



# **Human Food By-products Definitions and Label Requirement**



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# Human Food By-products Diverted to Animal Feed

Human food by-product diversion is the process of taking food that is no longer suitable for human consumption and redirecting it to be used in manufacturing feed for livestock. This diversion of food by-products into animal feed ensures that this consumable material does not go to waste and additionally, is used to fortify feed necessary to provide a healthy and nutritious diet to California livestock.

These products can include cull fruits and vegetables (Figure 1, for example), fruit and vegetable pomace, bakery products (Figure 2, for example), products that are at the end of their shelf life, and more. By-products are suitable to be diverted to animal feed if they have been properly stored, handled, and have remaining nutritional value for livestock. Streams of by-product diversion can include food from human food manufacturing facilities, human food distribution facilities, restaurants, retail establishments, and institutions that serve food such as hotels or cafeterias.

## What is a By-product?

- a. "By-product" means a product produced in addition to the principal product, may be produced during processing, rejected as inferior during the process of grading or separating, or is produced via an industrial or biological process.
- b. A by-product must be safe and suitable for animal feed and handled under conditions that protect against contamination.



Figure 1. Oranges as cull fruit for feed

## What is a "Human Food By-product"?

CDFA has categorized certain by-products which are listed in [California Code of Regulations](#) (CCR) Title 3, Section 2804 as "Human Food By-products" for the purpose of incentivizing the continued and expanded use and tonnage reporting of these products in animal feed. Human Food By-products are:

- a) Eligible for a reduced tonnage tax rate (CCR Title 3, Section 2750 (e)).
- b) Eligible for a reduced license fee when the facility is **solely engaged** in the diversion of those human food by-products (CCR Title 3, Section 2751 (c)).



Figure 2. Dried Bakery Product



## General Requirements

“Commercial Feed” includes all materials intended for use as feed or for mixing in feed of commercial livestock including by-products and human food by-products. Each location where commercial feed is manufactured, distributed, sold or stored for later sale must obtain a commercial feed license with the Commercial Feed Regulatory Program (CFRP) and meet other requirements such as tonnage tax payment and proper labeling.

Further information regarding licensing and tonnage taxes can be found at: <https://www.cdfa.ca.gov/is/ffldrs/CommercialFeedReg.html>

Check our Frequently Asked Questions: <https://www.cdfa.ca.gov/is/docs/FFLDRSFeedFacts.pdf>.

### ***Proper Handling, Labeling, and Shipping of By-products***

All by-products used in commercial feed must:

- a) Not bear or contain any substance which may render it injurious to health.
- b) Must be held under conditions that will protect against contamination, including:
  - a. Containers and equipment used to convey or hold human food by-products for use as animal food before distribution must be designed, constructed of appropriate material, cleaned as necessary, and maintained to protect against the contamination of human food by-products for use as animal food.
  - b. By-products held for distribution must be held in a way to protect against contamination from sources such as trash.
  - c. During holding, by-products must be accurately identified.
- c) Shipping containers (e.g. totes, drums, and tubs) and bulk vehicles used to distribute by-products must be examined prior to use to protect against the contamination of commercial feed from the container or vehicle when the facility is responsible for transporting the by-product itself or arranges with a third party to transport the by-products.
- d) If the by-product contains protein derived from [prohibited mammalian tissues](#) it cannot be fed to ruminant animals and shall comply with the requirements of Title 21, Code of Federal Regulations, [Part 589.2000](#). This includes the label statement: “DO NOT FEED TO CATTLE OR OTHER RUMINANTS”.

For more information about Human Food Diverted to Livestock Feed, please contact the Safe Animal Food Education Program at [safe@cdfa.ca.gov](mailto:safe@cdfa.ca.gov).

# Definitions and Labeling Requirements

Requirements for proper labeling of Commercial Feeds is outlined in the [Commercial Feed Label Guide](#). All labels must meet the requirements set forth in Food and Agriculture Code (FAC), Division 7, Chapter 6, Article 5: Labels; FAC Sections 14991 and 14992; CCR, Title 3, Division 4, Chapter 2, Subchapter 2, Article 4: Labeling and Use Requirements; and Article 14: Definitions and Standards. All labels must have a Guaranteed Analysis which includes, at minimum:

- Maximum Percent Moisture, if moisture exceeds 15%
- Minimum Percent Crude Protein
- Minimum Percent Crude Fat
- Maximum Percent Crude Fiber

**Note: All guarantees are based on an “As-Fed” Basis**, rather than a dry-matter basis, meaning the values are not adjusted for moisture content.

This section provides the definition and *additional* labeling requirements for each of the Human Food By-products listed in CCR Title 3, Section 2804.

## Wet Food Processing Waste

**Definition:** Wet Food Processing Waste is composed of **any and all** animal and vegetable products from basic food processing **that is 70% moisture or higher**.

- This may include:
  - Manufacturing or processing waste,
  - cannery residue,
  - production over-run,
  - and otherwise unsaleable material.

### **Labeling Requirements:**

- The **guaranteed analysis shall include the maximum percentage of moisture**.
- If part of the grease and fat is removed, it must be designated as “Degreased.”
- If wet food processing waste is comprised of a single ingredient the label shall additionally specify what the product is, e.g. Wet Food Processing Waste - Potato Peels.
- If this ingredient contains prohibited mammalian materials, it is restricted to non-ruminant feeds and must bear the label statement “Do not feed to cattle or other ruminants”.

## Cull Fruit or Vegetables

**Definition:** Material rejected as inferior during the process of grading or separating. This includes: any fruits or vegetables that are left in the field after harvest.

### **Labeling Requirements:**

The label for these products should include

- the word “**cull**”
- the name of the product
- a statement to the effect of “**not for human consumption**” or “for livestock feed only.”

## Restaurant Food Waste

**Definition:** Restaurant Food Waste is food waste collected from:

- Restaurants
- Cafeterias
- Other food preparation institutes.

**Processing and/or handling must remove all undesirable** constituents such as: crockery, glass, metal, string, and similar items.

### **Labeling Requirements:**

Restaurant Food Waste must include on the Guarantee:

- Maximum Percentage Moisture
  - If the product is dried by artificial means to less than 12% moisture, then must be designated as “*Dehydrated* Restaurant Food Waste”
- If part of the grease and fat is removed, it must be designated as “*Degreased* Restaurant Food Waste”
- If this ingredient contains prohibited mammalian materials, it is restricted to non-ruminant feeds and must bear the label statement “Do not feed to cattle or other ruminants”.

## Recovered Retail Food

**Definition:** Recovered Retail Food is **human food products safe and suitable for livestock feed** that are collected from:

- Domestic Holding Facilities
- Domestic Packing Facilities and,
- Retail Food Establishments.
  - Permitted recovered retail foods are:
    - Overstocks,
    - Products lacking consumer acceptance and,

- Products beyond their sell-by dates that include items such as bruised, cut, or overly ripe produce (fruit and vegetables), bakery goods, eggs, and dairy products.
- **Materials excluded from this definition include pet foods and products containing beef, lamb, pork, poultry, fish, or shellfish.**

### Labeling Requirements:

Recovered Retail Food Products **must be safe and appropriately labeled for their intended use.** The feed products must:

- Be free of material harmful to animals and
- Contain no packaging materials harmful to animals.

If this ingredient contains prohibited mammalian materials, it is restricted to non-ruminant feeds and must bear the label statement “Do not feed to cattle or other ruminants”.

### **Recovered Retail Food Handling and Collection**

- Recovered foods shall be collected and intermixed in **secure holding containers to exclude unauthorized addition or trash**, materials harmful to animals, or infestation and adulteration by pests.
- Must **not contain packaging materials** such as:
  - Plastic, glass, metal, string, Styrofoam, cardboard, and similar materials, flowers, potted plants, or potting soil.
- Egg and dairy products (and other products ordinarily held at refrigerator temperature) **must** be kept in cold storage until the scheduled pick-up.
- To minimize spoilage, the recovered retail food shall be **collected at least weekly**, or more frequently if necessary.
- The establishment should have a **sanitation plan in place**, and the containers should be cleaned and sanitized as necessary.
- The collected material may be further processed or delivered as is to an animal feeding facility.
- The product must be handled to preserve its safety and nutritional value.

### **Additional Diversion Byproducts**

#### ***Wet Fruit/Vegetable Pomace/Pulp***

- **Wet Apple Pomace** is the sound, wet residue remaining after the removal of cider juice from apples.

- **Wet Beet Pulp** is the residue from sugar beets which have been cleaned and freed from leaves and sand, and from which the sugar has been extracted.
- **Wet Citrus Pulp** is the peel and residue of the inside portions, and occasional cull fruits of the citrus family with or without the extraction of part of the juice and part of the oil of the peel. If a neutralizing agent, e.g. calcium oxide, calcium carbonate, or calcium hydrate is added as an aid in processing, the maximum percentage shall be stated. If it bears a name descriptive of its kind, it shall correspond thereto.

### ***Brewers' Wet Grains***

- **Brewers Wet Grains** is the extracted residue resulting from the manufacture of wort from barley malt alone or in mixture with other cereal grains or grain products. The guaranteed analysis shall include the maximum moisture.

### ***Dried Bakery Product***

- **Dried Bakery Product** is a mixture of bread, cookies, cake, crackers, flours, and doughs which has been mechanically separated from non-edible materials, artificially dried and ground. If the product contains more than 3.5 percent sodium, the maximum percentage of sodium shall be a part of the name; i.e., Dried Bakery Product with percent sodium.
- **Cereal Food Fines** consists of particles of breakfast cereals obtained as a by-product of their processing.

### ***Whey/Dairy By-products (Liquid)***

- **Condensed Whey Permeate** is the product resulting from the removal of proteins from whey permeate. It shall be labeled to show the minimum percent total whey product solids, crude protein and lactose and the maximum percent ash and equivalent crude protein from nonprotein nitrogen.
- **Condensed Delactosed Whey Permeate** is the product resulting from the removal of lactose from whey permeate. It shall be labeled to show the minimum percent total whey product solids, lactose, crude protein and crude fat and the maximum percent ash and equivalent crude protein from nonprotein nitrogen.
- **Dairy Food By-Products** are the products resulting from the collection of solids contained in the wash water from the normal processing and packaging of various food manufacturing plants. Dairy products are the primary source but non-dairy products may occasionally constitute a minor amount of the total volume. No sanitary sewer waste may be included. This product is to be fed at



levels less than 25.0 percent of the animal's total dry matter intake.

- **Condensed Whey-Product** is the product obtained by partially removing water from whey from which a portion of the lactose, protein and/or minerals been removed. The minimum percent solids, crude protein and lactose and the maximum percent of ash shall be guaranteed on the label. It may also be labeled “condensed reduced minerals whey” or “condensed reduced lactose whey”, if appropriate.
- **Whey** is the product obtained as a fluid by separating the coagulum from milk, cream or skimmed milk and from which a portion of the milk fat may have been removed.