FEED INDUSTRY MEMORANDUM NO. 5-12

DISTRIBUTION OF AFLATOXIN-CONTAINING WHOLE GRAIN AND OILSEED IN COMMERCIAL CHANNELS AND THEIR USE IN MIXED FEEDS

OBJECTIVE:

To provide instructions on how to implement the law (Chapter 141 of the Texas Agriculture Code) and rule (Chapter 61 of the Texas Administrative Code) including labeling, blending, and record of disposition regarding aflatoxin-containing whole grain and oilseed introduced into Texas commercial channels for feed purposes.

POLICY:

A. LICENSING

Grain and oilseed - not specifically exempt under the provisions of §141.002(c)(4) - containing aflatoxin (B1, B2, G1, G2 individual or in toto) as well as all grains and oilseed specifically designated for wildlife are commercial feeds under 141.002(c)(2) of the Texas Agriculture Code and are subject to regulation by the Act. Each facility which wishes to distribute aflatoxin-containing feed ingredients above 20 ppb within the State or any grain and/or oilseed designated to wildlife, be licensed and registered to distribute aflatoxin containing grains and oilseeds for this purpose, provide labeling, report tonnage and pay appropriate inspection fees. Labels for each product must accompany the application for license and must comply with all aspects of Texas Commercial Feed Rules. In addition, a facility wishing to distribute corn or cottonseed containing >20 ppb aflatoxin must comply with the specific instructions laid out in the Distribution section (Part B).

A list of facilities, not necessarily including all categories, which might be expected to register is given in Appendix I.

The Office recognizes this is a complex policy and that questions will arise. Please feel free to contact the Office for answers at Office of the Texas State Chemist, P.O. Box 3160, College Station, Texas 77841-3160, (979) 845-1121, Fax No. (979) 845-1389; e-mail web@otsc.tamu.edu.
B. DISTRIBUTION

1. As Unblended, Unprocessed Whole Grain or Oilseed.

A facility may introduce aflatoxin-contaminated ingredients, i.e., ingredients containing more than 20 ppb aflatoxin, directly into commercial channels if the whole grain or oilseed does not exceed

a) 50 ppb when designated for wildlife

b) 100 ppb when destined for breeding cattle and goats whose milk is not processed for human use, breeding swine, mature poultry, and sheep.

c) 200 ppb when destined for finishing swine (more than 100 lbs. body weight).

d) 300 ppb when destined for finishing cattle in confinement.

For domestic animals, the label must show the range of aflatoxin, i.e., if the test shows 40 ppb, the range should be 20 - 100 and must provide feeding directions and target animals consistent with the level of aflatoxin. Typical labels are shown in Appendix II.

For wildlife, the label must (a) show the level of aflatoxin as less than 20 ppb or less than 50 ppb, and (b) provide guarantees for crude protein, crude fat and crude fiber.

2. As Blended Corn

A facility may distribute unprocessed whole corn originally containing no more than 500 ppb aflatoxin after blending it with similar corn containing no less than 20 ppb aflatoxin so that the final blended product contains no more than 200 ppb aflatoxin. Blended corn may only be shipped to finishing cattle in confinement even if the final blend tests less than 20 ppb aflatoxin. A typical label is shown in Appendix III.

Each facility must provide to the Office a blending plan and, upon request, its record showing the name of the buyer and the amount sold to such buyer.

3. As Ammoniated Corn and Cottonseed

A facility may distribute unprocessed corn or cottonseed containing no more than 500 ppb aflatoxin ammoniated under conditions as defined in Appendix IV so that the final treated product contains no more than 200 ppb aflatoxin.

Ammoniated corn or cottonseed are ingredients separate and distinct from corn and cottonseed themselves and, as such, the common-name term "ammoniated" preceding the ingredient name must appear on the labels of feeds, premixes, supplements, or concentrates or any other product as required by the Act and the Commercial Feed Rules for any distinct ingredient. Feed labels must declare the amount of non-protein nitrogen (NPN). In addition to any other requirements of the Act or Rules, every product must bear the statements "Warning: (1) "Not for human use," (2) "Feed to ruminants only."

Please note that if the aflatoxin remains in ammoniated corn or cottonseed, the only allowed feed uses are
those listed in Section B-1. A typical label is shown in Appendix V.

Each facility distributing ammoniated corn or cottonseed must also have in its possession and provide on reasonable request a certificate indicating either (a) its ammonia process has been approved by this Office, or (b) that the firm providing ammoniation has been approved by this Office. Each facility must provide, on reasonable request, to the Office a record showing the name of the buyer and the amount sold to such buyer.

4. The same ingredients containing >500 ppb may not enter commerce for use in animal feed. A record of disposition of these grains and oilseeds shall be kept by the licensee to document that said commercial feed ingredients are not used in the manufacture of animal feed. The rule also applies to insurance companies providing a financial settlement on crop insurance with a farmer, the latter of whom are exempt from the Feed Control Act (§141.002(c)(4))

C. LIMITATIONS

Blended corn (B.2) and aflatoxin-containing corn or cottonseed which is ammoniated or rations containing these products cannot be distributed in interstate commerce.

Once designated as feed, the ingredient regardless of level of aflatoxin or processing procedure cannot be converted to any use other than feed. Such diversion is contrary to the rules of this Office and the Texas Department of Health.

For the Office,

Dr. Tim Herrman
State Chemist and Director
Office of the Texas State Chemist

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APPENDIX I

THOSE EXPECTED TO BE AFFECTED

1. Farmers/Producers
   A. Exempt when selling to licensed elevators.
   B. Subject when selling to feed manufacturers and integrated operations.

2. Truckers
   A. Exempt when selling to licensed elevators and licensed brokers.
   B. Subject when selling to feed manufacturers and integrated operations.

3. Brokers
   A. Exempt when selling to licensed elevators.
   B. Subject when selling to feed manufacturers and integrated operations.

4. Elevators
   A. Exempt when selling or distributing to other licensed elevators.
   B. Subject when selling to feed manufacturers and integrated operations.

5. Feed manufacturers

6. Integrated operations
APPENDIX II

PROPOSED LABEL FOR UNBLENDED, UNPROCESSED, NON-AMMONIATED AFLATOXIN-CONTAINING CORN

**FEED CORN**

This product contains between _______ and ______ ppb aflatoxin. To be fed to _______ *

**Warnings:** May not be fed to lactating dairy cattle or lactating dairy goats.
Not for human use.

Name of Supplier
Address of Supplier
City/State/Zip of Supplier

Net Wt. ___ lb. (___ kg)

**EXAMPLE:**

This product contains between 20 and 100 ppb aflatoxin. May be fed to breeding cattle, breeding swine, mature poultry, sheep, goats, finishing swine or finishing cattle in confinement.

**Warnings:** May not be fed to lactating dairy cattle or lactating dairy goats.
Not for human use.

*Note: Specific species may be selected from text (Section [B][1]), e.g., goats.
APPENDIX III

ELEMENTS OF A BLENDING PLAN

The plan must specify the following:

1. Corn with aflatoxin levels from 300 to 500 ppb aflatoxin will be blended with corn containing greater than 20 ppb aflatoxin to a level under 200 ppb aflatoxin.
2. The blended corn will be tested to verify levels.
3. All products must be properly labeled in accordance with Feed Industry Memorandum No. 5-12 appendix IV.
4. Records of distribution and aflatoxin results of blended corn must be kept for two years.
5. Anything over 500 ppb aflatoxin cannot be blended with any other corn and cannot be used in the feed channels. A separate record of disposition must be provided for this material.
6. Aflatoxin-containing corn which has been blended or rations containing the blended corn cannot be shipped in interstate commerce.
7. Any blended corn exceeding 200 ppb aflatoxin will be further blended or destroyed.
8. The aflatoxin test results, the final destination, any associated firm and/or broker, and the amount of blended corn distributed must be submitted to the Office.
APPENDIX IV

PROPOSED LABEL FOR BLENDED CORN

BLENDED CORN

(For Finishing Cattle in Confinement Only)

This product contains between ____ and ____ ppb aflatoxin* determined on (date).

Net weight ____ or may appear on invoice.

**WARNINGS:** Feed only to finishing cattle in confinement.
Not for human use.

Manufactured By:

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

Net Wt. ____ lb. (____ kg)

* Note: labeling need only be less than 200
APPENDIX V

GENERAL PROVISIONS FOR AMMONIATING AFLATOXIN-CONTAMINATED COTTONSEED, COTTONSEED MEAL, AND/OR CORN:

The provisions apply to all facilities and equipment used in the ammoniation and shall also govern those instances in which failure to adhere to these practices cause ineffective treatment of the product. In such cases, the product is adulterated within the meaning of Section 141.148 of the Texas Law.

The process used for aflatoxin-decontamination shall be a high pressure/high temperature (HP/HT) process involving the addition of ammonia (gaseous or in solution) and water in a contained vessel. The process used shall consist of loading the pressure vessel by means of a conveyer, skip loader or other suitable equipment, adding ammonia (2%) and water (12%) sealing the vessel, pressurizing the vessel (40 psi, minimum), mixing the product in the vessel (60 minutes). The temperature in the reactor must rise to at least 80°C (176°F).

**Aflatoxin Levels Before and After Treatment:** Aflatoxin concentrations shall be measured before and after ammoniation of each batch or production run by collecting a representative sample, preparing the sample for analysis, and analyzing for aflatoxins, B1, B2, G1, and G2.

**Records and Reports:**
Processors shall keep records to ensure that the appropriate procedures were followed.
APPENDIX VI

PROPOSED LABEL FOR AMMONIATED CORN

AMMONIATED CORN PRODUCED VIA THE _______ PROCESS

(To Be Fed To _________)

This product contained less than ____ ppb aflatoxin prior to ammoniation.

This product contains between ____ and ____ ppb aflatoxin after ammoniation as determined on __________.

Net Weight ____ or may appear on invoice.

Guaranteed Analysis:

Crude Protein (minimum) ____%

(This includes not more than ____% equivalent protein from non-protein nitrogen.)

WARNINGS: Not for human use.
Feed to ruminants.
Not for interstate shipment

Manufactured By:
Name of manufacturer
Address of manufacturer
City/State/Zip of manufacturer
Net Wt. ___ lb. (___ kg)