,938 |
| April | : | 3,510 | 3,807 | 2,758 | 528 | 3,286 |  | 3,514 | 3,976 | 2,817 | 558 | 3,375 |
| May | : | 4,048 | 4,345 | 3,157 | 606 | 3,763 |  | 4,024 | 4,486 |  | 661 |  |
| June | : | 4,529 | 4,826 | 3,551 | 685 | 4,236 |  |  |  |  |  |  |
| July | : | 4,981 | 5,278 | 3,929 | 751 | 4,680 |  |  |  |  |  |  |
| August | : | 5,418 | 5,715 | 4,348 | 857 | 5,204 |  |  |  |  |  |  |
| September | : | 5,800 | 6,097 | 4,688 | 947 | 5,635 |  |  |  |  |  |  |

level of 12.5 cents per pound. Last year bean oil prices increased from 11.2 cents per pound in June 1966 to 14.1 cents in August 1966. The 1966 price rise reflected poor soybean crop prospects, the seasonal decline in crushings (oil output), increased domestic oil use, and relatively low oil and soybean inventories.

## SOYBEAN MEAL

Domestic Use Up 3 percent;
Exports Off 7 Percent
Soybean meal production for 1966/67 is estimated at 13.1 million tons, compared with 12.9 million for $1965 / 66$. Domestic use is placed at 10.5 million tons, and exports (including shipments) at 2.5 million tons.

Domestic disappearance of soybean meal during October-May totaled 7.1 million tons--about 3 percent more than the year before (table 5). Consumption in recent months has declined from the heavy feeding rates last fall and winter. Domestic use during June-September may not be much different than last year. The main factors boosting domestic use this year are the sharp reduction in cottonseed meal supplies, and increases in poultry, hogs, and cattle on feed. Factors restraining oilseed meal usage this year have been the less favorable livestockfeed price ratios and increased imports of competitive fish meal. U.S. imports of fish meal (mainly from Peru and Chile) totaled 312,867 tons during October-April 1966/67--up 129 percent from the 136,780 tons the previous year.

Soybean meal exports during October-May $1966 / 67$ totaled 1.9 million tons--7 percent less than last year. Most of the drop has been in exports to Western Europe, where U.S. meal has also faced increased competition from fish meal. Western Europe usually accounts for about three-fourths of our total soybean meal exports. During October-April 1966/67, exports of soybean ntzal to Western Europe were 1.2 million tons, compared with 1.4 million a year ago. This past winter in

Europe was fairly mild, and U.S. soybean meal prices have averaged higher this year than last and relatively higher than fish meal protein. For the entire year, total U.S. exports of soybean meal probably will fall slightly below the 2.6 million tons of last year, but will still be the second largest of record.

Soybean meal prices in the first half of the current marketing year were considerably higher than those in 1965766 but in the second half they are likely to be sharply lower than last year. Soybean meal prices ( 44 percent protein, bulk, Decatur) declined from $\$ 82$ per ton in October to $\$ 73$ in May 1967, averaging $\$ 79$ for the entire period, compared with $\$ 75$ a year earlier. Prices jumped to $\$ 80$ in early June during the Mid-East war, and were still relatively high later in the month. Prices during July-September 1967 probably will average sharply below the $\$ 95$ per ton in those 3 months of 1966. Last year, prices rose to $\$ 98$ per ton in August, when soybean meal production dropped more than seasonally and meal demand continued strong.

## COTTONSEED

## Crushing Season Nears Completion;

 Oil Stocks Are Above Last YearCottonseed crushers purchased
3, 748,000 tons during the $1966 / 67$ season, or about 95 percent of the 1966 cottonseed crop. This volume represents a drop of 36 percent from the 5,836,000 tons in 1965. Heavy participation by cotton growers in the 35 percent option of the 1966 U.pland Cotton Program reduced plantings sharply in 1966.

Crushings for the 1966/67 marketing year ending July 31 are estimated at 3,750,000 tons--about 35 percent less than last year (table 6). A crush this size will produce 1,250 million pounds of cottonseed oil and 1,775,000 tons of cottonseed meal. Last season, oil production totaled 1,896 million pounds and meal production 2,695,000 tons. Many oil mills had the shortest crushing season in years because of the reduced supply of cottonseed.

Table 5.--Soybean meal: Monthly supply and disposition, 1965-66 and 1966-67


The total supply of cottonseed oil for the marketing year ending July 31, 1967, is estimated at 1.5 billion pounds-about a third below 1965/66. Domestic use of cottonseed oil is placed at about 1.1 billion pounds and exports at 0.1 billion pounds. This would leave carryover stocks on August 1, 1967, close to last year's 0.3 billion pounds.

During August-April 1966/67, domestic disappearance of cottonseed oil was 902 million pounds, compared with 1,348 million a year earlier. Usage of cottonseed oil in cooking and salad oils, shortening, and margarine is down sharply from a year ago, due to smaller supplies and relatively high prices. Increased domestic production and use of peanut oil and other fats and oils is providing more competition for use in manufactured oil products.

Exports of cottonseed oil during August-May 1966/67 totaled 72 million pounds, compared with 326 million for the year earlier. Exports to Western Europe, Canada, Morocco, Pakistan, Iran and Japan were off sharply. This reflects increased competition from foreign oils, reduced availability, and comparatively high prices of U.S. cottonseed oil.

Oil Prices Steady This Spring;
Stocks Are Higher Than Year Ago
Cottonseed oil prices (crude, Valley) declined from 16.6 cents in August 1966 to 12.0 cents in January 1967 and held steady at this level through late-June. The August-June 1966/67 average was 13.0 cents per pound, compared with 12.6 cents the previous year. Higher prices this marketing year have restricted the total disappearance of cottonseed oil, with a resultant increase in stock levels. Stocks of cottonseed oil (crude and refined) on May 1, 1967, totaled 479 million pounds--about 17 percent above this date last year. Cottonseed oil stocks are past their seasonal peak of 514 million pounds on April 1. Cottonseed oil prices probably will remain firm this summer, at a level sharply
below the July-September 1966 average of 16 cents per pound.

## COTTONSEED MEAL

Production Off A Third; Prices Above Yuear Ago

Cottonseed meal production during August-May 1966/67 was 1,690,000 tons, compared with $2,513,100$ tons a year earlier. This has resulted in a similar reduction in the quantity available for feeding. Cottonseed meal feeding for the year likely will total around 1.8 million tons--down sharply from the 2.7 million in 1965/66. With smaller supplies and higher prices, exports during AugustMay $1966 / 67$ were only 8,200 tons, compared with 108,500 tons a year ago. Although relatively small, cottonseed meal imports of 47,800 tons during AugustApril were 58 percent greater than the 30,200 tons imported in the same months of 1965/66.

During August-May 1966/67, cottonseed meal prices ( 41 percent protein, bulk, Memphis) averaged $\$ 79$ per ton, compared with $\$ 66$ a year ago. However, prices declined from $\$ 88$ per ton in August 1966 to $\$ 75$ in March-May 1967. With ample supplies of oilseed meals in prospect for this summer, prices probably will be more stable than last year when they were moving upward because of reduced availabilities.

## BUTTER

Production Up 10 Percent; Stocks Rise Sharply

Creamery butter production during October-May $1966 / 67$ totaled an estimated 838 million pounds, up 10 percent from the 761 million in the comparable months a. year earlier, when output was record low. The gain reflects slightly larger farm marketings of milk, increased imports, and lower use of milkfat in products other than butter. Cow numbers are continuing downward, but so far the decline has been offset by an increase in milk output per cow. Butter production during June-September is expected to continue

Table 6 ---Cottonseed, cottonseed oil, and meal: Supply and disposition, crop years, 1958-66

| Item | Year beginning August |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | : 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 1/ |
| COTTONSEED | $: 1,000$ tons 1,000 tons 1,000 tons 1,000 tons $\frac{\text { Cottonseed }}{1,000 \text { tons }} 1,000$ tons 1,000 tons 1,000 tons 1,000 tons |  |  |  |  |  |  |  |  |
| Supply |  |  |  |  |  |  |  |  |  |
| Stocks, August 1 | 175 | 100 | 105 | 188 | 280 | 234 | 168 | 156 | 204 |
| Production | 4,798 | 5,991 | 5,886 | 5,978 | 6,139 | 6,192 | 6,237 | 6,087 | 3,960 |
| Total supply | 4,973 | 6,091 | 5,991 | 6,166 | 6,419 | 6,426 | 6,405 | 6,243 | 4.164 |
| Disposition |  |  |  |  |  |  |  |  |  |
| Seed, feed and restdual | 430 | 487 | 446 | 340 | 342 | 363 | 316 | 296 | 299 |
| August-May: | : 1 |  |  |  |  |  |  |  |  |
| Crushings | : 4,225 | 5,172 | 5,033 | 5,140 | 5,504 | 5,471 | 5,459 | 5,350 | 3,557 |
| Exports | : 4 | 8 | 4 | 5 | 10 | 6 | 5 | 8 | 3 |
| Supply remairing June l | 314 | 424 | 508 | 681 | 563 | 586 | 625 | 589 | 305 |
| June-July: |  |  |  |  |  |  |  |  |  |
| Crushinge | 214 | 319 | 319 | 399 | 329 | 416 | 467 | 384 | 193 |
| Exparts | 2/ | 2/ | 1 | 2 | 2/ | 2 | 2 | 1 | 2 |
| Season totals : $\quad$ : |  |  |  |  |  |  |  |  |  |
| Crushings | : 4,439 | 5,491 | 5,352 | 5,539 | 5,833 | 5,887 | 5,926 |  | 3,750 |
| ExporteStocks, July 32 | : 4 | 8 |  | 7 | 10 | $8$ | 7 | $9$ | 3,750 |
|  | 100 | 105 | 188 | 280 | 234 | 168 | 156 | 204 | 110 |
|  | Dol. | D01. | Do1. | DO1. | Do1. | Dol. | Dol. | Do1. | Dol. |
|  | : |  |  |  |  |  |  |  |  |
| Price per ton |  |  |  |  |  |  |  |  |  |
| Support 3/ | : 41.00 | 34.00 | 34.00 | 45.00 | 44.00 | 44.00 | 44.00 | 43.00 | 48.00 |
| Received by farmers | : 43.80 | 38.80 | 42.60 | 51.10 | 47.90 | 50.70 | 47.10 | 46.70 | 65.90 |
| COTTONSEED OIL | Cottonseed oll |  |  |  |  |  |  |  |  |
|  | M 41.1 l | M11. lb . | 1. 1b. | Kill. l . ${ }^{\text {b }}$ | Kil. Ib | M1. Ib . | MI. 1b | M1. 1 l . | M11. Ib |
| Supply |  |  |  |  |  |  |  |  |  |
| Stocks, Auguet 1 | 168 | 212 | 287 | 250 | 324 | 514 | 624 | 421 | 301 |
| ProductionTotal supply | : 1,518 | 1,861 | 1,808 | 1,865 | 1,942 | 1,981 | 1,999 | 1,896 | 1,250 |
|  | 1,686 | 2,073 | 2,095 | 2,115 | 2,266 | 2,495 | 2,624 | 2,317 | 1,551 |
| Disposition |  |  |  |  |  |  |  |  |  |
| August-April: | : |  |  |  |  |  |  |  |  |
| Domestic disappearance | : 965 | 916 | 1,140 | 1,038 | 1,099 | 1,057 | 1,182 | 1,348 | 902 |
| Exports $4 /$ | 52 | 457 | 313 | 327 | 277 | 359 | 558 | 314 | 70 |
| Stocks, May 1 | 414 | 448 | 433 | 513 | 675 | 812 | 583 | 409 | 479 |
| April-July: |  |  |  |  |  |  |  |  |  |
| Damestic disappearance | : 167 | 347 | 315 | 283 | 280 | 330 | 321 | 320 | 248 |
| Exports 4/ | 290 | 65 | 77 | 143 | 97 | 124 | 143 | 34 | 30 |
| Season totals |  |  |  |  |  |  |  |  |  |
| Domestic disappearance | : 1,132 | 1,263 | 1,455 | 1,321 | 1,379 | 1,387 | 1,503 | 1,668 | 1,150 |
| Exporte 4/ | - $\quad 342$ | 522 | 390 | + 470 | 374 | 483 | 701 | 1,348 | , 100 |
| Totel distribution | 1,474 | 1,787 | 1,845 | 1,791 | 1,754 | 1,870 | 2,204 | 2,016 | 1,250 |
| Stocks, July 31 | 212 | 287 | 250 | 324 | 514 | 624 | 421 | 301 | 301 |
|  | Cents | Cents | Cents | Cents | Cents | Cents | Cents | Cents | Cents |
| Price per pound |  |  |  |  |  |  |  |  |  |
| Crude, tank cars, Palley | 31.4 | 10.0 | 21.6 | 12.4 | 10.4 | 9.9 | 11.5 | 12.8 | 13.0 |
| COTTONSEED MEAL | Cottonseed meal |  |  |  |  |  |  |  |  |
|  | : 1,000 tons | 1,000 ton | 00 tons | ,000 to | 000 to | 1,000 ton | ,000 to | 1,000 to | 1,000 ton |
|  |  |  |  |  |  |  |  |  |  |
| Stocks, August $15 /$ | : 112 | 116 | 190 | 143 | 134 | 190 | 249 | 168 | 134 |
| Production Tmports | $: 2,061$ | 2,547 | 2,504 | 2,506 | 2,734 | 2,790 | 2,770 | 2,695 | 1,775 |
| Imports Total supply | $: \quad 150$ | 2, 326 | 43 2,738 | 2,721 | r 45 | 33 3,013 | 2,74 3.033 | 2, 43 | - 75 |
| Total supply | 2,323 | 2,696 | 2,738 |  | 2,913 | 3,013 | 3.033 | 2,900 | 1,984 |
| Disposition |  |  |  |  |  |  |  |  |  |
| August-April: |  |  |  |  |  |  |  |  |  |
| Feed 6/ | 1,942 | 2,089 | 2,171 | 2,231 | 2,307 | 2,306 | 2,300 | 2,257 | 1,633 |
| Exports |  | 145 | 52 | 7 | 92 | 39 | 96 | 108 | - 8 |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Feed 6/ | : 260 | 270 | 427 | 349 | 318 | 403 | 419 | 406 | 217 |
| Exports | 2/ | 2 | 5 | $2]$ | 5 | 16 | 49 | 1 | --- |
| Season totals: |  |  |  |  |  |  |  |  |  |
| Feed 67 | : 2,202 | 2,359 | 2,538 | 2,580 | 2,625 | 2,709 | 2,720 | 2,663 | 1,850 |
| Exports | : 6 | 147 | 57 | 7 | 97 | - 55 | 145 | 109 | 1,8 8 |
| Total distribution | 2,208 | 2,506 | 2,595 | 2,587 | 2,722 | 2,764 | 2,865 | 2,772 | 1.858 |
| Stocke, JuIy 31 5/ | II6 | 190 | 143 | 134 | 190 | 249 | 168 | 134 | 126 |
|  | : Dol. | Dol. | Dol. | Dol. | Dol. | Dol. | Dol. | Dol. | Do1. |
| $\begin{aligned} & \text { Price per ton } \\ & \text { Bulk, Nemphis } \end{aligned}$ | $: 60.55$ | 55.65 | 55.10 | 59.25 | 65.60 | 63.35 | 59.90 | 68.80 | 78.00 |

 Basic Grade. 4/Beginning 1960 includes estimates of foreign donations. 5/ Stocks at processors' plants. 6/ Includes small quantities of cottonseed meal used for fertilizer on farms of cotton growers, estimated at 30,000 tons annualiy.
above the relatively low levels of a year earlier. Accordingly, the $1966 / 67$ marketing year total may be around 1.2 billion pounds--about a tenth above 1965/66 (table 7).

Domestic disappearance of creamery butter is down again this year. During October-April 1966/67, it totaled 671 million pounds--about 11 percent less than the 756 million of a year ago. For the entire 1966/67 marketing year, domestic disappearance is estimated at around l.1 billion pounds compared with 1.2 billion in 1965/66. Lower butter usage this year than last is attributed mainly to higher butter prices, and lower CCC donations for domestic programs than a year earlier. CCC donations of butter for use in domestic programs are expected to increase from year earlier levels during the last half of 1967. Butter stocks have risen each month--from 32 million on January 1, 1967, to 153 million on June 1, 1967. Most of the rise is in Government holdings which have grown from 11 million pounds on January 1 to 108 million on June 1. Stocks of butter June 1 a year ago were only 53 million pounds. Some further stock accumulation is likely this summer. Carryover stocks of butter next October 1 likely will be double or more the relatively low level of 68 million pounds on October 1, 1966.

Wholesale butter prices (Grade A, 92 score, Chicago) during October-May $1966 / 67$ averaged about $661 / 2$ cents per pound compared with 63 cents the year before. The support price until March 31, 1968, will be 68 cents per pound (81 percent of the parity price of 84.0 cents). This is the same support price that went into effect June 30, 1966. Since early December, wholesale butter prices at Chicago have been at the CCC support purchase price of 66.5 cents per pound. Butter prices this summer are expected to continue near the CCC support purchase level. CCC purchases of butter during January-Nay 1967 were 165 million pounds compared with only 9 million pounds a year ago.

## LARD

Output 10 Percent Ahead of 1965/66; Prices Continue Lower

Commercial lard production during October-May 1966/67 is estimated at 1,375 million pounds-about 10 percent more than last year. Hog slaughter was up about 17 percent during this period, but lard yield per hog slaughtered was down over a pound. Hog slaughter this summer is expected to continue above 1966 levels, but by a smaller margin than during the winter and spring. Lard output (including farm) for the entire 1966/67 marketing year is estimated at around 2,050 million pounds compared with 1,900 million the previous year.

Domestic use of lard during October-April $1966 / 67$ was 1,049 million pounds, compared with 983 million a year earlier. Direct use of lard was 8 percent below last year, continuing its long-run downtrend, but this was more than offset by a sharp increase of lard used in manufactured products. Lard used in shortening totaled 326 million pounds during October-April--up 26 percent from last year. Use of lard in margarine was 78 million pounds-an increase of 160 percent. Lard prices this year have been substantially below those of competitive edible vegetable oils. Total domestic disappearance of lard for the entire 1966/67 season is estimated at around 1,775 million pounds--nearly a tenth above 1965/66.

Lard exports and shipments totaled 165 mililion pounds during October-May, compared with 150 million the same 8 months in 1965/66. The increase was mainly to the United Kingdom which took 82 million pounds this year, compared with 69 million a year ago. Lard exports are likely to continue to show a slight increase over yearearlier levels, as U.S. prices remain more competitive with Continental lard. Total lard exports and shipments for the entire 1966/67 marketing year are estimated around 250 million pounds, compared with 218 million a year earlier.

Table 7.-Fpod fats and oils: Supply and disposition, 1957-66

$1 /$ Preliminary. 2/ Includes estimates of butter oil, ghee, and canned butter. $3 /$ Includes beef fats, peanut, corn, olive, safflower and sesame oils. 4/ Shortening, margarine, salad and cooking oils. 5/ Includes oil equivalent of oilseeds exported. 6/Includes shipments. Butter, cottonseed oil and adjustments includes quantities from CCC stocks that are not reported in Census data. I/ Includes estimates of foreign donations of fats and oils, not reported by census. $8 /$ Includes exports of processed food oils not classified by kind, shortening and other secondary fats. 9/ Adjusted for estimated changes in stocks of farm lard. 10/ Adjusted to reflect changes in stocks of finished products. 11 / Excludes food fats used for non-food purposes, but includes non-food oils (mostly coconut and palm kernel) used in food. 12/ Adjusted for trade and changes in stocks of shortening, margarine and balad and cooking oils.

Lard prices (tanks, loose, Chicago) dropped from 10.7 cents per pound in October 1966 to under 8 cents in June 1967, averaging about 9 cents for the period, compared with 12.0 cents the same months in 1965/66. The decline reflects the increased lard production this year and higher stocks, along with the general price decline in food fats and oils. Lard stocks increased steadily from 64 million pounds on October 1 to 135 million on May 1, 1967. On May 1 last year, lard stocks were 94 million pounds. Lard prices probably will continue below last year, averaging well under the 11.7 cents in June-September 1966.

## EDIBLETALLOW

Production Up 11 Percent; Prices Drop As Stocks Rise

Edible tallow production during October-April 1966/67 was a record 358 million pounds--11 percent more than last year. Output for the entire marketing year probably will exceed 600 million pounds, compared with 551 million in 1965/66.

The production of edible tallow has more than doubled during the past decade, rising from 259 million pounds in 1956/57 to 551 million in 1965/66. This reflects both an increase in cattle slaughter and higher yields of edible fat per head. The volume of cattle slaughter limits the amount of beef fat available for rendering. By law, raw fat for rendering into edible tallow must come from federally inspected cattle, and must be handled and processed under Government regulations.

The shortening industry utilizes over 85 percent of U.S. produced edible tallow. Improved technology in the use of edible tallow as a shortening ingredient and increased consumer acceptance of meat fat shortening have contributed to increased use.

Domestic disappearance of edible tallow during October-April 1966/67 totaled 320 million pounds--about 7 percent more than a year earlier. As output was greater than use during this period,
stocks rose from 40 million pounds on October 1, 1966, to 76 million on May 1, 1967. Domestic use for the entire 1966/67 marketing year is estimated at around 560 million pounds, compared with 530 million a year ago.

Prices of edible tallow (loose, Chicago) declined from 10.6 cents per pound in October 1966 to under 7 cents in June 1967, averaging 8.8 cents for the entire period compared with 11.9 cents the previous year. Edible tallow competes directly with lard for use in manufactured food products. In recent years, the price of edible tallow has closely followed lard prices (the predominant edible animal fat), with virtually no difference in their average price levels.

## CORN OIL

Output Off Slightly; Prices Down Sharply from 1966 High

Production of corn oil for the 1966/67 marketing year that started October 1 is estimated at around $440 \mathrm{mil}-$ lion pounds, compared with 450 million the previous year. Imports for the year likely will be considerably below the 10 million pounds brought in during 1965/66. Corn oil output, mainly a byproduct of the corn refining (or wet milling) industry, is determined by the demand for primary corn-milled products, such as corn starch, rather than the demand for corn oil. The volume of corn ground by wet millers during October-April 1966/67 totaled 115.9 million bushels compared with 117.3 million a year earlier. Total corn oil production during this same period was 256 million pounds, compared with 261 million in 1965/66 (see table 20).

Domestic use of corn oil continues mainly as a salad and cooking oil. But since 1958 , use in margarine has expanded sharply and now accounts for over a third of the total domestic use of corn oil. During October-April 1966/67, domestic use of corn oil was 256 million pounds compared with 258 million the year before. Cooking and salad oil utilized 50 percent of the total and margarine 41 percent. Corn oil exports during October-May $1966 / 67$ were 9 million pounds, compared with none the year before.

Corn oil prices (crude, Decatur) declined rather steadily from the highlevel of 20.7 cents per pound in February 1966 to 12 cents in June 1967. The sharp decline is attributed to (1) increased corn oil imports, (2) a buildup in corn oil stocks, (3) some resistance to high prices by domestic users of corn oil, and (4) the general drop in food fats and oils prices. Corn oil prices during October-June 1966/67 averaged 13 cents per pound compared with 17 cents the year before.

Corn oil stocks (crude and refined) rose from 26 million on January 1, 1966, to 63 million on August 1, 1966. Since then, stocks have generally declined to 49 million pounds on May 1, 1967, compared with 40 million the same date last year.

## PEANUTS

Peanut Crushings Higher;
1967 Price Support Unchanged
The 1966 peanut crop totaled a record 2,411 million pounds (net weight, farmers' stock basis)--about 1 percent above 1965. As in recent years, roughly one-fifth of the 1966 crop was placed under the support loan program, and most of these peanuts have been acquired by CCC. In addition, another 178 million pounds of shelled peanuts have been acquired by the CCC under the sheller purchase program.

During August-May 1966/67, reported use of shelled peanuts in primary edible products totaled 792 million pounds-about the same as a year ago. A drop in peanut butter production kept total usage at last year's rate, since use in most of the major products is up. Civilian consumption of shelled peanuts for all of $1966 / 67$ is expected to average around 5.6 pounds per person--about the same as a year ago.

Shelled peanuts crushed for oil and meal totaled 335 million pounds during August-May $1966 / 67--9$ percent above the year earlier period. Crushings for the entire year are expected to total around

400 million pounds, compared with 374 million in 1965/66.

On May 11, 1967, USDA announced that 1967 -crop peanuts will be supported at a minimum national average loan rate of $\$ 227$ per ton ( 11.35 cents per pound)-the same as in 1966. This minimum national average price will not be decreased; however, it may be increased if a combination of the parity price and the supply percentage on August 1, 1967 (beginning of the marketing year), results in a higher legal minimum support price. Support by types is as follows: Virginia, \$239.86; Runner; \$214.24; Southeast Spanish, \$231.98; Southwest Spanish, $\$ 222.70$; and Valencia (suitable for cleaning and roasting), \$239.86. Price support will be available through loans and purchases. Peanut acreage allotments and marketing quotas have been in effect since 1949. The marketing agreement program to regulate the quality of peanuts marketed by handlers for edible use also is being continued in 1967. This program was started with 1965 -crop peanuts.

## FLAXSEED

Flaxseed and Linseed Meal
Prices Up From Year Ago
Flaxseed prices (No. 1, Minneapolis) during the $1966 / 67$ marketing year ended June 30 averaged $\$ 3.17$ per bushel--10 cents above $1965 / 66$ and slightly above the 1966 terminal (Minneapolis) support rate of $\$ 3.15$ per bushel. Linseed oil prices (raw, tanks, Minneapolis) averaged 12.8 cents per pound--about the same as in 1965/66. Linseed meal ( 34 percent protein, Minneapolis) averaged $\$ 76$ per ton--about $\$ 6$ more than in 1965/66.

Flaxseed supplies for the $1966 / 67$ marketing year just ended totaled 39 million bushels- -7 million below $1965 / 66$. Crushings are placed at 19-20 million bushels (June estimated), compared with 22.7 million the year before. Exports were placed at 7 million bushels-around 2 million above the year previous. Another 2 million bushels were used for seeding the 1967 crop. Based on these estimates, carryover stocks on July 1, 1967, may be
around 10 million bushels--down from the 15 million of July 1, 1966. In addition, CCC still is holding, on a comingled basis, 80 million pounds of linseed oil (the equivalent of 4 million bushels of flaxseed) acquired through a toll crush program for 1963-crop flaxseed.

During 1966/67, farmers placed 1.9 million bushels of flaxseed under the price support program, compared with 11.1 million the year before. Of this total, CCC may have acquired around 1 million bushels, compared with 9.5 million in 1965/66.

Domestic disappearance of linseed oil in $1966 / 67$ is estimated at around 325 million pounds, compared with 336 million in 1965/66. Linseed ofl exports for the marketing year are estimated at around 115 million pounds, compared with 84 million in 1965/66.

During 1966/67, about 7 million bushels of flaxseed and 88 million pounds of linseed oil were registered for export under the Flaxseed and Linseed Oil Export Program. Under this program, CCC originally made export subsidy payments in kind and more recently in cash. The export subsidy (the difference between U.S. and world prices) averaged around 35 cents per bushel on flaxseed and 2 cents per pound on linseed oil. On June 6, 1967, CCC announced that export payment for flaxseed and linseed oil would be suspended until further notice.

The 1967 crop of No. 1 flaxseed will be supported at a national average price of $\$ 2.90$ per bushel, the same as for the past 5 years. As in the past, the program will be carried out through warehouse and farm-stored loans and purchases. Loans will mature on May 31, 1968, in Minnesota, Montana, North Dakota, South Dakota and Wisconsin, and on April 30, 1968, in all other States except Texas, which has a special purchase program. Loans are available up to 30 days prior to the loan maturity dates.

## INEDIBLETALLOW

Disappearance Ahead of Last Year, But Stocks Rise to Record Level

Inedible tallow and grease production during $1966 / 67$ is placed at 4.7 billion pounds--about 7 percent above the 4.4 billion of 1965/66. The increase stems primarily from increased cattle and hog slaughter. Also, cattle are being slaughtered at heavier weights this marketing year.

During 1966/67, domestic disappearance of inedible tallow is expected to total 2.5 billion pounds and exports around 2.2 billion pounds--up 5 and 10 percent, respectively, from a year ago. Lower prices for inedible tallow have stimulated demand, at home and abroad. Nevertheless, on May 1, 1967, inedible tallow stocks totaled 498 million pounds-the highest of record, and one-fifth above the 414 million of May 1, 1966.

During October-April 1966/67, domestic disappearance totaled 1,424 million pounds--6 percent above the 1,341 million pounds for the same period a year ago. Usage in animal feeds, soap, fatty acids, and lubricants was up. Use in animal feeds now accounts for around onethird of the total quantity used domestically; soap, a little over one-fourth; fatty acids, around one-fourth; and the balance, in lubricants and other industrial uses.

Inedible tallow and grease exports (including shipments) during OctoberMay totaled 1,430 million pounds-up 7 percent from the 1,340 million for the comparable period a year ago. About one-fourth of these exports have gone to Japan, our largest single dollar market. Other major countries taking inedible tallow this season are the Netherlands, Egypt, Italy, Spain, and West Germany. Exports under P.L. 480 also are up from last year. During October-May 1966/67, around 26 million pounds were shipped under Title IV.

Of this quantity, 20 million pounds were taken by China (Taiwan) and the balance by Columbia. As of June 1967, about another 220 million pounds remained to be shipped under P.L. 480 programs. In 1965/66 exports under these programs were negligible. Inedible tallow is one of the lowest-priced fats moving in world trade, and the United States accounts for around 70 percent of total world exports.

Inedible tallow prices (prime, c.a.f. delivered, Chicago) declined steadily from 6.5 cents per pound in October 1966 to under 5 cents in June 1967, averaging 5.6 cents for the period. Prices in late June at 4.8 cents were 2.2 cents below June 1966.

## TUNG OIL

Stocks at Post-War High;
CCC Sales Are Small
Tung oil production in 1966/67 is estimated at 25 million pounds, compared with 10 million in 1965/66. Unfavorable weather conditions and labor shortages in the tung belt adversely affected harvesting of the 1966 nut crop, somewhat reducing prospects for tung oil.

During November-ApriI 1966/67, tung oil imports totaled 14 million pounds--the same as a year ago. For the entire 1966/67 marketing year, imports may be dow slightly from the 28 mil lion in 1965/66.

Total $1966 / 67$ U.S. supplies of tung oil (1966 production, stocks, and imports) are placed at 103 million pounds-13 million pounds above 1965/66. Approximately one-half of this total was carryover stocks last November l. Tung oil supplies this year are the largest since $1958 / 59$, when they totaled 107 million pounds. May 1 stocks were 76 million pounds--up nearly 50 percent from last May I to a post-war record peak.

Factory consumption of tung oil during November-April $1966 / 67$ totaled 14 million pounds, compared with 16 million a year ago. For the entire marketing
year, domestic disappearance is placed at 36 million pounds--about the same as in 1965/66.

As of June 1,1967 , around 22 million pounds of 1966 crop tung oil were under the CCC price support program. About 31 million pounds were under extended loan. In addition, CCC as of June 20 also owned about 12 million pounds, making the combined total owned or under loan about 65 million pounds. Loans on 1966-crop tung oil are available through September 30, 1967.

From October 1966 through late June 1967, CCC sold 4.1 million pounds of 1963-crop tung oil (including foots) on competitive bids for unrestricted use. CCC sales prices have generally declined from 18.0 cents per pound to 11.5 cents. The oil is marketed by USDA in cooperation with the National Tung Oil Marketing Cooperative, Inc., Poplarville, Mississippi. Offers of $1,000,000$ pounds are made semimonthly. These sales are setting the market price for tung oil in the United States and reflect the world price situation.

Based on the latest information available, $1966 / 67$ tung oil production in South America is expected to total around 75 million pounds, compared with 30 million in 1965/66. However, production in 1967/68 is expected to be down sharply, especially in Argentina. Informed sources indicate that many trees in that country are infected with the disease "Rosellinia Nocatrix". According to reports, the infection already has taken a heavy toll of trees on some plantations. Around threefifths of total U.S. imports of tung oil come from Argentina.

On June 12, 1967, USDA announced that prices to growers of the 1967 crop of tung nuts will be supported at not less than $\$ 63.34$ per ton ( 67.8 percent of the June 1967 parity price of $\$ 93.40$ per ton), with an equivalent support of 24 cents per pound for tung oil. The 1967 support is the same as last year. The program will be carried out through nonrecourse warehouse storage loans on tung oil to
eligible producers from November 1, 1967, through September 30, 1968. Individual producer loans on tung oil not redeemed by October 31, 1968, will be continued in a pool which will be handled by the National Tung Oil Marketing Cooperative Inc.

## NONFOODFATS

Per Capita Use Up
2 Pounds In 1966
Domestic nonfood uses of fats and oils in calendar 1966 have been
placed at 5.4 billion pounds, up a tenth from 1965 to a new record. On a per capita basis, the nonfood rate was 27.7 pounds compared with 25.4 pounds in 1965. The increase was almost entirely in the "other industrial" products. Soap usage in 1966 was 3.7 pounds per person, the same as in 1965 when it was the lowest of record. The drying oil rate continued steady--at 4.8 pounds-as it had in the past 6 years. (See tables 8 through 13 for 1966 statistics with comparisons).

## REPRINTS ARE AVAIHABLE OF SPECIAL ARTICIES IN THE FATS AND OIIS SITUATION

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Factors Affecting Soybean Oil and Meal Yields, by George W. Kromer. ErS-338, January 1967.
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| Selease on |  |
| $:$ | September 28,1967 . The last issue |
| $:$ | this year is scheduled for release on |
| $:$ |  |

Table 8.--Nonfood products: Fats and o1ls used, by product, total and per person, 1925-66


I/ Fat equivalent of soap used in synthetic rubber is included in "other industrial products". Adjusted for forelgn trade and changes in stocks. 2/ Paints, varnishes, floor coverings, oilcloth, printing inks, core oils, synthetic resins, insulation, linings, packings, coated fabrics, caulking and other protective coatings. 3/ Includes use of fats and oils in chemicals, lubricants and greases, animal feeds; tin and terne plate, pharmaceuticals, leather, candles, synthetic organic detergents, toilet articles, and miscellaneous industriel products. 4/Preliminary.
Computed from unrounded numbers.
Table 9,--Nonfood products: Fats and oils used, by kind, 1925-66

| Year | : | $\begin{gathered} \hline \text { Tnedible } \\ \text { tallow } \\ \text { and } \\ \text { grease } \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Linseed } \\ & \text { oil } \end{aligned}$ | Tall | $\begin{aligned} & \text { Coconut } \\ & \text { oil } \end{aligned}$ | Soybean oil | Fish and marine oil | Castor oil | Tung oil $\qquad$ | Palm <br> oil | Other | Total 1/ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average | : | M11. lb | Mil. 1 l . | Mil. 1 lb . | M17. 1 lb | Mil. 16. | Nil. 2b. | Mil. 1b. | Mil. 1 lb | Mil. 1b | Mil. Ib | Mil. 16. |
| 1925-29 | : | 746 | 752 | --- | 343 | 7 | 80 | 55 | 94 | 146 | 395 | 2,618 |
| 1930-34 | : | 804 | 434 | --- | 364 | 17 | 81 | 45 | 97 | 194 | 385 | 2,421 |
| 1935-39 | : | 949 | 517 | --- | 345 | 43 | 131 | 61 | 118 | 153 | 535 | 2,852 |
| 1940 | : | 1,234 | 589 | --- | 434 | 92 | 216 | 90 | 57 | 121 | 242 | 3,085 |
| 1941 | : | 1,649 | 814 | 41 | 532 | 124 | 216 | 157 | 69 | 185 | 227 | 4,014 |
| 1942 | : | 1,854 | 830 | 57 | 165 | 112 | 172 | 155 | 12 | 95 | 214 | 3,666 |
| 1943 | : | 1,759 | 768 | 119 | 195 | 162 | 195 | 99 | 12 | 64 | 295 | 3,668 |
| 1944 | : | 1,923 | 701 | 154 | 202 | 123 | 299 | 200 | 10 | 62 | 416 | 3,989 |
| 1945 | : | 1,839 | 639 | 190 | 158 | 133 | 266 | 164 | 23 | 72 | 386 | 3,870 |
| 1946 | : | 1,677 | 680 | 196 | 279 | 172 | 146 | 95 | 36 | 51 | 243 | 3,575 |
| 1947 | : | 1,882 | 575 | 177 | 661 | 270 | 168 | 116 | 106 | 43 | 170 | 4,168 |
| 1948 | : | 1,782 | 600 | 214 | 534 | 270 | 110 | 128 | 130 | 48 | 167 | 3,984 |
| 1949 | : | 1,666 | 443 | 186 | 398 | 321 | 142 | 130 | 103 | 42 | 185 | 3,616 |
| 1950 | : | 1,807 | 594 | 287 | 428 | 323 | 143 | 181 | 109 | 43 | 262 | 4,177 |
| 1951 | : | 1,660 | 699 | 323 | 380 | 306 | 131. | 174 | 61 | 44 | 149 | 3,927 |
| 1952 | : | 1,541 | 553 | 270 | 370 | 388 | 116 | 182 | 51 | 44 | 157 | 3,672 |
| 1953 | : | 1,568 | 556 | 280 | 339 | 368 | 112 | 169 | 51 | 39 | 225 | 3,707 |
| 1954 | : | 1,559 | 515 | 331 | 357 | 331 | 60 | 138 | 48 | 61 | 184 | 3,585 |
| 1955 | : | 1,635 | 526 | 508 | 364 | 341 | 68 | 134 | 51 | 59 | 223 | 3,910 |
| 1956 | : | 1,686 | 537 | 599 | 386 | 351 | 108 | 121 | 51 | 46 | 139 | 4,025 |
| 1957 | : | 1,815 | 454 | 560 | 383 | 321 | 108 | 138 | 48 | 42 | 153 | 4,022 |
| 1958 | : | 1,805 | 441 | 651 | 376 | 329 | 96 | 113 | 41 | 47 | 161 | 4,060 |
| 1959 | ; | 1,775 | 459 | 749 | 458 | 359 | 91 | 130 | 48 | 33 | 197 | 4,299 |
| 1960 | : | 1,832 | 364 | 794 | 459 | 362 | 135 | 131 | 40 | 30 | 184 | 4,331 |
| 1961 | : | 1,737 | 374 | 774 | 486 | 342 | 154 | 123 | 40 | 37 | 198 | 4,265 |
| 1962 | : | 2,163 | 381 | 839 | 503 | 365 | 150 | 127 | 34 | 31 | 169 | 4,762 |
| 1.963 | : | 2,206 | 394 | 892 | 533 | 385 | 89 | 131 | 31 | 27 | 140 | 4,829 |
| 1964 | : | 2,302 | 377 | 1,003 | 539 | 392 | 92 | 153 | 31 | 26 | 141 | 5,055 |
| 1965 | : | 2,210 | 340 | 1,027 | 492 | 420 | 114 | 151 | 34 | 17 | 139 | 4,944 |
| 1966 2/ | : | 2,440 | 333 | 1,188 | 487 | 474 | 275 | 160 | 31 | 11 | 143 | 5,442 |

1/ AdJusted for foreign trade and change in stocks. 2/ Preliminary.
sotals computed from unrounded numbers.

Table 10.--Sosp and synthetic detergents: Supply and disposition, 1935-66


Table 11.--Soap: Fats and oils used, by kind, 1925-66 I/

this use of fats and oils is entirely included in "other inedible products" and thus is excluded from the figures shown in this table.
$2 /$ Includes beef fats, vegetable tallow and babassu. $3 /$ Includes the following oils: Soybean, cottonseed, corn, castor, peanut, olive
inedible and foots, edible olive, neatsfoot, linseed, perilia, sesame, tung and "other vegetable oils". $4 /$ Incluges inedible animal ste-


Table 12,--Surface coatings: Production and fats and 011s and plastics used, 1931-66


1958 Census data represent U.S. total. $2 /$ Includes an estimated 90-95 pescent of the oil listed by census as used in synthetic resins which end up in protective coatings. $3 /$ Stanford Research Institute, Chemical Fconomic Fandbook. $4 /$ Not available.

Table 13.--Fats and oils used in drying oil products, by kind of oil, 1925-66


# GLYCERINE: DEMAND STRONG FOR LIMITED SUPPLIES 

By<br>George W. Kromer


#### Abstract

U.S. production of glycerine has approximately doubled since 1952, rising from 188 million pounds that year to a record 355 million pounds in 1966. A further increase to around 370 million pounds is forecast for 1967 (table 14). During this period, natural glycerine (produced from fats and oils) held fairly steady, while synthetic glycerine (produced from chemical industry feed-stocks) increased more than four-fold. Over 50 soapmakers, fat-splitters, and chemical companies produce glycerine in this country.


Glycerine was originally a by-product of soap and candle manufacture; but glycerine output from fat splitting and fatty alcohol manufacture has become increasingly important. Synthetic glycerine (from propylene) was first produced commercially in 1948. Since that time, production has grown until it now accounts for about three-fifths of the total U.S. production. (See cover chart.) Most of the increase in future production of glycerine is expected to be of the synthetic type.

Domestic disappearance of glycerine over the past 15 years has increased at an average annual rate of around 3 percent. Another slight increase is forecast for 1967. Continuing strong demand and limited supplies have resulted in glycerine price increases of about one-third since 1963.

Pure glycerine is a clear, odorless, syrupy liquid. I/ Over 1,500 uses indicate its versatility in all areas of industry. The major market outlets for glycerine are in the manufacture of alkyd resins, cellophane, drugs and cosmetics, tobacco, food and beverages, explosives, and polyurethanes.

## RAW MATERIALS FOR GLYCERTNE PRODUCTION

Historically, natural glycerine has been produced as a byproduct from fats and oils used in soap manufacture. 2/ Coconut, palm kernel, cottonseed, soybean, and olive oils usually yield more glycerine than animal fats such as tallow and lard. Although soap production has declined sharply from 2.3 billion pounds in 1952 to 1.2 billion in 1966, due to increased use of synthetic detergents, there has not been a proportionate drop in natural glycerine output.

As may be seen in table 15, natural glycerine production during 1952-66 averaged about 10 percent of total soap production. However, the percentage trended upward from just under 7 percent in 1952 to over 13 percent in 1966. The rising glycerine/soap ratio is attributed to increased use of higher grade fats and improved techniques in soap-making, and the recovery of natural glycerine from fatty alcohols.

A technological change in soap making has simplified and reduced the cost of reclaiming byproduct glycerine. The old "soap-kettle" technique has been replaced by production from fatty acids obtained from hydrolysis of fats and oils. Around the same time, the supply of natural glycerine was supplemented from the manufacture of fatty alcohols which also yields byproduct glycerine. Fatty alcohols are

[^2]Table 14.--Glycerine 1/: Supply and aisposition, 1952-67


1/ 100 percent glycerol basis.
2/ ERS forecast.
Source: Bureau of the Census.

Table 15.--Soap and natural glycerine production, 1952-66


1/ Based on estimates of the Soap and Detergent Association.
used in the production of synthetic detergents and have gained wide use, because of the beneficial biodegradable properties of the detergents made from them.

Synthetic glycerine is produced from chemical industry feedstocks (from the basic one, chlorine, and extending through allyl chloride and epichlorohydrin). The supply of feedstocks from precursors appears to be more of a limiting factor in synthetic glycerine production then inadequate capacity for the end-product. The chemical industry is currently expanding plant capacity for the manufacture of intermediates.

Production of natural glycerine during $1952-66$ ranged between 131 million and 155 million pounds annually (except for 172 million in 1953). In recent years it has been running around 150 million pounds (table 16). In sharp contrast, synthetic glycerine output has trended upward from 36 million pounds to about 200 million in 1965 and 1966. In

1952, synthetics accounted for nearly 20 percent of the total glycerine production of 188 million pounds but in 1966 they comprised almost 60 percent of the 355 million pounds total output.

## GLYCERINE USAGE SHOWS STEADY GROWTH RATIE

Natural and synthetic glycerine are used interchangeably by industry. Total domestic disappearance of glycerine has increased rather steadily from 212 million pounds in 1952 to a record 325 million pounds in 1966. The rate of increase averaged about 3 percent per year for the entire 1952-66 period. However, all market outlets for glycerine have not shared in this growth. (See figure 1 below). Detailed data on the use of glycerine in end-products are not available from the Bureau of the Census. However, some end-use estimates for 1961-66 have been developed by the Glycerine Producers' Association, a Division of the Soap and Detergent Association (SDA). These are shown in Table 17.

## U. S. GLYCERINE CONSUMPTION



[^3]*Figure 1

Teble l6.--U.S. production of natural and synthetic glycerine, actual and percentage, 1952-66

| Year | Production |  |  | Percentage distribution |  | Production as percentage of preceding year |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
|  | Mil. 10 | 1. 1 b | . 1 b | Pct. | Pct. | Pct. | Pct. | Pct. |
| 1952 | 152 | 36 | 188 | 81 | 19 | 89 | 90 | 89 |
| 1953 : | : 172 | 43 | 215 | 80 | 20 | 113 | 119 | 114 |
| 1954 : | : 147 | 60 | 207 | 71 | 29 | 85 | 139 | 96 |
| 1955 : | : 148 | 80 | 228 | 65 | 35 | 101 | 133 | 110 |
| 1956 | : 143 | 101 | 244 | 59 | 41 | 97 | 126 | 107 |
| 1957 | : 135 | 105 | 240 | 56 | 44 | 94 | 104 | 98 |
| 1958 | 132 | 81 | 214 | 62 | 38 | 98 | 77 | 89 |
| 1959 | 149 | 118 | 268 | 56 | 44 | 113 | 146 | 125 |
| 1960 | : 151 | 150 | 302 | 50 | 50 | 101 | 127 | 113 |
| 1961 : | : 138 | 141 | 279 | 49 | 51 | 91 | 94 | 92 |
| 1962 | : 131 | 118 | 249 | 53 | 47 | 95 | 84 | 89 |
| 1963 | 141 | 161 | 303 | 47 | 53 | 108 | 136 | 122 |
| 1964 | 150 | 178 | 328 | 46 | 54 | 106 | 110 | 108 |
| 1965 | 145 | 201 | 347 | 42 | 58 | 97 | 113 | 106 |
| 1966 2/ | 155 | 200 | 355 | 44 | 56 | 107 | 100 | 102 |
| 1967 : | : |  | /370 |  |  |  |  |  |
| 1952-66 avg.: | : 146 | 118 | 264 | 55 | 45 | 100 | 113 | 104 |

1/ Estimates of the Soap and Detergent Association.
2/ Preliminary.
3/ ERS Forecast.

Table 17.--Estimated consumption of glycerine, by end-product groups, 1961-66 I/

| Product | $: 1961$ | $1962$ | $1963$ | $1964$ | $1965$ | 1966 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | :Mil. lb. Mil. Ib. Mil. Ib. Mil. 1b. Mil. 1b. Mil. Ib. |  |  |  |  |  |
| Alkyds | $: 70$ | 70 | 65 | 75 | 73 | 70 |
| Tobacco | : 30 | 35 | 38 | 40 | 42 | 43 |
| Cellophane | 50 | 50 | 44 | 50 | 45 | 45 |
| Explosives | 15 | 15 | 15 | 15 | 18 | 23 |
| Drugs and Toilet Goods <br> (Including Toothpaste) | : 35 | 35 | 45 | 46 | 48 | 60 |
| Foods and Monoglycerides | : 14 | 15 | 22 | 23 | 26 | 30 |
| Urethane Foams | : |  | 9 | 10 | 13 | 14 |
| Triacetin (Plasticizer) | : |  | 3 | 3 | 4 | 4 |
| Miscellaneous | : 52 | 37 | 50 | 27 | 43 | 36 |
| Total | : 266 | 257 | 291 | 289 | 312 | 325 |

The largest single market outlet for glycerine takes advantage of its chemical properties in making alkyd resins for paints and protective coatings. Glycerine's physical properties are its moistening, lubricating, and softening characteristics and thus is used in conditioning tobacco, pharmaceuticals, perfumes and scores of other products. In food processing, edible monoglycerides are used as emulsifiers and stabilizers for many products.

Alkyd resins accounted for about 24 percent of domestic glycerine consumption during 1961-66, but its proportion of the total glycerine usage has declined slightly. In 1966, alkyds used an estimated 70 million pounds of glycerine or about the same as in 1961. Alkyds are used mainly in paint finishes for automobiles, trucks, tractors, ships, stoves, refrigerators, washing machines and other industrial equipment requiring coatings which combine toughness and durability with gloss and color retention.

Glycerine used as a plasticizer in cellophanes accounted for 19 percent of domestic glycerine consumption in 1961 but dropped to 14 percent in 1966. An estimated 45 million pounds of glycerine was used in the manufacture of cellophane in 1966 compared with 50 million in 1961. Cellophane packaging has met increased competition from thinner packaging films (polyethylene and polypropylene packaging films). The trade anticipates further declines in regular cellophane packaging films and further increases in the other competitive categories. Glycerine is added to many types of paper--crepe, tissue, parchment, glasine, waxed--to reduce shrinkage during processing and to produce a softer, permanently plasticized product.

The tobacco industry consumed an estimated 43 million pounds of glycerine in 1966--13 percent of all glycerine used in the United States, compared with 30 million pounds and ll percent in 1961. Cigarettes are prepared with a humectant
(usually glycerine) to keep them from drying out. A glycerine content of about 3 percent keeps tobacco moist and soft to prevent breaking and crumbling during processing, and to insure freshness in packaged tobacco products. In 1966, U.S. smokers consumed a record 541 billion cigarettes, nearly $2 \frac{1}{2}$ percent more than in 1965. Cigarette consumption in 1967 may register a modest increase over 1966. Glycerine is also used with cigar, pipe, and "plug" tobaccos.

Glycerine used in drugs, cosmetics, and dentifrices has shown a steady growth pattern and now accounts for about 18 percent of total glycerine used domestically. In 1966, an estimated 60 million pounds was consumed by this industry group, compared with 35 million in 1961. New drug and medical uses of glycerine are continually being researched and developed. In the cosmetics industry, glycerine is widely used in skin lotions, hand creams, vanishing and cleansing creams, deodorant pastes, eye washes, and shaving soaps and creams. Glycerine is the basic medium for toothpaste.

Food and beverage uses of glycerine accounted for about 7 percent of domestic glycerine consumption during 1961-66. The annual proportion has increased slightly, as use rose from 14 million pounds in 1961 to an estimated 30 million in 1966. Glycerine functions in foods and beverages as an emulsifier, humectant, solvent, sweetner and preservative. Edible monoglycerides are added to margarines, shortenings, salad dressings, frozen desserts, candy and food coatings. The trend to prepared foods and changing technology in food processing are factors which will help boost glycerine consumption in this category.

Glycerine use in explosives during 1961-64 averaged about 15 million pounds annually, or about 5 percent of the total domestic glycerine consumption. Estimated usage increased to 23 million pounds in 1966, because of stepped up activity in several federal arsenals and munition plants.

## U.S. GLYCERINE EXPORTS TREND UPWARD, IMPORTS DOWWWARD

Annual exports of glycerine have varied considerably but have generally increased from 4 million pounds in 1953 to a record 52 million in 1965 (table 14). The latter figure represents about 15 percent of the 1965 glycerine production in the United States. Exports fell to 43 million pounds in 1966 and a further decline is likely in 1967, mainly because of the relatively tight domestic supply situation and higher prices this year.

During 1966, our largest markets for glycerine were Canada, Japan, the Republic of South Africa and Western Europe (table 18). Explosives for South Africa's mines are a major outlet for U.S. glycerine, as shipments to that country rose from 69,000 pounds in 1962 to 9,953,000 in 1965.
U.S. imports of glycerine have declined fairly steadily from 35 million pounds in 1953 to only 4 million pounds in 1965 and 1966. Imports accounted for about 12 percent of the U.S. supply in 1953 but in 1966 it was only 1 percent. Imports are expected to increase in 1967 mainly because of higher U.S. prices. The United States imports of glycerine have been mostly from Argentina, the Phillipine Republic, and Indonesia in recent years.

## GRADES OF GLYCERINE

The 2 grades of crude natural glycerine for refining are saponification ( $88 \%$ ) and soap lye ( $80 \%$ ). Saponification crude is obtained from fat-splitting and soap lye crude is the product of the spent lye of the soap kettle.

There are several grades of refined glycerine, such as U.S.P., often referred to as C.P. (chemically pure), high-gravity, dynamite, and yellow distilled. The specifications for each grade vary de-
pending upon the consumer and intended use. U.S.P. - grade is a water-white product, meeting the requirements of the U.S. Pharmacopoeia. It is classified as GRAS (generally recognized as safe for human use) by the Food and Drug Administration and the USDA and is suitable for use in foods, beverages, pharmaceuticals, and cosmetics, or when the highest quality is demanded or the end product is designed for human consumption. High-gravity is a pale-yellow glycerine for industrial use while the dynamite grade for explosives manufacture is more yellow. Yellow distilled is used for industrial purposes.

## PRICE TRENDS

Historically, the price of glycerine has fluctuated widely. This was especially true in the earlier years of the industry when glycerine was derived almost exclusively from soap fats and oils, which have always demonstrated the price fluctuations characteristic of farm comodities. In recent years, glycerine prices have tended to be more stable as a larger proportion of the total production became available from synthetic sources.

Crude glycerine ( $80 \%$ soap lye, tanks, New York) prices have varied from a postwar peak of 42 cents per pound in 1951 to a low of 10.5 cents in 1963. Prices have since increased and in June 1967 averaged 16.3 cents per pound (table 19). For all of 1967, crude glycerine prices probably will average about a tenth above the 14.4 cents in 1966.

The average price of natural glycerine (refined, U.S.P., 99\%, New York) rose from 19 cents per pound in 1963 to 24 cents in 1966. Prices continued to advance in 1967 and in June were 24 7/8 cents per pound, 1 cent above June 1966. Refined synthetic glycerine (U.S.P., $99.5 \%$ ) has show a similar price trend averaging about 1 percent higher than natural glycerine prices. (See figure 2.)

Table 18.--U.S. glycerine exports, by country of destination, 1962-66

| Country of destination | : 1962 | 1963 | 1964 | 1965 | $\begin{gathered} 1966 \\ 1 / \end{gathered}$ | 1967 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | : 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
|  | : 18. | 1b. | 1 l. | 1 b . | 1 lb . | 1 b . |
| North America |  |  |  |  |  |  |
| Canada | : 5,459 | 7,189 | 9,176 | 10,086 | 10,640 |  |
| Mexico | : 1,574 | 2,360 | --- | 2,983 | 4,918 |  |
| Total | : 7,033 | 9,549 | 9,176 | 13,069 | 15,558 |  |
| Western Europe : |  |  |  |  |  |  |
| Germany, West | : 1,210 | 988 | --- | 4,450 | 987 |  |
| Netherlands | : 2,639 | 5,018 | 8,089 | 10,970 | 5,113 |  |
| United Kingdom | , | 3,441 | --- | 3,175 | 895 |  |
| Total | $: 3,849$ | 9,447 | 8,089 | 18,595 | 6,995 |  |
| Asia and Oceania |  |  |  |  |  |  |
| Australia | : --- | 1,245 | --- | --- | --- |  |
| Japan | 388 | 5,941 | 3,605 | 7,965 | 9,347 |  |
| Vietnam, South | $: \quad 304$ | --- | 581 | 444 | 639 |  |
| Total | : 692 | 7,186 | 4,186 | 8,409 | 9,986 |  |
| Africa | : |  |  |  |  |  |
| Republic of South Africa | : 69 | 3,281 | 5,948 | 9,953 | 8,926 |  |
| Other Countries | 1,750 | 1,278 | 745 | 1,995 | 1,920 |  |
| Grand total | : 13,393 | 30,741 | 28,144 | 52,021 | 43,385 |  |

1/ Preliminary.
Table 19.-Wholesale prices of natural and synthetic glycerine at New York, 1952-67


[^4]

Figure 2

The 1967 price increases stem mainly from short glycerine supplies. Producers of natural glycerine cannot respond to increased demand, since their output is limited by the production of fats for soaps. Synthetics have taken up the slack in the past but chemical feedstocks are currently in short supply.

## OUTLOOK

Production and use of glycerine likely will continue upward but natural glycerine from fats and oils probably will not grow because of its byproduct nature tied to soap manufacturing rates. The U.S. per capita consumption of soap has trended downward and this is the prime source of natural glycerine. Also, the use of fats and oils (mainly coconut oil) in fatty alcohols is expected to decline as an increasing share of the expanding fatty alcohol market is sup-
plied from ${ }^{-}$petrochemical sources. Natural glycerine supplies will also be affected when synthetic fatty acids are produced in the United States. Glycerine is not a byproduct of synthetic fatty alcohols or synthetic fatty acids. For these reasons, most of the increased supply required to meet further requirements will have to come from synthetic sources as natural glycerine output will do well to hold its current level.

According to trade estimates, present U.S. capacity for producing synthetic glycerine is about 290 million pounds a year and the refining or purification capacity for natural glycerine is about 240 miliion pounds per year. Capacity for producing synthetic glycerine is now being increased primarily by expansion of plants for the manufacture of precursors.

Table 20.--Food fats and oils: Supply and disposition, 1961-66
Total $1 /$


Table 20.--Food fats and oils: Supply and disposition, 1961-66


1 Includes butter, except farm; lard, except farm; beef fats; and edible vegetable oils. Production and exports include the oll equivalent of exported oilseeds. Domestic disappearance and exports have been adjusted for exports of processed food oils not classifled by kind, shortening, margarine, and other secondary fats. Exports also include shipments and quantities from CCC stocks that were not reported in Census data. During 1960-64 exports include estimates of foreian donations of fats and oils. 2/1962-64 stocks include estimates of butter oil, ghee, and canned butter. 3/ Includes edible tallow, oleo stock, oleo oil and oleo stearine. 4/ Includes cottonseed, soybean, corn, peanut, and edible olive oils. Production includes imports of corn, peanut, and edible olive oils. 5/ Production and exports include oil equivalent of oilseed exported for crushing. 6/Less than 500,000 pounds.

Totals computed from unrounded numbers.

Table 21.--Selected nonfood fats and 01ls: Supply and disposition, 1961-66


Table 22.--Domestic disappearance of food and nonfood fats and oils, by end products, total and per person, year beginning October by quarters, with comparisons


Table 23.--Fats, ofls, including their products: Production from domestic and inported materials, and factory and warehouse stocks at end of month

| Item | Production 1/ |  |  |  |  |  | Stocks |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | October-April |  | 1966 | 1967 |  |  | 1966 | 1967 |  |  |
|  | : 1965-66 | $1966-67$ | Apr. | Feb . | Mar. | Apr. | $\text { Apr. } 30$ | Feb. 28 | $\text { : Mar. } 3$ | $\text { Apr. } 30$ |
|  | $\begin{aligned} & \mathrm{M} 11 . \\ & : \quad \mathrm{Mb} . \end{aligned}$ | $\begin{aligned} & \text { Mil. } \\ & \text { Ib. } \end{aligned}$ | $\begin{aligned} & \mathrm{MII} . \\ & \mathrm{Ib} . \end{aligned}$ | $\begin{aligned} & \mathrm{Mil} . \\ & \mathrm{lb} . \end{aligned}$ | $\begin{aligned} & \mathrm{MII} . \\ & \mathrm{lb} . \end{aligned}$ | $\begin{aligned} & \text { M11. } \\ & \mathrm{lb} . \end{aligned}$ | $\begin{aligned} & \text { M1l. } \\ & \mathrm{lb} . \end{aligned}$ | $\begin{aligned} & \text { स11. } \\ & \mathrm{Lb} . \end{aligned}$ | $\begin{aligned} & \text { M1l. } \\ & \text { 1b. } \end{aligned}$ | $\begin{aligned} & \mathrm{Mil} . \\ & \mathrm{Ib} . \end{aligned}$ |
| PRIMARY FATS AND OIIS |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Food fats and 0ils |  |  |  |  |  |  |  |  |  |  |
| Butter 37 | : 645.5 | 708.1 | 106.2 | 103.8 | 113.3 | 120.8 | 34.3 | 54.7 | 76.2 | 102.9 |
| Lard and rendered pork fat 3/ | : 1,098.0 | 1,233.0 | 166.0 | 162.0 | 184.0 | 162.0 | 93.5 | 125.0 | 132.0 | 134.6 |
| Beef fats | : 328.2 | 368.7 | 41.1 | 55.7 | 52.6 | 49.3 | 41.0 | 75.1 | 78.4 | 76.1 |
| Total edible animal fats | $: 2,071.7$ | 2,309.8 | 313.3 | 321.5 | 349.9 | 332.1 | 168.8 | 254.8 | 286.6 | 313.6 |
|  | : 0 |  |  |  |  |  |  |  |  |  |
| Corn ofl | : 260.8 | 255.5 | 38.2 | 33.7 | 40.4 | 37.4 | 40.2 | 45.8 | 44.9 | 49.4 |
| Cottonseed oll | : 1,467.7 | 1,022.6 | 139.2 | 126.6 | 128.7 | 75.5 | 408.9 | 476.9 | 514.0 | 479.1 |
| Peanut oil | : 97.7 | 102.2 | 21.6 | 17.5 | 20.0 | 16.6 | 44.9 | 33.7 | 36.6 | 43.2 |
| Soybean oil | : 3,510.2 | 3,513.5 | 467.6 | 468.8 | 496.8 | 502.6 | 521.9 | 581.6 | 535.8 | 600.9 |
| Total edible vegetable ofls | $: 5,336.4$ | 4,893.8 | 666.6 | 646.6 | 685.9 | 632.1 | 1,015.9 | 1,138.0 | 1,131.3 | 1,172.6 |
|  | : |  |  |  |  |  |  |  |  |  |
| Soap fats and oils |  |  |  |  |  |  |  |  |  |  |
| Tallow, inedible, and greases excluding wool grease 4/ | $: 2,523.7$ | 2,724.3 | 334.9 | 365.6 | 393.2 | 388.4 | 434.0 | 471.9 | 501.2 | 497.8 |
| Palm ofl $5 /$ | : --- |  | \% | --- |  | --- | 8.5 | 46.9 | 41.9 | 39.1 |
| Fish and marine oil 5/ | : 27.8 | 38.9 | 5.4 | . 5 | . 8 | 3.0 | 135.5 | 154.4 | 135.5 | 135.4 |
| Coconut oil | : 177.2 |  |  |  | --- |  | 155.1 | 206.8 | 187.7 | 176.1 |
| Total sosp fats | : 2,728.7 | 2,763.2 | 340.3 | 366.1 | 394.0 | 391.4 | 733.1 | 880.0 | 866.3 | 848.4 |
|  | : |  |  |  |  |  |  |  |  |  |
| Drying oils |  |  |  |  |  |  |  |  |  |  |
| Castor oil 5/ | : --- | --- | --- | --- | --- | --- | 205.4 | 179.2 | 176.2 | 168.3 |
| Linseed oil | : 275.4 | 239.0 | 36.4 | 29.7 | 31.3 | 30.2 | 237.7 | 204.9 | 206.5 | 204.7 |
| Safflower seed ofl | : 53.5 | 13.5 | 12.1 | 2.7 |  | 30.2 | 21.8 | 58.6 | 54.2 | 48.5 |
| Tall oil | : 710.3 | 730.9 | 109.4 | 104.1 | 11.6 | 106.3 | 283.5 | 237.3 | 237.8 | 235.2 |
| Tung odl |  | 5.4 | --- | 2.0 | 2.0 | --- | 52.2 | 71.6 | 75.7 | 76.4 |
| Total drying oils | :1,044.6 | 988.8 | 157.9 | 135.8 | 249.4 | 136.5 | 800.6 | 751.6 | 750.4 | 733.1 |
| Grand total 6/7/ | $: 11,181.4$ | 10,955.6 | 1,478.1 | 1,470.0 | ,579.2 | 1,492.1 | 2,698.4 | 3,024.4 | 3,034.6 | 3,067.7 |
|  | - |  |  |  |  |  |  |  |  |  |
| From domestic materials | :11,004.2 | 10,955.6 | 1,478.1 | 1,470.0 | , 579.2 | 1,492.1 |  |  |  |  |
| From imported materials | $: \quad 177.2$ |  | --- | , |  | 1,420 |  |  |  |  |
|  | : |  |  |  |  |  |  |  |  |  |
| FAT-ARD-OIL PRODUCTS |  |  |  |  |  |  |  |  |  |  |
| Cooking and salad oils |  |  |  |  |  |  |  |  |  |  |
| Total | : 1,700.8 | 1,692.6 | 233.9 | 240.8 | 254.1 | 242.4 | 96.2 | 89.4 | 81.9 | 97.7 |
| Soybean | :1,018.8 | 1,101.1 | 145.8 | 155.3 | 170.1 | 156.8 | 55.5 | 57.9 | 56.5 | 65.4 |
| Other | $: 682.0$ | 591.5 | 88.1 | 85.5 | 84.0 | 85.6 | 40.7 | 31.5 | 25.4 | 32.3 |
| Baking and frying fats (ghortening): |  |  |  |  |  |  |  |  |  |  |
| Total - | $: 1,847.7$ | 1,830.7 | 242.6 | 260.1 | 270.5 | 249.6 | 132.0 | 118.8 | 119.2 | 125.9 |
| 100\% regetable oil <br> $100 \%$ animal fats or blends of vegetable oil and animal fats | : N.A. | 1,172.0 | 168.5 | 158.8 | 175.2 | 156.7 | 99.7 | 87.4 | 84.0 | 89.0 |
|  | : N.A. | 658.6 | 74.1 | 101.3 | 95.2 | 92.9 | 32.3 | 31.4 | 35.2 | 36.9 |
| Margarine |  |  |  |  |  |  |  |  |  |  |
| Total 2 pound units | : 1,216.0 | 1,308.6 | 163.6 | 174.7 | 194.9 | 160.5 | 56.0 | 55.3 | 65.3 | 68.0 |
|  | :1,099.4 | $1,131.3$ | 148.3 | 152.6 | 167.2 | 136.0 | --- | S | -.- | --- |
| All other | : 115.8 | 188.2 | 15.7 | 24.6 | 29.6 | 25.0 | --- | --- | --- | --- |
| Fatty Acide | : 642.3 | 660.5 | 93.7 | 91.3 | 96.6 | 97.8 | 79.9 | 99.6 | 105.0 | 110.1 |
| Glycerine | : 205.8 | 213.6 | 28.1 | 27.4 | 31.4 | 30.0 | 34.7 | 40.7 | 41.5 | 40.9 |
| Meat meal and Tanisage | 2,254.4 | 2,417.2 | 309.9 | 332.7 | 354.6 | 327.6 | --- | --- | -- | --*: |

17 pactory production except as otherwise noted.
$\frac{1}{3 / \text { Creamery butter and cold-storage stocks, United States Department of Agriculture. }} 1$
October-April 1966/67 totaled 1,106.3 million pounds.
4/ Total apparent production.
$5 /$ Stocks include GSA stockpile.
6) Computed from unrounded numbers.

7/Excludes estimated output of farm butter and farm lard, 54 million pounds in October-April 1965/66; 39 million pounde in October-April 1966/67.

Table 24.--Tmports and exports of fats, oils, ofl-bearing materials and fat-and-oil products in terms of o11


Table 25.--Index numbers of wholesale prices of fats and oils

|  |  |
| :--- | :--- | :--- | :--- |

ADl Indexes except "Butter, seasonally adjusted" and "Other industrial" frcm Bureau of Labor Statistics.

Table 26.--Prices received by farmers and prices at terminal markets for specified ofl-bearing materials and oflmeals


1/ This price applies to peanuts for edrble uses.
Compiled from 01l, Paint, and Drug Reporter, Well Street Journal, Chicago edition, reports of the Statistical Reporting Service, and the Consumer Marketing Service.

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[^0]:    1/ 3-cent processing tax suapended beginaing october 1957.
    2/ Nearby futures.
    3. Beginning January 1965, average of weekly prices, Neu York Journal of Commerce.
    / Beginning April 1966, one and two pound prints.
    5/ 3-cent processing tax suspended beginning July 1959.
    Leading cities.
    *Not available as of June 28.

[^1]:    Soybean oil prices (crude, Decatur) drifted downward from 10.9 cents in October 1966 to 10.3 in January 1967, and held steady at this level through May. The October-May average was 10.5 cents per pound--a cent less than in 1965/66. Prices declined further in June and were under 10 cents per pound late in the month, about 2 cents under June 1966. Aside from increased soybean oil production, other price factors have been the reduced export sales for dollars and increased domestic use of lard, edible tallow, peanut oil, palm and palm kernel oils. Soybean oil prices axe expected to remain well below the June-September

[^2]:    $1 /$ This paper is concerned with commerciallyproduced giycerine, which normally contains $95 \%$ or more, of glycerol and a small percentage of water. Glycerine also occurs naturally in foods, both combined (as in fats) and in the free state (in fermentation products, such as beer and wine).

    2/ Glycerine can also be produced by fermentation of sugar. The product is of poor quality and requires much refining. This process is not used in the United States.

[^3]:    U. S. DEPARTMENT OF AGRICULTURE

    NEG. ERS 5109-67(5) ECOMOMIC RESEARCH SERVICE

[^4]:    1/ 98 percent 1952-Juiy 1956.
    Prelı́minary.
    January-May 1967 average.

