

## **12 KAR 2:018. Guaranteed analysis.**

RELATES TO: KRS 250.491-250.631

STATUTORY AUTHORITY: KRS 250.521(1)(b), 250.571(1)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 250.571(1) authorizes the Director of the Agricultural Experiment Station to promulgate administrative regulations necessary for the efficient enforcement of KRS 250.491 to 250.631, regarding commercial feeds. KRS 250.521(1)(b) requires that a commercial feed label contain a guaranteed analysis stated in terms the director by administrative regulation determines are required to advise the user of the composition of the feed or to support claims made in the labeling. This administrative regulation establishes a uniform format for the nutritional guarantees required as a part of the commercial feed label.

Section 1. The nutritional guarantees shall be listed in the following order: crude protein, equivalent crude protein from nonprotein nitrogen, amino acids, crude fat, crude fiber, acid detergent fiber, neutral detergent fiber, calcium, phosphorus, salt, and sodium. Other guarantees shall follow in a general format with the units of measure used to express guarantees (percentage, parts per million, international units, etc.) listed in a sequence that provides a consistent grouping of the units of measure.

### **Section 2. Required Guarantees for Swine Formula Feeds.**

(1) The animal classes for swine shall be:

- (a) Prestarter - two (2) to eleven (11) pounds;
- (b) Starter - eleven (11) to forty-four (44) pounds;
- (c) Grower - forty-four (44) to 110 pounds;
- (d) Finisher - 110 pounds to market weight;
- (e) Gilts, sows, and adult boars; and
- (f) Lactating gilts and sows.

(2) The guaranteed analysis for swine complete feeds and supplements (all animal classes) shall include the:

- (a) Minimum percentage of crude protein;
- (b) Minimum percentage of lysine;
- (c) Minimum percentage of crude fat;
- (d) Maximum percentage of crude fiber or acid detergent fiber (ADF);
- (e) Minimum and maximum percentage of calcium;
- (f) Minimum percentage of phosphorus;
- (g) Minimum and maximum percentage of salt (if added);
- (h) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee; and
- (i) Minimum selenium in parts per million (ppm).

### **Section 3. Required Guarantees for Formula Poultry Feeds (Chicken and Turkey).**

(1) The animal classes for layer chickens that are grown to produce eggs for food shall be:

- (a) Starting/ growing - from day of hatch to approximately ten (10) weeks of age;
- (b) Finisher - from approximately ten (10) weeks of age to time first egg is produced (approximately twenty (20) weeks of age);
- (c) Laying - chickens from time first egg is laid throughout the time of egg production; and
- (d) Breeders - chickens that produce fertile eggs to hatch replacement layers that produce eggs for food.

(2) The animal classes for broiler chickens that are grown for human food shall be:

- (a) Starting/ growing - from day of hatch to approximately five (5) weeks of age;

- (b) Finisher - from approximately five (5) weeks of age to market, (forty-two (42) to fifty-two (52) days); and
  - (c) Breeders - hybrid strains of chickens whose offspring are grown for human food (broilers), any age and either sex.
- (3) The animal classes for breeder chickens whose offspring (broilers) are grown for human food shall be:
- (a) Starting/ growing - from day of hatch until approximately ten (10) weeks of age;
  - (b) Finishing - from approximately ten (10) weeks of age to time first egg is produced, approximately twenty (20) weeks of age; and
  - (c) Laying - fertile egg producing chickens (broilers/roasters) from day of first egg throughout the time fertile eggs are produced.
- (4) The animal classes for turkeys shall be:
- (a) Starting/ growing - turkeys that are grown for human food from day of hatch to approximately thirteen (13) weeks of age (females) and sixteen (16) weeks of age (males);
  - (b) Finisher - turkeys that are grown for human food, females from approximately thirteen (13) weeks of age to approximately seventeen (17) weeks of age, males from sixteen (16) weeks of age to twenty (20) weeks of age, or desired market weight;
  - (c) Laying - female turkeys that are producing eggs, from time first egg is produced, throughout the time they are producing eggs; and
  - (d) Breeder - turkeys that are grown to produce fertile eggs, from day of hatch to time first egg is produced (approximately thirty (30) weeks of age), both sexes.
- (5) The guaranteed analysis for poultry complete feeds and supplements (all animal classes) shall include the:
- (a) Minimum percentage of crude protein;
  - (b) Minimum percentage of lysine;
  - (c) Minimum percentage of methionine;
  - (d) Minimum percentage of crude fat;
  - (e) Maximum percentage of crude fiber or acid detergent fiber (ADF);
  - (f) Minimum and maximum percentage of calcium;
  - (g) Minimum percentage of phosphorus;
  - (h) Minimum and maximum percentage of salt (if added); and
  - (i) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee.

#### Section 4. Required Guarantees for Beef Cattle Formula Feeds.

- (1) The animal classes for beef cattle shall be:
- (a) Calves (birth to weaning);
  - (b) Cattle on pasture (may be specific as to production stage; e.g., stocker, feeder, replacement heifers, brood cows, bulls, etc.); and
  - (c) Feedlot cattle.
- (2) The guaranteed analysis for beef complete feeds and supplements (all animal classes) shall include the:
- (a) Minimum percentage of crude protein;
  - (b) Maximum percentage of equivalent crude protein from non-protein nitrogen (if added);
  - (c) Minimum percentage of crude fat;
  - (d) Maximum percentage of crude fiber or acid detergent fiber (ADF);
  - (e) Minimum and maximum percentage of calcium;
  - (f) Minimum percentage of phosphorus;
  - (g) Minimum and maximum percentage of salt (if added);

- (h) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee;
  - (i) Minimum percentage of potassium; and
  - (j) Minimum vitamin A, other than precursors of vitamin A, in international units per pound (if added).
- (3) The guaranteed analysis for beef mineral feeds (if added) shall include the:
- (a) Minimum and maximum percentage of calcium;
  - (b) Minimum percentage of phosphorus;
  - (c) Minimum and maximum percentage of salt;
  - (d) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee;
  - (e) Minimum percentage of magnesium;
  - (f) Minimum percentage of potassium;
  - (g) Minimum copper in parts per million (ppm);
  - (h) Minimum selenium in parts per million (ppm);
  - (i) Minimum zinc in parts per million (ppm); and
  - (j) Minimum vitamin A, other than precursors of vitamin A, in international units per pound.

#### Section 5. Required Guarantees for Dairy Formula Feeds.

- (1) The animal classes for dairy cattle shall be:
- (a) Veal milk replacer - milk replacer fed to calves for veal production;
  - (b) Herd milk replacer - milk replacer fed to calves for herd replacement and other uses;
  - (c) Starter - calf from approximately three (3) days to three (3) months of age;
  - (d) Non-lactating dairy cattle: replacement dairy heifers, dairy bulls, and dairy calves;
  - (e) Lactating dairy cows; and
  - (f) Dry dairy cows.
- (2) The guaranteed analysis for veal and herd milk replacer shall include the:
- (a) Minimum percentage of crude protein;
  - (b) Minimum percentage of crude fat;
  - (c) Maximum percentage of crude fiber;
  - (d) Minimum and maximum percentage of calcium;
  - (e) Minimum percentage of phosphorus; and
  - (f) Minimum vitamin A, other than precursors of vitamin A, in international units per pound (if added).
- (3) The guaranteed analysis for dairy cattle complete feeds and supplements shall include the:
- (a) Minimum percentage of crude protein;
  - (b) Maximum percentage of equivalent crude protein from non-protein nitrogen (NPN) (if added);
  - (c) Minimum percentage of crude fat;
  - (d) Maximum percentage of crude fiber;
  - (e) Maximum percentage of acid detergent fiber (ADF);
  - (f) Minimum and maximum percentage of calcium;
  - (g) Minimum percentage of phosphorus;
  - (h) Minimum selenium in parts per million (ppm); and
  - (i) Minimum vitamin A, other than precursors of vitamin A, in international units per pound (if added).
- (4) The guaranteed analysis for dairy mixing and pasture mineral (if added) shall include the:
- (a) Minimum and maximum percentage of calcium;

- (b) Minimum percentage of phosphorus;
- (c) Minimum and maximum percentage of salt;
- (d) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee;
- (e) Minimum percentage of magnesium;
- (f) Minimum percentage of potassium;
- (g) Minimum selenium in parts per million (ppm); and
- (h) Minimum vitamin A, other than the precursors of vitamin A, in international units per pound.

Section 6. Required Guarantees for Equine Complete Feeds and Supplements (All Classes).

- (1) The equine animal classes shall be:
  - (a) Growing;
  - (b) Broodmare;
  - (c) Maintenance; and
  - (d) Performance (including stallions).
- (2) The guaranteed analysis for equine complete feeds and supplements (all animal classes) shall include the:
  - (a) Minimum percentage of crude protein;
  - (b) Minimum percentage of crude fat;
  - (c) Maximum percentage of crude fiber;
  - (d) Maximum percentage of Acid Detergent Fiber (ADF);
  - (e) Maximum percentage of Neutral Detergent Fiber (NDF);
  - (f) Minimum and maximum percentage of calcium;
  - (g) Minimum percentage of phosphorus;
  - (h) Minimum copper in parts per million (ppm) (if added);
  - (i) Minimum selenium in parts per million (ppm);
  - (j) Minimum zinc in parts per million (ppm); and
  - (k) Minimum vitamin A, other than the precursors of vitamin A, in international units per pound (if added).
- (3) The guaranteed analysis for equine mineral feed shall include the:
  - (a) Minimum and maximum percentage of calcium;
  - (b) Minimum percentage of phosphorus;
  - (c) Minimum and maximum percentage of salt (if added);
  - (d) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee;
  - (e) Minimum copper in parts per million (ppm) (if added);
  - (f) Minimum selenium in parts per million (ppm);
  - (g) Minimum zinc in parts per million (ppm); and
  - (h) Minimum vitamin A, other than the precursors of vitamin A, in international units per pound (if added).

Section 7. Required Guarantees for Goat Formula Feeds.

- (1) The animal classes for goats shall be:
  - (a) Starter;
  - (b) Grower;
  - (c) Finisher;
  - (d) Breeder; and
  - (e) Lactating.
- (2) The guaranteed analysis for goat complete feeds and supplements (all animal classes) shall include the:
  - (a) Minimum percentage of crude protein;

- (b) Maximum percentage of equivalent crude protein from non-protein nitrogen (NPN) (if added);
- (c) Minimum percentage of crude fat;
- (d) Maximum percentage of crude fiber;
- (e) Maximum percentage of acid detergent fiber;
- (f) Minimum and maximum percentage of calcium;
- (g) Minimum percentage of phosphorus;
- (h) Minimum and maximum percentage of salt (if added);
- (i) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee;
- (j) Minimum and maximum copper in parts per million (ppm) (if added);
- (k) Minimum selenium in parts per million (ppm); and
- (l) Minimum vitamin A, other than precursors of vitamin A, in international units per pound (if added).

#### Section 8. Required Guarantees for Sheep Formula Feeds.

- (1) The animal classes for sheep shall be:
  - (a) Starter;
  - (b) Grower;
  - (c) Finisher;
  - (d) Breeder; and
  - (e) Lactating.
- (2) The guaranteed analysis for sheep complete feeds and supplements (all animal classes) shall include the:
  - (a) Minimum percentage of crude protein;
  - (b) Maximum percentage of equivalent crude protein from non-protein nitrogen (NPN) (if added);
  - (c) Minimum percentage of crude fat;
  - (d) Maximum percentage of crude fiber or acid detergent fiber (ADF);
  - (e) Minimum and maximum percentage of calcium;
  - (f) Minimum percentage of phosphorus;
  - (g) Minimum and maximum percentage of salt (if added);
  - (h) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee;
  - (i) Minimum and maximum copper in parts per million (ppm) (if added, or total copper exceeds 20 ppm);
  - (j) Minimum selenium in parts per million (ppm); and
  - (k) Minimum vitamin A, other than precursors of vitamin A, in international units per pound (if added).

#### Section 9. Required Guarantees for Ducks and Geese Formula Feeds.

- (1) The duck animal classes shall be:
  - (a) Starter - zero to three (3) weeks of age;
  - (b) Grower - three (3) to six (6) weeks of age;
  - (c) Finisher - six (6) weeks to market;
  - (d) Breeder developer - eight (8) to nineteen (19) weeks of age; and
  - (e) Breeder - twenty-two (22) weeks to end of lay.
- (2) The geese animal classes shall be:
  - (a) Starter - zero to four (4) weeks of age;
  - (b) Grower - four (4) to eight (8) weeks of age;
  - (c) Finisher - eight (8) weeks to market;
  - (d) Breeder developer - ten (10) to twenty-two (22) weeks of age; and
  - (e) Breeder - twenty-two (22) weeks to end of lay.

(3) The guaranteed analysis for duck and geese complete feeds and supplements (for all animal classes) shall include the:

- (a) Minimum percentage of crude protein;
- (b) Minimum percentage of crude fat;
- (c) Maximum percentage of crude fiber or acid detergent fiber (ADF);
- (d) Minimum and maximum percentage of calcium;
- (e) Minimum percentage of phosphorus;
- (f) Minimum and maximum percentage of salt (if added); and
- (g) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee.

**Section 10. Required Guarantees for Fish Complete Feeds and Supplements.**

(1) The following animal species shall be declared in lieu of an animal class:

- (a) Trout;
- (b) Catfish; and
- (c) Species other than trout or catfish.

(2) The guaranteed analysis for all fish complete feeds and supplements shall include the:

- (a) Minimum percentage of crude protein;
- (b) Minimum percentage of crude fat;
- (c) Maximum percentage of crude fiber or acid detergent fiber (ADF); and
- (d) Minimum percentage of phosphorus.

**Section 11. Required Guarantees for Rabbit Complete Feeds and Supplements.**

(1) The rabbit animal classes shall be:

- (a) Grower - four (4) to twelve (12) weeks of age; and
- (b) Breeder - twelve (12) weeks of age and over.

(2) The guaranteed analysis for rabbit complete feeds and supplements (all animal classes) shall include the:

- (a) Minimum percentage of crude protein;
- (b) Minimum percentage of crude fat;
- (c) Minimum and maximum percentage of crude fiber or acid detergent fiber (ADF) (the maximum shall not exceed the minimum by more than five (5.0) units);
- (d) Minimum and maximum percentage of calcium;
- (e) Minimum percentage of phosphorus;
- (f) Minimum and maximum percentage of salt (if added);
- (g) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee; and
- (h) Minimum vitamin A, other than precursors of vitamin A, in international units per pound (if added).

**Section 12. The required guarantees of grain mixtures and formula feeds and ingredients that are not specifically described in Sections 2 through 11 of this administrative regulation, or exempted under Section 13 of this administrative regulation, shall include the following items in the order listed:**

- (1) Minimum percentage of crude protein;
- (2) Minimum or maximum percentage of equivalent crude protein from non-protein nitrogen (NPN) as required in 12 KAR 2:021 (if added);
- (3) Minimum percentage of crude fat;
- (4) Maximum percentage of crude fiber or acid detergent fiber (ADF);
- (5) Minerals in formula feeds in the following order:
  - (a) Minimum and maximum percentage of calcium;
  - (b) Minimum percentage of phosphorus;
  - (c) Minimum and maximum percentage of salt (if added);

- (d) Minimum and maximum percentage of total sodium, if the total sodium exceeds that furnished by the maximum salt guarantee; and
- (e) Other minerals;
- (6) Minerals in feed ingredients as specified by the official definition of the Association of American Feed Control Officials;
- (7) Vitamins in the terms required by 12 KAR 2:021;
- (8) Total sugars as invert on dried molasses products or products being sold primarily for their sugar content;
- (9) Viable lactic acid producing microorganisms if used in silage products and direct fed microbial products guaranteed in terms specified in 12 KAR 2:021; and
- (10) If the item is a commercial feed (e.g., vitamin and mineral premix, base mix, etc.) intended to provide a specialized nutritional source for use in the manufacture of other feeds, its intended purpose and guarantee of those nutrients relevant to the stated purpose.

#### Section 13. Exemptions.

- (1) A mineral guarantee for feed, excluding those feeds manufactured as complete feeds and for feed supplements intended to be mixed with grain to produce a complete feed for swine, poultry, fish, or veal and herd milk replacers, shall not be required if:
  - (a) The feed or feed ingredient is not intended or represented or does not serve as a principle source of that mineral to the animal; or
  - (b) The feed or feed ingredient is intended for nonfood producing animals and contains less than six and five-tenths (6.5) percent total mineral.
- (2) Guarantees for vitamins shall not be required if the commercial feed is neither formulated for nor represented as a vitamin supplement.
- (3) Guarantees for crude protein, crude fat and crude fiber shall not be required if the commercial feed is intended for purposes other than to furnish these substances or they are of minor significance relating to the primary purpose of the product, such as a Type A drug article, mineral or vitamin supplements, or molasses.
- (4) Guarantees for microorganisms and enzymes shall not be required if the commercial feed is intended for a purpose other than to furnish these substances or they are of minor significance relating to the primary purpose of the product and no specific label claims are made.
- (5) The indication for animal class and species is not required on single ingredient products if the ingredient is not intended, represented, or defined for a specific animal class or species.

#### Section 14. Incorporation by Reference.

- (1) "Official Publication", 2018 Edition, Association of American Feed Control Officials, is incorporated by reference.
  - (2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Division of Regulatory Services, 103 Regulatory Services Building, College of Agriculture, University of Kentucky, Lexington, Kentucky 40546-0275, Monday through Friday, 8 a.m. to 4:30 p.m.
- (23 Ky.R. 1806; 2706; eff. 1-10-1997; 45 Ky.R. 385; eff. 10-10-2018.)