

# OFFICE OF THE TEXAS STATE CHEMIST

Texas Feed and Fertilizer Control Service • Agricultural Analytical Service

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## FEED INDUSTRY MEMORANDUM 5-20

### THE DISTRIBUTION OF FUMONISIN-CONTAINING WHOLE GRAIN, WHOLE SEEDS AND SCREENINGS IN COMMERCIAL CHANNELS AND THEIR USE IN MIXED FEEDS

#### OBJECTIVE:

To define the conditions under which fumonisin-containing feed ingredients may be introduced into Texas commercial channels for feed purposes. This memorandum outlines procedures under which the Texas Feed and Fertilizer Control Service (FFCS) will provide regulatory risk management for fumonisin. The Service recognizes the discrepancies between guidance by the Food and Drug Administration, Standards for measuring fumonisin by the United States Department of Agriculture Grain Inspection, Packers, and Stockyard Administration, and the regulations by the Texas Feed and Fertilizer Control Service. The Service also recognizes that no standards for blending fumonisin contaminated corn exist except for those provided by the Texas Feed and Fertilizer Control Service in this memorandum. The appendices in this document are intended to be adopted by industry to facilitate a consistent practice by the Texas grain, feed, and livestock industry to protect animal health and facilitate a transparent market place as well as provide legal certainty to firms.

#### BACKGROUND:

Fumonisin, metabolites produced by various *Fusarium* species, have been implicated as agents capable of causing death and/or severe injury to horses, loss of productivity in other species and cancer in humans. The Office has found these compounds both in corn and corn screenings.

The Office bases its authority on §141.002(c)(2), §141.051(a)(8), §141.147 and §141.148(a)(2) and (6) of the Texas Commercial Feed Control Act as amended.

#### POLICY:

##### A. Whole Grain and Whole Seed as Feed or for Use in Feed.

Grain and seed - not specifically exempt under the provisions of §141.002(c)(2) - **containing > 5 ppm fumonisin (F1, F2, F3) individual or in toto** as well as all grains and seeds specifically designated as wildlife are commercial feeds under §141.002(e) of the Texas Agriculture Code and are subject to regulation by the Act. Each facility that wishes to distribute fumonisin-containing feed ingredients above 5 ppm within the State or any grain and/or seed designated to wildlife, must be licensed and registered to distribute fumonisin containing grain and/or seed for this purpose as

required under §141.021, provide labeling as required under §141.051 & §141.052, report tonnage and pay appropriate inspection fees.

Grains, oilseeds, processed grain, and oilseed meal containing >5 ppm fumonisin may be introduced into commercial channels by a licensed firm. **Appendix I** explains which market participants must be licensed with OTSC.

Grains, oilseeds, processed grain, and oilseed meal containing fumonisin above 5 parts per million (ppm) require proper labeling as approved by OTSC (**Appendix II**) and targeted for animal species designed in the Texas Commercial Feed Rules §61.61(a)(7) as follows: ≤20 ppm for swine and catfish not to exceed 50% of diet, ≤30 ppm for breeding ruminants, breeding poultry, lactating dairy cattle and hens laying eggs for human consumption, and breeding mink not to exceed 50% of diet; ≤60 ppm for ruminants greater than 3 months old being raised for slaughter, and mink being raised for pelt products not to exceed 50% of diet; ≤100 ppm for poultry being raised for slaughter not to exceed 50% of diet; all other species or classes of livestock and pet animals ≤10 ppm not to exceed 50% of diet except equids and rabbits which should not exceed 5 ppm and 20% of diet.

A facility may distribute unprocessed whole corn originally containing **fumonsin** after blending it with similar corn so that the final blended product is below the appropriate maximum levels in corn used in animal feed described above and properly labeled (**Appendix III**). Blending is prohibited for any animal species with a ≤10 ppm regulatory limit. Each facility must provide a blending plan (**Appendix IV**) to the Office and, upon request, its records showing the name of the buyer and the amount sold to such buyer. The blending plan must include all elements within the One Sample Strategy mycotoxin risk management program including a plan for representative sampling and accurate testing, personnel qualification and record keeping. The Office of the Texas State Chemist monitors performance and verifies test results to ensure testing accuracy.

Sometimes, corn contains aflatoxin and fumonisin. In these instances, the label must designate both contaminants and meet regulatory maximum levels specified in the Texas Commercial Feed Rules §61.61(a)(6,7) as demonstrated in Appendix V.

#### **B. Meals and Screenings.**

Although distributors of meals and screenings should already be registrants, the presence of fumonisin above 5 ppm imposes exactly the same labeling requirements as imposed on distributors of whole grain.

#### **C. Enforcement.**

Enforcement options are described in the Texas Commercial Feed Laws and Rules. Registration, label violations and violations originating in failure to report, or report correctly, tonnage or in failure to pay fees will be dealt with within the existing framework of OTSC policy. Unlabeled grain, meal or screenings is by implication less than 5 ppm.

Dr. Timothy J. Herrman  
State Chemist & Director  
Office of the Texas State Chemist

## APPENDIX I

### THOSE WHO MUST OBTAIN A LICENSE, LABEL GRAIN AND PAY INSPECTION FEE

1. Farmers
  - A. Exempt from obtaining a license, labeling, and inspection fees when selling to licensed elevators.
  - B. Subject to obtaining a license, labeling, and inspection fees when selling whole grain or seed >5 ppm fumonisin to feed manufacturers and integrated operations or retrieving grain from a commercial grain elevator.
2. Truckers
  - A. Exempt from inspection fees when selling to licensed elevators and licensed brokers.
  - B. Subject to obtaining a license, labeling, and inspection fees when selling to feed manufacturers and integrated operations.
3. Brokers
  - A. Exempt from inspection fees when selling to licensed elevators.
  - B. Subject to obtaining a license, labeling, and inspection fees when selling to feed manufacturers and integrated operations.
4. Elevators
  - A. Exempt from inspection fees when selling or distributing to other licensed elevators.
  - B. Subject to obtaining a license, labeling, and inspection fees when selling to feed manufacturers and integrated operations.

**APPENDIX II**

**PROPOSED LABEL FOR UNBLENDED, UNPROCESSED,  
FUMONISIN-CONTAINING CORN**

<p>FEED CORN</p> <p>This product contains between _____ and _____ ppm fumonisin. To be fed to _____ and not to exceed 50% of diet.</p> <p><b>Warnings:</b>    May not be fed to equids or rabbits.                       Not for human use.</p> <p style="text-align: center;">Name of Supplier Address of Supplier City/State/Zip of Supplier</p> <p style="text-align: center;">Net Wt. ____ lb. ( ____ kg)</p>
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**EXAMPLE:**

This product contains between 10 and 60 ppm fumonsin. To be fed **only** to ruminants >3 months old being raised for slaughter not to exceed 50% of diet.

**Warnings:**    May not be fed to equids or rabbits.  
                      Not for human use.

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**APPENDIX III**

**MODEL LABEL FOR BLENDED CORN**

**BLENDED CORN**

This product contains between \_\_\_\_ and \_\_\_\_ ppm fumonisin determined on (date). To be fed **only** to ruminants >3 months old being raised for slaughter not to exceed 50% of diet.

Net weight \_\_\_\_ or may appear on invoice.

**WARNINGS:** May not be fed to equids or rabbits.  
Not for human use.

Manufactured By:

Name of Manufacturer  
Address of Manufacturer  
City/State/Zip of Manufacturer

Net Wt. \_\_\_\_ lb. (\_\_\_\_ kg)

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**APPENDIX IV  
FUMONISIN BLENDING PLAN**

**Contact Information**

Firm Name: \_\_\_\_\_

Main office phone: \_\_\_\_\_

Physical address (for FedEx deliveries): \_\_\_\_\_

Primary contact: \_\_\_\_\_

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

Secondary contact: \_\_\_\_\_

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

Additional information (i.e., satellite storage facilities, etc.):  
\_\_\_\_\_

**Blending Plan**

1. Blended corn will be labeled for (choose one or both options below and attach labels):

Ruminants >3 months old being raised for slaughter or mink raised for pelt production not to exceed 50% of diet. Corn with fumonsin levels >60 ppm fumonsin will be blended with other corn to a level under 60 ppm fumonisin.

Poultry being raised for slaughter not to exceed 50% of diet. Corn with fumonsin levels >100 ppm fumonsin will be blended with other corn to a level under 100 ppm fumonisin.

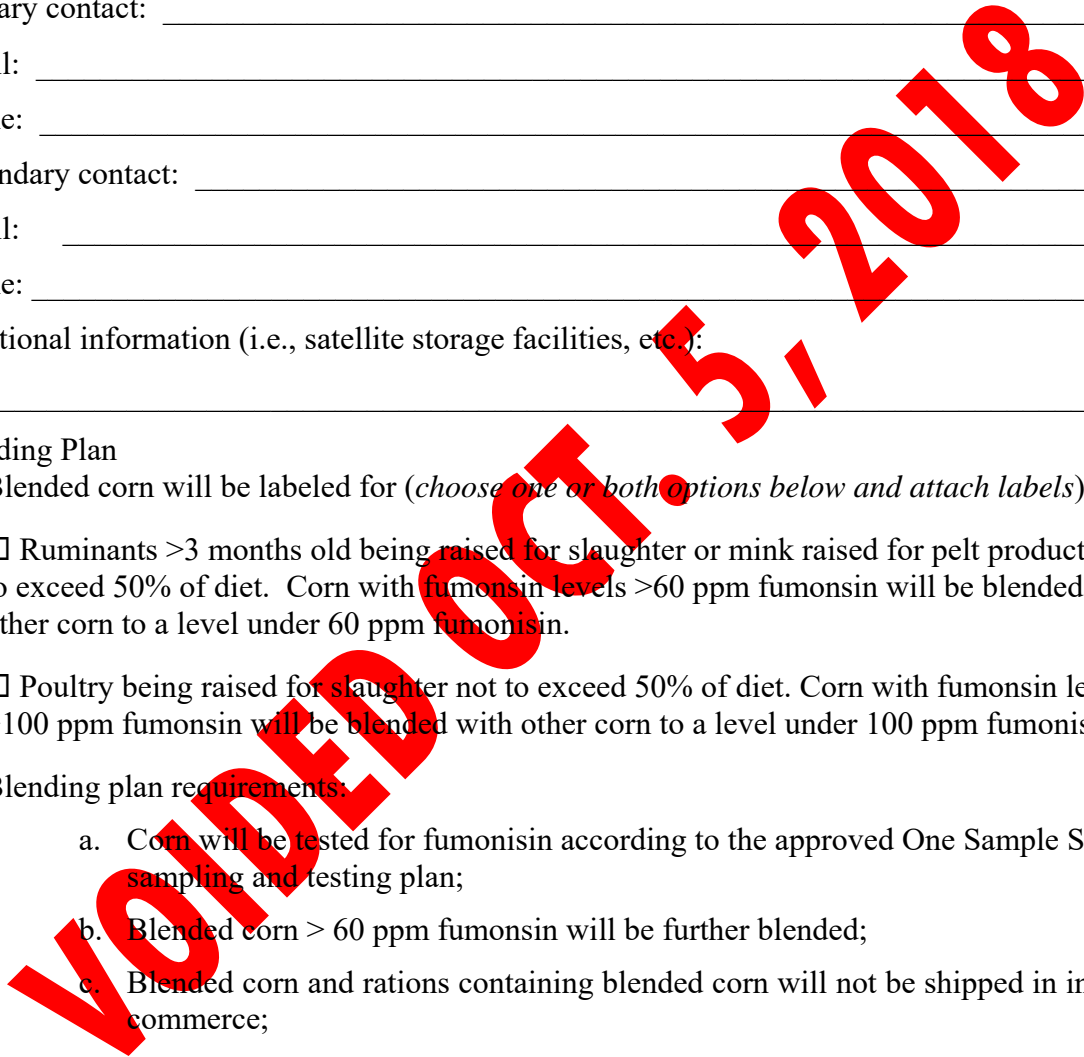
2. Blending plan requirements:

- a. Corn will be tested for fumonisin according to the approved One Sample Strategy sampling and testing plan;
- b. Blended corn > 60 ppm fumonsin will be further blended;
- c. Blended corn and rations containing blended corn will not be shipped in interstate commerce;
- d. Fumonisin test results and records of distribution will be kept for two years and will be submitted to the Office for review.

3. What is your testing frequency for testing outbound blended corn?

- All loads                       Some loads or composite (See #7)

4. Describe or illustrate the probe pattern(s) followed by your firm to collect a representative sample:



**5. Equipment and Methods**

*Please describe the equipment your firm has allocated for the One Sample Strategy. Refer to GIPSA's approved equipment list and the brand-specific equipment & supplies required for each test kit in the GIPSA Mycotoxin Handbook.*

Item	In Place	Ordered	N/A	Manufacturer/ Part #
6' spiral hand probe				
Hydraulic/pneumatic probe				
Sampling containers				
Grain test scale <i>(to check weight of min. 5 lb. sample)</i>				
Gram scale near the grinder <i>(to weigh 100g for grinder check)</i>				
20 wire mesh sieve				
Boerner or cargo grain divider & 2 pans <i>(optional equipment used to reduce samples larger than 10-pounds)</i>				
Mill capable of producing ≥70% fines				
Subsampling equipment (aka riffler)				
AFLATOXIN Rapid test kit * <a href="#">Refer to GIPSA PART #</a>				*
FUMONISIN Rapid test kit * <a href="#">Refer to GIPSA PART #</a>				*
Ability to print rapid test kit results				
Calibration set <i>(if not included with kit)</i>				
Rapid test kit accessories <i>(e.g., multi-channel pipette; air pump, etc.)</i>				
Methanol (or Ethanol)/Water <i>(if provided by commercial supplier)</i>				
Laboratory Scale <i>(minimum division of 0.1 grams)</i>				
50 gram weight standard				
File sample bags				

**6. Comments**

Please describe any other methods that are unique to your operation.

**7. Outbound Blended Corn Sampling Scheme**

Please describe sampling frequency, equipment, and sample identification method, etc. For example, first truck out of every bin is sampled; if the load tests below X ppm the next 3 semi-trucks or 6 bobtail trucks from the same bin will be sampled as a composite; composite sample will be collected in a 5 gallon bucket and identified by a scale ticket with the bin number; and composite sample will be reduced with a Boerner or Cargo divider before grinding.

*Note: For composite samples, a minimum of 10 lbs. is required for grinding.*

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**APPENDIX V  
EXAMPLE LABEL FOR  
AFLATOXIN-CONTAINING AND  
FUMONISIN-CONTAINING CORN**

**FEED CORN**

This product contains between   5   and   50   ppm fumonisin and between   20   and  300  ppb aflatoxin. To be fed finishing cattle in confinement.

Warnings:        May not be fed to any lactating dairy animals, horses or rabbits.

Not for human use.

Manufactured by:  
Blue Bird Feed Mill  
Anytown, TX 77777

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