



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



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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 human 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. Human food 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 human food 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 an "Eligible Human Food By-product"?

CDFA has categorized certain by-products which are listed in [California Code of Regulations, Title 3](#) (3 CCR) Section 2750(e)(1) as "Eligible Human Food By-products" for the purpose of incentivizing the continued and expanded use and tonnage reporting of these products in animal feed. Eligible Human Food By-products are:

- a) Eligible for a reduced tonnage tax rate (3 CCR, 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 (3 CCR 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 eligible 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 Human Food By-products***

All ingredients must be feed grade. Firms should perform a safety assessment of materials that may be included in the offered feed ingredient, at the maximum use level (including cocoa products and non-nutritive sweeteners), to determine safety for the intended animal species and the safety of milk, meat, or eggs from animals consuming the ingredient. The safety assessment should be archived in the firm's files and provided to state or federal regulators upon request.

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 Label 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 Agricultural Code (FAC) Sections 14991 and 14992 and 3 CCR Division 4, Chapter 2, Subchapter 2, Article 4: Labeling and Use Requirements; and Article 14: Recognized Official Names, which includes:

- A Guaranteed Analysis on an “as-fed” (as-is) basis, NOT represented on a 100% dry matter basis, to include:
  - minimum percent crude protein
  - minimum percent crude fat
  - maximum percent crude fiber
  - maximum percent moisture, if moisture exceeds 15%
- The recognized official name of each ingredient, however, a single ingredient product using the recognized official name defined in 3 CCR Article 14 is not required to have an ingredient statement.
- The net weight or volume of the lot or parcel, unless accompanied by a certificate of weights and measures.
- The name and principal address of the manufacturer or person that is responsible for placing the product on the market.

**This section provides the definition and additional labeling requirements for each of the Eligible Human Food By-products listed in 3 CCR Section 2750(e)(1).**

### **Brewer’s Products**

**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.

**Brewers Liquid Yeast** is the non-fermentative, non-extracted yeast of the botanical classification *Saccharomyces* resulting as a by-product from the brewing of beer and ale.

- It must contain not less than 35 percent crude protein on a dry weight basis.
- The guaranteed analysis shall include the maximum percent moisture.

### **Human Food By-Products**

**Cereal Food Fines** consists of particles of breakfast cereals obtained as a by- product of their processing.

**Dried Bakery Product** is a mixture of bread, cookies, cake, crackers, flours, and



doughs which has been mechanically separated from non-edible material, artificially dried and ground.

- If the product contains more than 3.5 percent salt, the maximum percentage of salt must be a part of the name on the label; i.e. Dried Bakery Product with [X]% Salt.

**Cull Fruit or Vegetables** means 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. The label for these products shall include:

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

**\*The following definitions with an asterisk (\*) have the following requirements:**

\*Use of this ingredient, from mammalian origins, is restricted to non-ruminant feeds unless specifically exempted by Code of Federal Regulation (CFR), Title 21, Section 589.2000. Feeds containing prohibited material must bear the following label statement: “Do not feed to cattle or other ruminants.”

\*This ingredient may contain materials subject to the Swine Health Protection Act and may require additional processing controls, if fed to swine. Prior to the use of this ingredient for the feeding of swine or its use in the manufacturing of an ingredient or feed intended for swine, manufacturers and/or feeders should adhere to the provisions of the Swine Health Protection Act where appropriate (CFR, Title 9, Part 166).

**\*Wet Food Processing Waste** is composed of any and all animal and vegetable products from basic food processing. This may include manufacturing or processing waste, cannery residue, production over-run, and otherwise unsaleable material and is 70 percent moisture or higher.

- The guaranteed analysis shall include the maximum percent 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. Other examples of Wet Food Processing Waste may include, but are not limited to, tomato pomace, citrus pulp, beet pulp, and apple pomace.

**\*Restaurant Food Waste** is composed of edible food waste collected from restaurants, cafeterias, and other institutes of food preparation. Processing and/or handling must remove any and all undesirable constituents including crockery, glass, metal, string, and similar materials.

- The guaranteed analysis shall include maximum percent moisture, unless the product is dried by artificial means to less than 12 percent moisture and



designated as “Dehydrated Restaurant Food Waste.”

- If part of the grease and fat is removed it must be designated as “Degreased.”

**\*Recovered Retail Food** is composed of edible human food products safe and suitable for livestock feed that are collected from retail food establishments, domestic holding facilities, and domestic packing facilities. Permitted recovered retail foods are products from overstocks, lacking consumer acceptance, or beyond their sell-by date that include items such as bruised, cut, or overly ripe produce (fruit and vegetables), bakery goods, eggs, and dairy products.

- It shall be safe and appropriately labeled for its intended use and shall be free of material harmful to animals.
- Materials excluded from this definition include pet foods and products containing beef, lamb, pork, poultry, fish, or shellfish.
- It must not contain packaging materials (e.g., plastics, glass, metal, string, Styrofoam, cardboard, and similar materials), flowers, potted plants, or potting soil.
- The recovered foods shall be collected and intermixed in secure holding containers to exclude unauthorized addition of trash, materials harmful to animals, or infestation and adulteration by pests.
- Egg and dairy products (and other products ordinarily held at refrigerator temperatures) 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.

## **Milk Products**

**Condensed Whey Permeate** is the product resulting from the removal of proteins from whey permeate. It shall be labeled to show:

- minimum percent total whey product solids
- minimum percent crude protein
- minimum percent lactose
- maximum percent ash
- maximum percent equivalent crude protein from non-protein nitrogen

**Condensed Whey Product** is the product obtained by partially removing water from whey from which a portion of the lactose, protein and/or minerals have been removed. It shall be labeled to show:

- minimum percent of solids





- minimum percent crude protein
- minimum percent lactose
- maximum percent ash

May also be labeled “condensed reduced minerals whey” or “condensed reduced lactose whey,” if appropriate.

**Condensed Delactosed Whey Permeate** is the product resulting from the removal of lactose from whey permeate. It shall be labeled to show:

- minimum percent total whey product solids
- minimum percent lactose
- minimum percent crude protein
- minimum percent crude fat
- maximum percent ash
- maximum percent equivalent crude protein from non-protein 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 foods 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 wastes may be included. This product is to be fed at levels less than 25 percent of the animal’s total dry matter intake. It shall be labeled to show:

- minimum percent of solids
- minimum percent crude protein
- minimum percent crude fat
- maximum percent ash

**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.