



CA Commercial Feed Label Review Checklist

The California Department of Food and Agriculture's (CDFA) Safe Animal Feed Education Program (SAFE) guidance materials are provided for educational purposes only and do not guarantee adequacy of procedures or compliance with regulations.

1. Does the feed label contain each of the following basic components?

**Food and Agricultural Code (FAC), Section 14992*

- Product name, brand name, or trademark*
- Name and principal address of the manufacturer*
- Net weight or volume unless accompanied by a weight certificate*
- Ingredients are approved for use in feed (**See # 2**)
California Code of Regulations (CCR), Section 2676(b)
- Guaranteed analysis* (**See # 4**)
- Complete list of ingredients using the recognized official name* (**See # 8**)
- Applicable warnings and caution statements*
- Depending on the ingredients and intended use of the feed, adequate directions for use are provided for the feed to be used safely*.
- Requirements for selenium, medication, non-protein nitrogen, etc.? (**See #9- #13**)

2. Are all ingredients and additives approved for use in feed?

- Ingredients are defined in CCR Article 14, Sections 2773-2804 (NOTE: CDFA is working to revise Article 14 to align with American Association of Feed Control Officials (AAFCO). In most cases, CDFA accepts the AAFCO feed terms and definitions; however, labeling requirements may vary and must be in accordance with Article 14.)
- If an ingredient is not found in Article 14, check the AAFCO Official Publication Chapter 6. Free electronic access is found on the AAFCO website at:
<https://www.aaferg.org/Publications/OP-Chapter-6-Public-Access>
- Check the United States (U.S.) Food and Drug Administration (FDA) Generally Recognized as Safe (GRAS) for Animals Inventory: <https://www.fda.gov/animal-veterinary/generally-recognized-safe-gras-notification-program/current-animal-food-gras-notices-inventory>

If you are unable to determine if the ingredient is approved for use in feed, contact the SAFE program at safe@cdfa.ca.gov for inquiries regarding feed ingredients.

*Example labels and guidance are provided in the Commercial Feed Label Guide:
[https://www.cdfa.ca.gov/is/ffldrs/pdfs/California Commercial Feed Labeling Guide.pdf](https://www.cdfa.ca.gov/is/ffldrs/pdfs/California%20Commercial%20Feed%20Labeling%20Guide.pdf)*



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3. Does the packaging advertising or product label contain any drug claims?

Food and Agricultural Code (FAC) Section 14928. "Drug" means any substance which is intended, or represented, for use in the diagnosis, cure, mitigation, treatment, or prevention of any disease in any animal, and any other substance, except feed, which is intended to affect the structure or any function of the body of any animal.

- Feeds medicated with an FDA approved drug only have claims consistent with the FDA Code of Federal Regulations (CFR) approval and indication of use for that drug and species.
- Any other claims may need to be removed from the label, or the product may need to be reviewed by the CDFA Livestock Drugs program by emailing shelly.king@cdfa.ca.gov.

4. Does the Guaranteed Analysis correctly display all required components?

CCR Section 2694

- Minimum percent of crude protein.
- Minimum percent of crude fat.
- Maximum percent of crude fiber.
- Maximum percent of ash.
 - Guarantees for the minimum and maximum percentage calcium, minimum percentage phosphorus, and maximum percentage of sodium may be stated in lieu of the ash guarantee, and must be guaranteed, if present, when ash is over 9.0%.
- Maximum percentage of moisture when moisture exceeds 15.0%.
- Maximum percentage of sodium if sodium is over 0.5%.
- Numerical value for any special quality claimed on the label, including vitamin potency, amino acid content, or mineral content.
- Percentage of inert materials contained in a formula feed (such as bentonite), must be guaranteed if they singly or collectively make up more than 1.0%.
- Guarantees based on As-fed values

5. Is this feed label for a single ingredient product (i.e., almond hulls)?

- Single ingredients may have additional specifications for the Guaranteed Analysis: Reference the CCR Sections 2770-2804 for special label requirements within each ingredient definition.

6. Does this feed label fall under 'Labeling for Special Purposes' CCR 2697(b); and therefore, have different guaranteed analysis requirements?

- The guarantees outlined in #4 may be replaced with guarantees pertinent to special purpose commercial feeds and feed ingredients when the feed is:

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- sold primarily for drug, mineral, or vitamin content;
- or when labeled in accordance with the CCR, Sections 2783.5, 2788(g), (h), (i), (j), (l), (m), 2789(p), (r), (t), (u), 2790, 2790.5, 2790.7 and 2802(e).

7. Is the feed a liquid feed (molasses)? If yes, then:

- Label shall include the minimum percentage total sugar expressed as invert and maximum percentage of moisture or minimum percentage of dry matter.
- Guarantees for crude fat or crude fiber are not required in liquid feed when there is less than 1% of either constituent.

8. Does the ingredient list correctly display all required components? CCR 2694, 2695, 2696

Ingredient list is not required for a single ingredient using an official name.

- The “recognized official name” of each ingredient is used.
- Ingredients are listed in order of decreasing amounts.
- Maximum percentage of low nutrition ingredients in a formula feed if they singly or collectively make up more than 1.0% of the formula.
- Trademarked products, if listed, are followed by parenthesis with the ingredients in the product listed in decreasing amounts present.
- There is NO use of misleading and indefinite statements concerning ingredients and value of ingredients of the feed.
 - Included within this prohibition is the use of such terms as “better”, “high”, “increased”, “greater”, “low”, “decreased”, “less”.
- If the collective term “grains” is used, it only includes the following:
 - Barley, Corn, Grain Sorghums, Oats, Rye, and Wheat.
- If the term “roughage products” is used, it is **only in labeling medicated, mineral, and vitamin premixes.**
 - Recommended use level of the premix in the total ration is specified to be one percent or less of the total ration.
 - Only includes Almond Hull Products, Barley Hulls, Corn Cob Fractions, Cottonseed Hulls, Grape Pomace, Oat Hulls, Rice products, Rye, Mill Run, Soybean Hulls, Soybean Mill Feed, Soybean Mill Run, Citrus Meal, Dried Citrus Pulp, Wheat products.

The remaining items are applicable when feed contains certain feed additives or drugs which require additional label statements.

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9. Does the feed contain a combination of drugs, pesticides, selenium, and/or NPN?

- The label provides feeding directions which are consistent with the approved and safe feeding levels of every component of the feed simultaneously.
- The label contains all required caution and warning statements.

10. Does the feed contain an insect growth regulator, such as diflubenzuron?

- Use, labeling, and feeding rate is in accordance with the original product label that is registered with the U.S. Environmental Protection Agency (EPA). Search registered labels here: <https://ordspub.epa.gov/ords/pesticides/f?p=PPLS:1>

11. Does the feed contain Non-Protein Nitrogen (NPN)? If yes, then *CCR Section 2707*

- The maximum percent of equivalent crude protein from nonprotein nitrogen appears immediately below the guarantee for the minimum percent of crude protein.
- If the commercial feed, including liquid feed, contains more than 8.75% equivalent crude protein from all forms of nonprotein nitrogen, or if the equivalent crude protein from all forms of nonprotein nitrogen exceeds one-third of the total crude protein, the label shall bear a warning statement followed by feeding directions for the safe use of the feed.

WARNING EXCESSIVE CONSUMPTION MAY RESULT IN ADVERSE
TOXIC REACTION USE ONLY AS DIRECTED

- The directions shall include the following: "Consumption should be carefully controlled until animals become adjusted to the feed. Additional care should be exercised with starved, stressed, or debilitated animals."
- Recommended daily intake levels shall be given, as well as the statement that all manufacturer's directions for use must be followed carefully.

12. Does the feed contain more than 0.3 ppm added selenium? If yes, then: *CCR 2697(d)*

- The statement "Caution: Follow label directions: Feeding added selenium at levels in excess of 0.3 ppm in the total diet is prohibited."
- Selenium minimum and maximum ppm is guaranteed.
- Feeding and/or mixing instructions regarding selenium are provided.
 - The instructions provided are accurate to result in a total ration which does not exceed 0.3 ppm per day or other requirements summarized in Table 1.
 - See example calculations on page 5-6.



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Table 1. Summary of federal regulations controlling selenium level in feeds.

Source: Code of Federal Regulations Title 21 Section 573.920

Selenium Allowed	Beef Cattle	Sheep	All species
Maximum in Total Diet	0.3 ppm	0.3 ppm	0.3 ppm
Maximum per Head per Day	3 milligrams	0.7 milligrams	N/A
Maximum concentration in free-choice feed	90 ppm	120 ppm	N/A

Selenium Example Calculations

Example 1

Selenium Minimum..... 1 ppm

Selenium Maximum.....1.2 ppm

Feeding directions: Do not feed as more that 25% of total daily ration to not exceed 0.3 ppm selenium in the total daily ration.

Equation:

Maximum Se ppm x % of total daily ration = Total Se ppm in daily ration

$$1.2 \text{ ppm} \times 0.25 = 0.3 \text{ ppm}$$

The feeding directions are correct because they result in a total daily ration which does not exceed 0.3 ppm selenium.

Example 2

Selenium Minimum.....53 ppm

Selenium Maximum.....56 ppm

Mixing directions: Blend this premix at a rate not to exceed 10 lbs./ ton to provide 0.3 ppm selenium in the total daily ration.

Equation:

(Pounds premix/ton x Maximum Se ppm) ÷ 2,000 = Total Se ppm in daily ration

$$(10 \text{ lbs.} \times 56 \text{ ppm}) \div 2,000 = 0.28 \text{ ppm}$$

The feeding directions are correct because they result in a total daily ration which does not exceed 0.3 ppm selenium.

Example 3

Selenium Minimum.....0.6 ppm

Selenium Maximum.....0.7 ppm

Feeding directions: Feed to sheep at a rate not to exceed 2 lbs. per head day to provide no more than 0.7 mg/hd/day.

Equation:

lbs. of feed x (max Se ppm ÷ 2.2) = mg Se per head per day

$$2 \text{ lbs.} \times (0.7 \text{ ppm} \div 2.2) = 0.7 \text{ mg per head per day}$$



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The feeding directions are correct because they result in a feeding rate which does not exceed 0.7 mg per head per day for sheep.

Example 4

Selenium Minimum.....26 ppm

Selenium Maximum.....28 ppm

Feeding directions: Feed to beef cattle at a rate of 3.7 oz per head per day, providing 2.9 mg selenium per head per day.

Equation:

$$(\text{oz of feed} \div 16 \text{ oz/lb.}) \times (\text{max Se ppm} \div 2.2) = \text{mg Se per head per day}$$

$$(3.7 \div 16 \text{ oz/lb.}) \times (28 \div 2.2) = 2.9 \text{ mg per head per day}$$

The feeding directions are correct because they result in a total daily ration which does not exceed 3 mg per head per day for beef cattle.

13. Is it medicated feed? If yes, then: CCR Section 2700, 2701

Additional guidance and example labels are provided in the SAFE Medicated Feed Label Guide:

https://www.cdfa.ca.gov/is/ffldrs/pdfs/SAFE_Medicated_Feed_Label_Guidance.pdf

- The indication of use for FDA approved drugs matches the FDA’s CFR. View the FDA drug approvals on the FDA website:
<https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?CFRPart=558>
 - The concentration of the feed (g/ton) is within the allowed range specified in the CFR (if applicable)
 - The final dosage and/or feeding rate is within the allowed range specified in the CFR (if applicable).
- The term “MEDICATED” prominently displayed immediately above or below the name
- The indication(s) of use for each drug (specific to species and production class and matches the FDA CFR approval)
- The name and quantity of each drug (in units consistent with the FDA’s CFR)
- Relevant warnings, caution statements, withdrawal time as indicated in the FDA’s CFR
- Lot number for feed sold without a weight certificate
- The feeding directions are adequate:
 - Do they provide how much to feed an animal or mix per ton?
 - Does this match the approved drug dosage for the species and class of animal and indication for use stated on the label?

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- Is the amount to feed realistic? (Can the animal physically consume the correct amount of feed to reach the approved level of drug?)
- If applicable, the feeding and/or mixing directions are accurate to provide the level of drug intended and consistent the FDA's approved dosage.
 - AAFCO provides a medicated feed calculator:
<https://www.aaeco.org/Regulatory/Medicated-Feed-Calculators>
 - See example calculations beginning on page 7.

Table 2. Common Conversion Factors

% to ppm	00.0050% → (move decimals to the right 4 places OR multiply by 10000) → 50ppm
ppm to mg/lb	10ppm → (divide by 2.2) → 4.5mg/lb
ppm to mg/kg	10ppm → 10mg/kg
ppm to ppb	1ppm → (move decimal right 3 places) → 1000ppb
g/ton to mg/lb	50g/ton → (divide by 2) → 25mg/lb
% to mg/lb	0.033% → (multiply by 4545.5) → 150mg/lb

Medicated Feed Example Calculations

These equations use a known drug concentration of the feed and approved dosage of the drug to determine the correct feeding directions. When checking a feed label feeding directions for accuracy, the answers from these equations should match what is stated on the label.

Directions to provide correct milligrams of drug per animal:

Determine how many pounds of medicated feed are needed to provide the approved dosage when approved dosage is in milligrams per head per day (mg/hd/day) or milligrams per pound of bodyweight (BW) or milligrams per 100 lbs. BW, etc.

- Step 1: If not already in mg/lb., convert feed drug concentration into mg/lb.
- Step 2: Approved Dosage ÷ Concentration of Drug in Feed (Figure 1).

Approved Dosage: _____ mg per (head OR lb. BW OR 100 lbs. BW)	÷	Concentration of Drug in Feed _____ mg/lb.
= _____ lbs. of medicated feed needed to provide the approved dosage per head OR per lb. BW OR per 100 lbs. BW.		

Figure 1. Worksheet for calculations to determine lbs. of medicated feed needed to provide the approved dosage in mg per lb.



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Example 1

Decoquinat.....44 g/ton

FDA approved dosage for this example: 22.7 milligrams per 100 lbs. bodyweight.

Step 1: $44 \text{ g/ton} \div 2 = 22 \text{ mg/lb.}$ (concentration decoquinat in feed)

Step 2: $22.7 \text{ mg/ 100 lbs. BW} \div 22 \text{ mg/lb.} = 1.03 \text{ lb.}$

Feeding directions may state: “feed 1 pound per 100 lbs. of bodyweight per head per day to provide 22.7 mg per 100 lbs. of bodyweight”.

Feeding directions may also be placed in a table with weights of animals:

Calf bodyweight (lbs.)	Feeding rate (lbs. per head per day)
100	1
150	1.5
200	2

Example 2

Monensin.....100 g/ton

FDA approved dosage for this example: 0.14 to 1.0 mg/lb. of bodyweight up to 200 mg/head/day.

Step 1: $100 \text{ g/ton} \div 2 = 50 \text{ mg/lb.}$ (concentration monensin in feed)

Step 2 (a) lowest dose: $0.14 \text{ mg/lb.} \div 50 \text{ mg/lb.} = 0.0028 \text{ lb.}$

Step 2 (b) highest dose: $1.0 \text{ mg/lb.} \div 50 \text{ mg/lb.} = 0.02 \text{ lb.}$

Additional step: determine how much feed would meet the maximum approved level of 200 mg/hd/day:

$200 \text{ mg} \div 50 \text{ mg/lb.} = 4 \text{ lbs. of feed maximum}$

Feeding directions may state “feed between 0.003 to 0.02 pound of feed per pound of bodyweight per day up to a maximum 4 lbs. per head per day to not exceed 200 mg per head per day”. However, it is acceptable to convert the dosage into unit of higher lbs. of bodyweight to make the feeding directions more practical, such as 50 lbs. of BW:

$0.0028 \times 50 \text{ lbs. of BW} = 0.14 \text{ lbs./ 50 lbs. BW}$

$0.02 \times 50 \text{ lbs. of BW} = 1.0 \text{ lbs./ 50 lbs. BW}$



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Now, the feeding directions may state “feed between 0.14 to 1 lb. per 50 lbs. of bodyweight up to a maximum of 4 lbs. per head per day to not exceed 200 mg per head per day”.

Feeding directions may also be placed in a table with weights of the intended animals:

Calf Bodyweight (lbs.)	Minimum lbs. per day	Maximum lbs. per day
50	0.14	1
100	0.28	2
150	0.42	3
200	0.56	4
250	0.70	4

Directions to provide correct mixing directions per ton of feed

Determine how many pounds of medicated feed to add per ton of mixed feed or total mixed ration (TMR) to reach a certain g/ton of medication in the mixed feed.

Step 1: Convert feed drug concentration (stated on the label) into g/lb.:

- $\text{g/ton} \div 2,000 = \text{g/lb.}$
- $\text{mg/lb.} \div 1,000 = \text{g/lb.}$

Step 2: $\text{Desired Feed Concentration (g/ton)} \div \text{Feed Concentration (g/lb.)}$ (**Figure 2**).

Step 3 (if applicable): Convert values based on varying levels of moisture (dry matter) in a TMR.

Desired Feed concentration: _____g/ton	÷	Feed Concentration on Label: _____g/lb.
= _____ lbs. of medicated feed to add per ton of mixed feed.		

Figure 2. Worksheet for calculations to determine lbs. of medicated feed to add per ton to reach a desired drug concentration.

Example 1

Type B Medicated Feed

Lasalocid.....1000 g/ton

FDA approved Type C concentration for this example: 25-30 g/ton to provide not less than 250 mg nor more than 360 mg/head/day.



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Step 1: $1000 \text{ g/ton} \div 2,000 = 0.50 \text{ g/lb.}$

Step 2 (a) lowest concentration: $25 \text{ g/ton} \div 0.50 \text{ g/lb.} = 50 \text{ lbs.}$

Step 2 (b) highest concentration: $30 \text{ g/ton} \div 0.50 \text{ g/lb.} = 60 \text{ lbs.}$

Mixing directions may state: Thoroughly mix lasalocid Type B medicated feed into one ton of mixed feed at a rate of 50 lbs. (1 bag) to 60 lbs. to provide a Type C medicated feed that is 25-30 g/ton.

Additional step: How much of this feed would be needed to stay within the 250-360 mg/head/day requirement of the approval? It is important to check this step to ensure the drug concentration is appropriate for the intended animal.

First, convert the g/ton of both the highest and lowest Type C medicated feed options into mg/lb.:

$$25 \text{ g/ton} \div 2 = 12.5 \text{ mg/lb.}$$

$$30 \text{ g/ton} \div 2 = 15 \text{ mg/lb.}$$

Now, check both the low and high approved dosage at both drug concentrations:

$$250 \text{ mg per head per day} \div 15 \text{ mg/lb.} = 16.6 \text{ lbs. Type C feed per head per day}$$

$$250 \text{ mg per head per day} \div 12.5 \text{ mg/lb.} = 20 \text{ lbs. Type C feed per head per day}$$

$$360 \text{ mg per head per day} \div 15 \text{ mg/lb.} = 24 \text{ lbs. Type C feed per head per day}$$

$$360 \text{ mg per head per day} \div 12.5 \text{ mg/lb.} = 28.8 \text{ lbs. Type C feed per head per day}$$

The feeding direction may additionally state: "In order to provide not less than 250 nor more than 360 mg/hd/day a Type C medicated feed of 25 g/ton must be fed at 20 to 28.8 lbs. per head per day or a Type C medicated feed of 30 g/ton must be fed at 16.6 to 24 lbs. per head per day."

Example 2

Type B Medicated Feed

Monensin.....500 g/ton

FDA approved Type C concentration for this example: Feed a TMR containing 11-22 g/ton monensin on a 100% dry matter (DM) basis.

Step 1: $500 \text{ g/ton} \div 2,000 = 0.25 \text{ g/lb.}$

Step 2 (a) lowest concentration: $11 \text{ g/ton} \div 0.25 \text{ g/lb.} = 44 \text{ lbs. (100% DM basis)}$

Step 2 (b) highest concentration: $22 \text{ g/ton} \div 0.25 \text{ g/lb.} = 88 \text{ lbs. (100% DM basis)}$



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Step 3: Convert values based on varying levels of moisture (or dry matter) in a TMR.

Equation: 100% DM basis lbs. x DM% of ration = As-fed pounds

What is Dry Matter?

Dry matter is all components of the feed except water, therefore mathematically percentage of dry matter (% DM) = 100 - % moisture.

Rations and drug concentrations are either formulated on a “dry-matter basis” (100% DM), or an “as-fed basis” (moisture level actually fed). When feeding wet ingredients such as silage the DM% of the TMR may be as low as 50%. Therefore, formulating a medicated feed at 100% DM calculations when the actual TMR is 50% water would result in animals receiving twice the intended dose of medication. Feeding and mixing directions should account for moisture when intended for dairy TMR herds or any other high moisture ration.

If the final Type C medicated TMR is 11 g/ton and 55% DM, then the pounds of Type B medicated feed to add per ton is:

44 lbs. x 0.55 = 24.2 lbs. Type B medicated feed added per ton Type C medicated TMR

Remember: Adding moisture (water) is displacing the dry matter component of the feed. 1 ton of a TMR at 55% DM is 1,100 lbs. of “feed” and 900 lbs. of water. Therefore, as-fed basis is always less concentrated than dry matter basis.

The feeding directions for this example may include a table with various drug concentrations and TMR DM%.

Amount (lbs.) of Type B medicated feed to add per ton of TMR:

Amount of monensin in Type B Medicated Feed	Dry Matter (%) of TMR	Monensin concentration on 100% DM basis		
		11 g/ton	15 g/ton	22 g/ton
500 g/ton	55%	24.2	33	48.4
	60%	26.4	36	52.8
	65%	28.6	39	57.2