

# NEBRASKA

DEPT. OF ENVIRONMENTAL QUALITY

To: File

Through: Jeff Edwards, Compliance Unit Supervisor, Waste Management Section *JE*

From: Jason Holsten, Program Specialist II, Waste Management Section *JH*

Date: May 4, 2018

RE: Additional Complaint Information Regarding Land Application of Wet Distillers  
Grain Supplied by AltEn, LLC  
AltEn, LLC  
1344 County Road 10  
Mead, NE 68041

NDEQ ID: 84069

Program ID: NE0204447 (IWM)

On April 27, 2018, I received a voicemail message from Paula Dyas regarding another one of her dogs becoming ill after eating some of the wet distiller's grain (WDG/material) land applied to a farm field next to her property. Ms. Dyas contacted the department with a similar complaint on 4/9/18. Her complaint, along with another related complaint which was received on 4/10/18 (NEC #041018-AB-1328), were both investigated by department staff on 4/12/18. Results from the department's investigation did not reveal any violations of Title 132 by AltEn regarding land application of WDG generated at their facility.

I returned Ms. Dyas' call and we discussed her concerns. She told me that another one of her dogs got sick from eating the material that had been spread onto an adjacent field a month ago. She has been doing some research and collected a sample for analysis. She submitted a sample of the material to the Iowa State Veterinary Diagnostics Lab for analysis. She said the lab tested for pesticide residue and found 6 fungicides and one insecticide that are commonly used in seed corn treatment. She mentioned Pioneer and Monsanto brand seeds. A vet from the lab said this is probably what's making her dogs sick. She was concerned about potential health effects to her dogs from them consuming the material being land applied, along with any material getting into a nearby waterway since the product labeling says some chemicals are bio-accumulators. She was also concerned about some of the pesticides found possibly contributing to bee colony collapse.

Ms. Dyas wanted to know if AltEn was required to sample for these pesticide residues and who was approving this material to be land applied. She also wanted to know what could be done about the material spread onto her property. She said she still had some of the material she pulled her sample from if we were interested in sampling it ourselves. She offered to share analytical results from the sample analyzed by the ISU Veterinary Diagnostic Lab as well as

some labeling information from seed corn products. I told her I would talk to my supervisor, Jeff Edwards, and see if this information is something we would want for our file.

After talking with Mr. Edwards, it was determined that we would accept and review the information submitted by Ms. Dyas. We discussed and confirmed that the WDG being land applied by AltEn was not violating Title 132. I called Ms. Dyas back and asked her to email me the information she had. I also asked her to summarize her concerns and what she had told me during our phone conversation earlier that day. I again explained to her that the WDG being land applied was considered a product, had nutritional value and was being applied at proper agronomic rates, and was therefore not considered a solid waste. Thus, it fell out of our regulations. I offered to her to share her information with other state agencies to see if this fell under any of their regulations.

Ms. Dyas emailed me on 4/30/18 with the requested information (Attachment I). I forwarded this information to Mr. Edwards and Tim Creger, Nebraska Department of Agriculture (NDA), Pesticide/Fertilizer Program Manager, to inquire if NDA regulations would govern the use of this material. Mr. Creger responded saying he needed to know the quantities the lab found, not just the chemicals they found, in order to determine if any minimum threshold quantities were exceeded (Attachment II). He asked if a more detailed lab report was available.

I emailed Ms. Dyas on 5/1/18 asking if she had a more detailed report and explained to her that I forwarded the information she sent to the NDA. She responded by email that she did not have a more detailed report and mentioned not having the funds available for this additional testing. She said she could provide additional sample material for testing if the NDA was willing to split the cost with her (Attachment 1). I contacted Mr. Creger by telephone and discussed what Ms. Dyas told me. Mr. Creger said he had a chance to talk with some individuals from the Feed Lab and found out that when WDG sits for a long period of time it can start rotting and produce mycotoxins that can be harmful to animals. Some of the symptoms exhibited by the dogs as explained by Ms. Dyas could also be produced by exposure to mycotoxins. He said he may also contact the State Veterinarian to discuss the issue. I asked Mr. Creger if I could share his contact information with Ms. Dyas as I thought he would be better able to answer her questions. He said that would be fine. I emailed his contact information to Ms. Dyas and explained that he may be able to help her better than I. This email chain is included in Attachment I.

Mr. Creger responded to Ms. Dyas' concerns in an email sent on 5/4/18. He copied me on the email he sent to her (Attachment III).

Attachment I – 4/30/18 – 5/1/18 Email Chain from Paula Dyas to Jason Holsten, NDEQ,  
w/ Attachments (11 pages)

Attachment II – 4/30/18 Email Chain from Jason Holsten to Tim Creger, NDA (3 pages)

Attachment III – 5/4/18 Email from Tim Creger to Paula Dyas (2 pages)

## **ATTACHMENT I**

**4/30/18 – 5/1/18 Email Chain from Paula Dyas to  
Jason Holsten, NDEQ, w/ Attachments**

## Holsten, Jason

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**From:** Paula Dyas <pdyas222@gmail.com>  
**Sent:** Tuesday, May 01, 2018 3:50 PM  
**To:** Holsten, Jason  
**Subject:** Re: By-Product Toxicology Report

Jason,

Thank you. I will give him a call.

Paula

Sent from my iPhone

On May 1, 2018, at 3:46 PM, Holsten, Jason <[jason.holsten@nebraska.gov](mailto:jason.holsten@nebraska.gov)> wrote:

Paula,  
Please contact Tim Creger with the Dept. of Agriculture. His phone # is 402-471-6882. He may be able to help you better than I and may also be able to sample some of the material? Although, he said he will be out of the office tomorrow.

Jason

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**From:** Paula Dyas [<mailto:pdyas222@gmail.com>]  
**Sent:** Tuesday, May 01, 2018 2:30 PM  
**To:** Holsten, Jason  
**Subject:** Re: By-Product Toxicology Report

Hi Jason,

I would be happy to provide additional sample for testing. As you can see from the report ISU did not include concentrations for each compound. I contacted ISU and it would cost an extra \$500 to have concentrations generated for each of the 7 compounds. Is the Dept. of Ag willing to split the cost with me? Here's a thought, how much insecticide must a dog of 90 lbs consume to induce illness within hours?

The seed labels state no measurable pesticide residue. I believe that these are EPA regulates compounds. Can I open a case with EPA? I too would like to know the concentrations of the chemicals but my finances are not limitless.

Paula

Sent from my iPhone

On May 1, 2018, at 9:44 AM, Holsten, Jason <[jason.holsten@nebraska.gov](mailto:jason.holsten@nebraska.gov)> wrote:

Hello Paula,  
As I explained in my voicemail message to you yesterday, because AltEn claims the wet distillers grain is not a waste and is a product that has nutrient value and is applied at

proper agronomic rates, it is not regulated by our solid waste regulations. I forwarded your email with attachments to the Dept. of Agriculture. They have requested additional information. The toxicology report provided by ISU lists chemicals they found but does not list concentrations of said chemicals. The Dept. of Ag needs concentrations found in order to determine if any minimum threshold levels were exceeded. If you can provide this information I can forward to them or provide you their contact information. I hope this helps.

Jason

**From:** Paula Dyas [<mailto:pdyas222@gmail.com>]

**Sent:** Monday, April 30, 2018 1:13 PM

**To:** Holsten, Jason

**Subject:** By-Product Toxicology Report

Hello Jason,

I am attached a redacted version of the toxicology report provided from Iowa State Veterinary Diagnostic Laboratory. As I mentioned previously, the veterinarian who helped me with the submission is a personal family friend and did not want his name associated with the report in case we found something to be pursued. At the time of submission we suspected alcohol toxicity and did request that residual alcohol be ruled out. I have removed his name, address and phone number. I respectfully request that you do not trace the accession number or client ID so as to retain his anonymity. I do have additional sample if more testing would be beneficial.

History:

We have three dogs, two ~ 90 lbs and one at 56 lbs. During the last week of March into early April, wet cake or wet distillers grain began being hauled by side dump semi trucks past our acreage to be piled in a field cash rented to the east of our property. This material originated from the ALT-N Ethanol plant located near Mead, Nebraska. One large dog became ill exhibiting full body shaking, hyper-salivation, lethargy and fully dilated pupils on Sunday April 1st. We did not understand the cause of the symptoms and took him to our veterinarian in Wahoo (Dr. Rachel Oolman) on Monday, April 2nd. Poisoning was suspected and at that time insecticide was mentioned as a potential agent that could cause similar symptoms, but I was unaware of any potential exposure. We thought the dog was ill due to overeating. Thursday evening (4/5) the other large dog was witnessed eating the spread wet cake, the next morning she was ill with the same symptoms as the original large dog. At this time we began contacting the surrounding farmers to find out more about the product and we called the local ethanol plan which has repeatedly assured me that any pesticide residue 'should' have all been removed during the ethanol production process. The smaller dog has also eaten the product and his pupils fully dilated, and he seemed a little shaky within 3-4 hours post consumption but never as bad as the two larger dogs.

We contacted the farmer who cash rents the ground and requested that the wet cake be tilled into the soil after it sat on the surface for ~ 5 days. When the product was spread in fields adjoining a creek, they spread product onto the grass between the field and our property, therefore assuring that some of the material

will never be tilled into the soil. We picked up as much as possible to stop our pets from eating the product and routinely take our dogs out on leashes or only to the west to avoid any additional exposures. Our smaller dog was out of my site for ~ 5 minutes on Saturday, 4/28 and I found him eating product from the grass ~ 1 month from the time it was spread and after multiple rains. He is now sick, dilated pupils, shaky and unable to see, runs into furniture and can't do stairs at only 1 year of age. Clearly the product, or the chemicals in it, are not breaking down very quickly.

I am attaching the seed tag from bags of treated seed corn for your review. I believe if you look closely that both Pioneer and Monsanto are quit clear that the seed treatment is harmful to wildlife, waterways and that any ethanol plant by product produced with this seed should not be spread for agronomic purposes unless it has no measurable pesticide residue. I personally know local farmers that won't spread this on their land and have cautioned me to keep my pets clear. I can't understand how the big seed companies are clear on the appropriate use of these chemicals, but our state feels that residual pesticide testing is not required.

How much of this made it into the creek or still sits on the grassy bank? It certainly is still present in the grass to the east of our residence. Of the few chemicals out of the seven listed on the toxicology screen that I have researched many are persistent and bio-accumulative.

I appreciate any help your office can be to make certain that if this by product is applied that it is done in a safe and environmentally friendly way.

Regards,

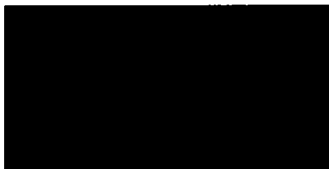
Paula Dyas

Accession: 2018027406

**Veterinary Diagnostic Laboratory**

Iowa State University  
College of Veterinary Medicine  
Ames, Iowa 50011-1134  
Phone: 515-294-1950  
Fax: 515-294-3564

Requested Testing Complete  
Report Date: 4/26/2018 18:09:13



Site : No Farm Site Given  
Unknown  
Unknown, Unknown 000000

Premises ID# :

Lot/Group ID :  
Source/Flow ID :  
Reference:  
Diagnostician: V.L. Cooper

Owner : No Owner Given  
Division :

Client Phone: [REDACTED]	Species: Non-Animal	Age:
Client Fax: ---	Breed: Feed	Weight:
Client Account#: 405530	Sex:	Received:
Date Received: 4/16/2018	Previous Case:	Grain
Sample Taken:	Farm Type: Other	Reason: General Diagnostics
Preliminary Report: 4/17/2018, 4/20/2018, 4/20/2018, 4/25/2018		Animal ID(s):
Accompanying Cases:		

**History:** dogs with clinical signs of alcohol toxicosis

**Ancillary Diagnostic Tests:**  
Completed results appear below

**Comments:** Metalaxyl, thiadendazole, fludioxonil, imidacloprid, tebuconazole, trifloxystrobin, and ipconazole detected by GC/MS screen by NIST library match. These compounds singularly and in conjunction could potential cause signs described.

V.L. Cooper, DVM, MS, PhD  
Clinical Professor  
Diagnostic Pathologist

**KEY:** Tests: FA = Fluorescent Antibody, IHC = Immunohistochemistry, MALDI = Matrix-assisted laser desorption/ionization, MLV = Modified Live Virus, ORF = Open Reading Frame, PCR = Polymerase Chain Reaction, RFLP = Restriction Fragment Length Polymorphism, VI = Virus Isolation. Agents: BCV = Bovine Coronavirus, BRSV = Bovine Respiratory Syncytial Virus, BVDV = Bovine Viral Diarrhea Virus, CSF = Classical Swine Fever, HPS = *Haemophilus parasuis*, IAV = Influenza A Virus, IBRV = Infectious Bovine Rhinotracheitis Virus, MHP = *Mycoplasma hyopneumoniae*, MHR = *Mycoplasma hyorhinis*, MHS = *Mycoplasma hyosynoviae*, PCV = Porcine Circovirus, PDCV = Porcine Deltacoronavirus, PEDV = Porcine Epidemic Diarrhea Virus, PPV = Porcine Parvovirus, PRCV = Porcine Respiratory Coronavirus, PRRSV = Porcine Reproductive & Respiratory Syndrome Virus, PRV = Pseudorabies Virus, SVA = Senecavirus A, TGEV = Transmissible Gastroenteritis Virus.

Test Ordered	Laboratory Result(s)	Order Date	Current Status	Complete Date
GCMS Screen		4/16/2018	Result Released	4/25/2018

**Toxicology**

GCMS Screen

Identification

Specimen  
Feed

Analysis

Comment

Metalaxyl, thiadendazole,

fludioxonil, imidacloprid, tebuconazole, trifloxystrobin, and ipconazole detected by GC/MS screen by NIST library match.

fludioxonil, imidacloprid, tebuconazole, trifloxystrobin, and ipconazole detected by GC/MS screen by NIST library match.



# DKC66-75RIB

DEKALB BRAND  
(VTZPRIB)

RELATIVE MATURITY: OVERALL -116

GROWING DEGREE UNITS MID-POLLINATION: 1385

BLACK LAYER: 2900

LOT NO. 786YPH3JX

ORIGIN: GERMANY DATE TESTED

VARIETY 1067286: 94.00% NE 95% 1/17

TREATMENT: FALH1B

VARIETY B0000836 5.00% IL 95% 11/16

TREATMENT: FALH1

INERT MATTER: 0.40 %

WEED SEED: 0.00 %

OTHER CROP SEED: 0.60 %

NOXIOUS WEEDS/LB: NONE

KIND: FIELD CORN

SUGGESTED PLATE

JD B25

CIH C25

Acceleron B-300 SAT Not Claimed Effective After: 01/01/2019

B-300 SAT Batch # 1646JS2-22



This is a product of MONSANTO's research program offering unique genetic characteristics for specific grower needs and protected by U.S. patent(s): PENDING.

## VT Double PRO<sup>®</sup>

RIB COMPLETE

SEE DETAILS ON IRI REQUIREMENTS IN IRI GROWER GUIDE SECTION OF THIS TAG

## DISEASE SHIELD<sup>™</sup>





40088P12-60

Code	Seed-Applied Technology
A	Metaxyl
B	Acceleron® B-300 SAT
F	Prothioconazole
H1	Clothianidin 250
H2	Clothianidin 500
H3	Clothianidin 1250
I	Trifloxystrobin
L	Fluoxastrobin
V	<i>Bacillus firmus</i> I-1582
W	Ipconazole

  
**ACCELERON®**  
SEED APPLIED SOLUTIONS

**WARNING: TREATED SEED. DO NOT USE  
TREATED SEED FOR FEED,  
FOOD OR OIL PURPOSES.**

This seed has been treated at the manufacturer's recommended rate with the products identified by code on the front of this seed tag, and decoded in the table in this section.

SEE INSIDE PANEL FOR TREATMENT SPECIFIC  
ADDITIONAL INFORMATION.

**General Information:** Handle treated seeds in ventilated areas. Avoid breathing or making contact with dust. If contaminated, remove clothing and launder before reuse. Wash hands and face before eating, drinking, or smoking.

**Personal Protective Equipment:** When opening this bag or loading, pouring, or handling the treated seed or seed pieces, wear long-sleeved shirt, long pants, shoes, socks, and chemical-resistant gloves made of any waterproof material.

**Hazards to Humans and Animals:** Harmful to humans if swallowed, inhaled or absorbed through skin. Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting. Left over treated seed may be double sown around the headland or buried away from water sources in accordance with local requirements. After the seeds and/or seed pieces have been planted in soil or other planting media, DO NOT enter or allow worker entry into areas with treated seeds during the restricted-entry interval of 12 hours, except that workers may enter the areas with treated seeds without restriction if there will be no worker contact with the soil/media subsurface.

**Storage and Disposal:** Store treated seed away from food and feed, and do not allow access by children, pets, or livestock. Do not reuse or refill empty seed bags. Surplus treated seed or empty treated seed containers should be stored or disposed according to local requirements. Dispose of all excess treated seed. Do not contaminate bodies of water when disposing of excess treated seed or wash waters of planting equipment. Dispose of them in accordance with local requirements. Excess treated seed may be used for ethanol production only if: (1) by-products are not used for livestock feed, and (2) no measurable residues of pesticides remain in ethanol by-products that are used in agronomic practice.

**FIRST AID:** Eyes: Hold eye open and rinse gently with water for 15 minutes. If wearing contact lenses, remove after first 5 minutes and continue rinsing. Skin or clothing: Remove contaminated clothing. Rinse skin immediately with plenty of water. Use soap if available. Swallowed: Call poison center or doctor immediately for treatment advice. Sip water if able to swallow. Do not induce vomiting unless told to do so by the poison center or doctor. Do not give anything by mouth to an unconscious person. Inhaled: Move to fresh air. If not breathing, call 911 or ambulance, and then give artificial respiration. Call poison center or doctor for further treatment advice. **FOR EMERGENCY MEDICAL TREATMENT INFORMATION, CALL COLLECT DAY OR NIGHT: (314) 694-4000.**

**PRECAUTIONARY INFORMATION CONTINUED ON INSIDE PANEL**

Call 1-800-8 DEXALB (1-800-833-5252) with any questions, feedback or additional seed needs.

**NOTICE:** See bag for limitation of warranties, liability and remedies.

Monsanto Company - Attention Seed Box - 800 N. Lindbergh Blvd. - St. Louis, MO 63167

NET WEIGHT PRINTED ON BAG

40088P12-60

©2008-2016 MONSANTO COMPANY



**ABOVE/BELOW**



**PIONEER**

BRAND • PRODUCTS

**P01574MXT**

**BLEND/MIXTURE**

**COMPARATIVE RM 101**



MATERIAL: P01574MXT-NW02 BATCH: 3421270

KIND: Field Corn LOT NO: E3CHA11115-00  
SIZE: PDF CON1 TESTED: OCT 2017  
KERNELS/UNIT: 80,000  
FERTILE & STERILE CYTOPLASM

Hybrid: P0157CYXR (95% of Pure Seed)  
Germ: 95% Origin: CANADA

Hybrid: IRC01-02LR (5% of Pure Seed)  
Germ: 95% Origin: IN

The seed is a Mixture under the state laws of AL, AK, AZ, CT, DE, FL, GA, ID, IL, KS, LA, KY, MA, MD, MS, NC, NE, NJ, NV, NY, OK, OR, TN, UT, WV and WI.

See Bag/Tag/Invoice for important terms of purchase and limited license. Limited license is granted solely to produce a single crop of grain for feeding or processing with no rights for unauthorized propagation, seed multiplication and exportation is prohibited.

Noxious Weed Per Pound: None Other Crop Seed: None  
Pure Seed: 99.5% Inert Matter: 0.5% Weed Seed: None



**LIBERTY  
LINK**



**HERCULEX<sup>®</sup> XTRA**



**AgriSure<sup>®</sup> RW**



Corn Borer Protection



**Raxil**

Optimum

**AcreMax<sup>®</sup>**

ABOVE/Below Xtreme

Optimum

**AQUAmax<sup>®</sup>**

Imus 1-1582. TREATED AT MANUFACTURER'S RECOMMENDED RATES. DO NOT USE TREATED SEED FOR FEED, FOOD OR OIL PURPOSES. EXCESS TREATED SEED MAY BE USED FOR ETHANOL PRODUCTION ONLY IF (1) BY-PRODUCTS ARE NOT USED FOR LIVESTOCK FEED AND (2) NO MEASURABLE RESIDUES OF PESTICIDE REMAIN IN ETHANOL BY-PRODUCTS THAT ARE USED FOR AGRONOMIC PRACTICE. STORE AWAY FROM FOOD AND FEEDSTUFFS. DO NOT ALLOW CHILDREN, PETS, OR LIVESTOCK TO HAVE ACCESS TO TREATED SEED. DO NOT REFILL OR REUSE THIS BAG OR CONTAINER.

**HAZARD COMMUNICATION DATA**  
**TREATED SEED CORN - CAUTION**

**Safety & Health:** Wear long-sleeved shirt, long pants, eye protection, shoes, socks and chemical resistant gloves when handling treated seeds. Causes moderate eye irritation. This product contains a microbial pesticide that may have the potential to be a respiratory sensitizer. Treated seed and the dust from treated seed may be harmful if swallowed, inhaled or absorbed through the skin so take the proper precautions to prevent contact. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove contaminated clothing and wash separately from other clothes. For more information call DuPont Pioneer at 1-800-342-7123. **Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the REI of 12 hours. **Exception:** If the seed is treated with the product and the treated seed is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no worker contact with the soil subsurface or treated seed. **Environmental Hazards:** This compound is toxic to birds, mammals, and wildlife. Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading. Dispose of all excess treated seed. Left over treated seed may be double sown around the headland or buried away from water sources in accordance with local requirements. Do not contaminate water bodies when disposing of planting equipment washwaters. Dispose of seed packaging in accordance with local requirements. **Groundwater Advisory:** The seed treatments applied to this seed are known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow. Therefore contain any product spills or equipment leaks and dispose of wastes according to the disposal instructions on this label. **Surface Water Advisory:** This product is classified as having high potential for reaching surface water via runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of chlorantraniliprole from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. **Pollinator Precautions:** This compound may be highly toxic to bees exposed directly (contact). Ensure that planting equipment is functioning properly in accordance with manufacturing recommendations to minimize seed coat abrasion during planting to reduce dust which can drift to blooming crops or weeds. **Restrictions-Corn forage** may not be grazed until 31 days after planting. Treated seed must be planted into the soil at a depth greater than 1 inch. Regardless of type of application (seed treatment or foliar), do not apply more than 0.1 lbs (corn) of active ingredient clothianidin per acre per season. **Plant Back Interval:** In the event of crop failure or harvest of a crop grown from seed treated with Maxim Quadra, crops may be replanted according to the following schedule: **Immediate:** Alfalfa, Cereal Grains: Barley, Corn, Oat, Rye, Triticale and Wheat, Cucurbit Vegetables Crop Group 9, Head and Stem Brassica Crop Subgroup 5A, Onion, Bulb, Crop Subgroup 3-07A, Peas, Dried Shelled: Chickpea (Garbanzo Bean), Field Pea, Lentil, and Pigeon Pea, Root Vegetables (Except Sugarbeet) Crop Subgroup 1B, Soybean, Spinach, Sweet Potato, For any other crops the minimum plantback interval is 30 days from the date seeds treated with Maxim Quadra were planted. **PONCHO/NOTIV:** Immediate: Cereal grains, Field corn, popcorn, sweet corn, cotton, rapeseed, canola, soybeans, root and tuber vegetable, 30-Day: Grasses, non-grass animal feeds, dry beans, 8-Month: Sugar cane, 12-Month: Any crops without an earlier plant-back interval.

7/2016

**PRODUCT USE STATEMENT:** This seed is a blend of 5% refuge seed and 95% seed containing the Herculex<sup>®</sup> XTRA Insect Protection genes that produce a *Bacillus thuringiensis* (Bt) Cry1F protein and the Bt Cry3AAb1 and Cry3SAb1 proteins; the Agrisure<sup>®</sup> RW trait that includes a gene that produces a Bt Cry1Ab protein, and the YIELDGARD<sup>®</sup> Corn Borer gene which produces a Bt Cry1Ab protein that provide protection or suppression against susceptible European corn borer, southwestern corn borer, black cutworm, fall armyworm, lesser corn stalk borer, southern corn stalk borer, stalk borer, sugarcane borer, and corn earworm; and also provide protection from larval injury caused by susceptible western corn rootworm, northern corn rootworm and Mexican corn rootworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These proteins and the genetic material necessary for their production in crops are registered under EPA Reg. No. 25954-16. **YOU MUST SIGN A TECHNOLOGY AGREEMENT. READ THE PRODUCT USE GUIDE PRIOR TO PLANTING AND FOLLOW INSECT RESISTANCE MANAGEMENT (IRM) REQUIREMENTS.**

**PATENT STATEMENT:** The Herculex I and Herculex RW Insect Resistance technologies incorporated into these seeds are protected under one or more U.S. patents. The purchase of these seeds includes a limited license to produce a single corn crop in the United States (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Agrisure RW technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG, under one or more U.S. patent numbers. This license does not extend to the use of seed from such crop or the progeny thereof for propagation or seed multiplication. Furthermore, the use of such seed or the progeny thereof for propagation seed multiplication, production or development of a hybrid or different variety of seed, research, breeding or crossing, is strictly prohibited. Resale or transfer of the seed is strictly prohibited.

\*YIELDGARD is a registered trademark used under license from Monsanto Co.

Herculex<sup>®</sup> I Insect Protection technology by Dow AgroSciences and Pioneer Hi-Bred. \*Herculex is a registered trademark of Dow AgroSciences LLC. Agrisure<sup>®</sup> is a registered trademark of, and used under license from, A Syngenta Group Company. Agrisure<sup>®</sup> technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG

US AMXT Rev. 5\_17

**PRODUCT USE STATEMENT:** This hybrid contains the Roundup Ready<sup>®</sup> Corn 2 gene developed by Monsanto Company. The Roundup Ready gene provides resistance to glyphosate, the active ingredient in labeled Roundup<sup>®</sup> branded herbicides. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. **ACCIDENTAL APPLICATIONS OF INCOMPATIBLE HERBICIDES TO THIS HYBRID COULD RESULT IN TOTAL CROP LOSS.**

**THIS SEED IS ACQUIRED UNDER AN AGREEMENT THAT INCLUDES THE FOLLOWING TERMS:** The glyphosate tolerance technologies incorporated into these seeds are covered under one or more of the following United States patents: 6,825,400; 7,582,434; 6,273,650 and 6,722,969. The purchase of these seeds includes a limited license to produce a single corn crop in the United States (or other applicable country). This license does not extend to the use of seed of such crop or the progeny thereof for propagation or seed multiplication. Furthermore, the use of such seed or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited.

\*Roundup and Roundup Ready are registered trademarks used under license from Monsanto Co.

RR2 Corn Rev. 5\_17

**PRODUCT USE STATEMENT:** This hybrid contains the LibertyLink<sup>®</sup> gene developed by Bayer. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty<sup>®</sup> Herbicide (glyphosate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty herbicide, the active ingredient in labeled Liberty branded herbicides, when applied at labeled rates. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. **ACCIDENTAL APPLICATIONS OF INCOMPATIBLE HERBICIDES TO THIS HYBRID COULD RESULT IN TOTAL CROP LOSS.**

The herbicide resistance technology contained in this seed is protected at least under one or more of the following U.S. patent(s): RE44,962. The conditional purchase of these seeds conveys no license under said patents to use these seeds, except to produce a single commercial crop (one time use only) in the United States, and harvesting the grain solely for purposes of food or feed applications or for industrial processing. In no event shall this seed be used in research or in breeding or for production of planting seed.

LibertyLink<sup>®</sup> and the Water Droplet Design are trademarks of Bayer.

LL Corn Rev. 4-16

\*products are provided subject to the terms and conditions of purchase.

and service marks of DuPont, Pioneer or their respective owners. © 2017 PPH.

INTERNATIONAL, INC., PO BOX 756, Johnston, IA 50131-0756



Cotton-Growing Areas are all the counties in:

AR, LA, MS, AL, GA, FL, SC, NC and in:

MO counties of Dunklin, New Madrid, Pemiscot, Scott and Stoddard

OK counties of Beckham, Caddo, Comanche, Custer, Greer, Harmon, Jackson, Kay, Kiowa, Tillman and Washita

TN counties of Carroll, Chester, Crockett, Dyer, Fayette, Franklin, Gibson, Hardeman, Hardin, Haywood, Lake, Lauderdale, Lincoln, Madison, Obion, Rutherford, Shelby and Tipton

TX counties except Carson, Dallam, Hansford, Hartley, Hutchinson, Lipscomb, Moore, Ochiltree, Roberts and Sherman

VA counties of Dinwiddie, Franklin City, Greenville, Isle of Wight, Northampton, Southampton, Suffolk City, Surrey and Sussex



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## AcreMax<sup>®</sup>

ABOVE/BELONG **XTreme**

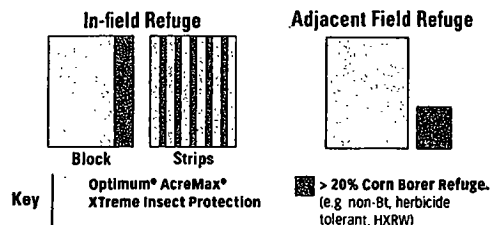
OPTIMUM<sup>®</sup> ACREMAX<sup>®</sup> XTREME INSECT PROTECTION CONTAINS A LEPIDOPTERAN AND CORN ROOTWORM REFUGE THAT IS "IN THE BAG" AND IS AUTOMATICALLY IMPLEMENTED WHEN THE GROWER PLANTS THE PRODUCT. NO ADDITIONAL REFUGE IS REQUIRED WHEN PLANTING THIS PRODUCT IN NON-COTTON GROWING AREAS. AN EXTERNAL 20% LEPIDOPTERAN REFUGE IS REQUIRED IN COTTON-GROWING AREAS.

### IN NON-COTTON GROWING AREAS, THE FOLLOWING REFUGE REQUIREMENTS MUST BE FOLLOWED:

- Foliar insecticide treatments for control of European corn borer, corn earworm, southwestern corn borer, fall armyworm, black cutworm, western bean cutworm, lesser corn stalk borer, southern corn stalk borer, and sugarcane borer may be applied only if economic thresholds are reached for one or more of these target pests. Foliar insecticide treatments are also permitted for control of corn rootworm adults if economic thresholds are reached. Economic thresholds will be determined using methods recommended by local or regional professionals (e.g., Extension Service agents, crop consultants). Microbial Bt insecticides must not be applied to non-Bt corn refuge plants.

### IN COTTON-GROWING AREAS, THE FOLLOWING REFUGE REQUIREMENTS MUST BE FOLLOWED:

- The 20% non-Bt refuge must be planted with non-Bt corn hybrids.
- The 20% non-Bt refuge should be sown on the same day, or with the shortest window possible between planting dates.
- External refuges may be planted as an in-field or adjacent (e.g., across the road) refuge or as a separate block within 1/2 mile of the Optimum<sup>®</sup> AcreMax<sup>®</sup> XTreme Insect Protection corn field.
- In field refuge options include: blocks, perimeter strips (i.e., along the edges or headlands), or in-field strips.
- When planting the refuge in strips across the field, refuges must be at least four (4) rows wide.
- Insecticide treatments for control of European corn borer, corn earworm, southwestern corn borer, fall armyworm, black cutworm, western bean cutworm, lesser corn stalk borer, southern corn stalk borer, stalk borer and sugarcane borer may be applied only if economic thresholds are reached for one or more of these target pests. Economic thresholds will be determined using methods recommended by local or regional professionals (e.g., Extension Service agents, crop consultants). Microbial Bt insecticides must not be applied to non-Bt corn refuge plants.



For additional refuge planning tools, you may also log onto [www.irmcalculator.com](http://www.irmcalculator.com).

**NO ADDITIONAL  
REFUGE NEEDED**  
Corn-growing Areas

**20% REFUGE**  
Cotton-growing  
Areas

**Optimum<sup>®</sup> AcreMax<sup>®</sup> XTreme Insect Protection REFUGE OPTIONS**

## **ATTACHMENT II**

4/30/18 Email Chain from Jason Holsten to Tim Creger, NDA

## Holsten, Jason

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**From:** Creger, Tim  
**Sent:** Monday, April 30, 2018 2:10 PM  
**To:** Holsten, Jason  
**Cc:** Edwards, Jeffery  
**Subject:** RE: By-Product Toxicology Report

Jason and Jeff,

If the DDG is being sold commercially as a soil or plant nutrient, or a soil conditioner, one of those laws (fertilizer or soil conditioners) would likely require it to be either registered by us (soil conditioners) or provide a guaranteed analysis for the nutrient value (fertilizers). The potential for contamination with pesticides is a concern, but the ISU lab report did not provide anything meaningful in that regard, only the names of particular active ingredients. There are threshold quantities of all pesticide active ingredients for animal feeds, human consumables, and in some cases soil conditioners and fertilizers, but not always. I would need to know the quantities the lab found, not just the names of chemicals they found, in order to determine if any minimum threshold quantities were exceeded.

We have tried for years to get seed corn companies to understand the ethanol process is not a best management practice, but they tend to ignore those advisories as idle threats when they know they will either not get caught or not exceed upper end thresholds in the byproduct.

See if you can get more details on the lab reports on the concentrations found. I don't know of any lab that doesn't quantify their reports.

### **Tim Creger**

*Pesticide/Fertilizer Program Manager | ANIMAL & PLANT HEALTH PROTECTION*

**Nebraska Department of Agriculture**

OFFICE 402-471-6882

Tim.creger@nebraska.gov

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**From:** Holsten, Jason  
**Sent:** Monday, April 30, 2018 1:34 PM  
**To:** Creger, Tim <tim.creger@nebraska.gov>  
**Cc:** Edwards, Jeffery <jeffery.edwards@nebraska.gov>  
**Subject:** FW: By-Product Toxicology Report

Hello Tim,

Jeff Edwards asked that I forward you a copy of the below email with attachments. We received a complaint on 4/9/18 from Paula Dyas regarding her dogs getting sick from eating material that had been land applied on farm fields near her residence located near Mead, NE. It turns out that AltEn, LLC was land applying wet distillers grain generated from their ethanol operation. We issued an LOW against the facility to remove approximately 26,000 cubic yards of the wet distillers grain NLT August 15, 2018, since they removed it from their permitted compost pad and are now storing it on the north part of their facility. Some of the wet distillers grain has been on site for 1 ½ - 2 years.

The department considers the wet distillers grain a product and not a waste since the facility claims it has nutrient value. AltEn conducts a nutrient analysis and works with nutrient advisers prior to land applying on area fields. In order to comply with the LOW and remove the 26,000 cubic yards of material, the facility's intent is to either land apply the material or process it into Biochar.



Today, I received another call from Ms. Dyas. She said a dog got sick again after eating the material. She collected a sample and had it analyzed at the Iowa St. Veterinary Diagnostics lab. She said the sample was tested for pesticide residue and results came back showing 6 fungicides and 1 insecticide. She said the vet said this is probably what's making her dogs sick. She is concerned with this material being land applied. Since the wet distillers grain is being generated from treated seed corn processed through the ethanol plant; she is concerned with this material being land applied and potential impacts to animals, insects (bees), fish, and water.

Since this wet distillers grain is not considered a waste and therefore not regulated by our solid waste regulations, would it fall under your department? Should it be registered with your department as a fertilizer or soil amendment? Do any FIFRA rules apply? I appreciate your help. I have phone numbers for Ms. Dyas if you wish to contact her directly. Thanks

Jason

**From:** Paula Dyas [<mailto:pdyas222@gmail.com>]  
**Sent:** Monday, April 30, 2018 1:13 PM  
**To:** Holsten, Jason  
**Subject:** By-Product Toxicology Report

Hello Jason,

I am attached a redacted version of the toxicology report provided from Iowa State Veterinary Diagnostic Laboratory. As I mentioned previously, the veterinarian who helped me with the submission is a personal family friend and did not want his name associated with the report in case we found something to be pursued. At the time of submission we suspected alcohol toxicity and did request that residual alcohol be ruled out. I have removed his name, address and phone number. I respectfully request that you do not trace the accession number or client ID so as to retain his anonymity. I do have additional sample if more testing would be beneficial.

History:

We have three dogs, two ~ 90 lbs and one at 56 lbs. During the last week of March into early April, wet cake or wet distillers grain began being hauled by side dump semi trucks past our acreage to be piled in a field cash rented to the east of our property. This material originated from the ALT-N Ethanol plant located near Mead, Nebraska. One large dog became ill exhibiting full body shaking, hyper-salivation, lethargy and fully dilated pupils on Sunday April 1st. We did not understand the cause of the symptoms and took him to our veterinarian in Wahoo (Dr. Rachel Oolman) on Monday, April 2nd. Poisoning was suspected and at that time insecticide was mentioned as a potential agent that could cause similar symptoms, but I was unaware of any potential exposure. We thought the dog was ill due to overeating. Thursday evening (4/5) the other large dog was witnessed eating the spread wet cake, the next morning she was ill with the same symptoms as the original large dog. At this time we began contacting the surrounding farmers to find out more about the product and we called the local ethanol plant which has repeatedly assured me that any pesticide residue 'should' have all been removed during the ethanol production process. The smaller dog has also eaten the product and his pupils fully dilated, and he seemed a little shaky within 3-4 hours post consumption but never as bad as the two larger dogs.

We contacted the farmer who cash rents the ground and requested that the wet cake be tilled into the soil after it sat on the surface for ~ 5 days. When the product was spread in fields adjoining a creek, they spread product onto the grass between the field and our property, therefore assuring that some of the material will never be tilled into the soil. We picked up as much as possible to stop our pets from eating

the product and routinely take our dogs out on leashes or only to the west to avoid any additional exposures. Our smaller dog was out of my site for ~ 5 minutes on Saturday, 4/28 and I found him eating product from the grass ~ 1 month from the time it was spread and after multiple rains. He is now sick, dilated pupils, shaky and unable to see, runs into furniture and can't do stairs at only 1 year of age. Clearly the product, or the chemicals in it, are not breaking down very quickly.

I am attaching the seed tag from bags of treated seed corn for your review. I believe if you look closely that both Pioneer and Monsanto are quit clear that the seed treatment is harmful to wildlife, waterways and that any ethanol plant by product produced with this seed should not be spread for agronomic purposes unless it has no measurable pesticide residue. I personally know local farmers that won't spread this on their land and have cautioned me to keep my pets clear. I can't understand how the big seed companies are clear on the appropriate use of these chemicals, but our state feels that residual pesticide testing is not required.

How much of this made it into the creek or still sits on the grassy bank? It certainly is still present in the grass to the east of our residence. Of the few chemicals out of the seven listed on the toxicology screen that I have researched many are persistent and bio-accumulative.

I appreciate any help your office can be to make certain that if this by product is applied that it is done in a safe and environmentally friendly way.

Regards,

Paula Dyas

### **ATTACHMENT III**

**5/4/18 Email from Tim Creger to Paula Dyas**

## Holsten, Jason

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**From:** Creger, Tim  
**Sent:** Friday, May 04, 2018 12:14 PM  
**To:** Holsten, Jason  
**Subject:** FW: Response by NDA to questions regarding ALT-N Ethanol plant located near Mead, Nebraska

Jason,

I forgot to copy you on this response that I just sent to Paula Dyas.

### **Tim Creger**

*Pesticide/Fertilizer Program Manager* | ANIMAL & PLANT HEALTH PROTECTION

**Nebraska Department of Agriculture**

OFFICE 402-471-6882

Tim.creger@nebraska.gov

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**From:** Creger, Tim  
**Sent:** Friday, May 4, 2018 12:13 PM  
**To:** 'pdyas222@gmail.com' <pdyas222@gmail.com>  
**Cc:** Tammy Zimmerman (NDA) <tammy.zimmerman@nebraska.gov>  
**Subject:** Response by NDA to questions regarding ALT-N Ethanol plant located near Mead, Nebraska

Dear Ms. Dyas,

I have now had time to meet with our animal and veterinary services specialists here and have come away with the following information for your situation.

The waste material that was dumped and then land applied to the field next to your property may have had mycotoxins that could have caused the illness in your dogs. There are many possible mycotoxins that cause illness in animals, and due to the waste product being allowed to sit for a long period of time in a pile, both at ALT-N and in the field, we feel there is a chance for this to happen. Our feed lab is only set up to test for three of over 50 possible mycotoxins, and it typically costs over \$750 just to purchase the testing standards for those three organisms during an annual seasonal run we do during harvest. In short, we are not able to willing to run any tests of the compound for mycotoxins, but want you to know that this is a possible source of the illness in your dogs.

The lack of a quantitative analysis by ISU of the pesticide constituents they identified by a preliminary GCMS screen prevents us from making any conclusion that they were in any way the cause of the illness in your dogs. Nearly all of the pesticides listed on the ISU report are classified by EPA as having relatively low toxicity to mammals in field application concentrations, and there is no way to determine if they were carried through the ethanol manufacturing process in concentrations that were high enough to cause symptoms in dogs. Additionally, many of the pesticides listed by ISU do not manifest toxicity by the symptoms you explained were documented by your veterinarian. While one or two symptoms might result from consumption of large doses of those pesticides, not all of those symptoms are characterized by them. However, more of the symptoms are typically characterized in animals by certain mycotoxins that can be found in decomposing biomass.

When ALT-N was originally constructed, NDA representatives visited the plant to determine how the waste byproducts were produced and handled, since the plant originally intended to use treated seed as one of their carbohydrate sources. At that time, it was determined the process was appropriate and

that the waste byproduct could be land applied, so long as the management had plans in place to prevent the material from entering the animal feed channels of trade. NDA has not been back to the plant since, but we are aware the facility has changed ownership once or twice since then. Because of this I have instructed our fertilizer specialist, who also handles our soil conditioner program, to contact the company and discuss with them again how they handle the waste product from using treated seed. We are primarily interested in making sure the product is labeled correctly and the facility is following laws regarding distribution of plant nutrients or soil conditioners. The company would also likely need to submit a label showing what nutrient or soil conditioner claims they are making, and possibly pay annual tonnage fees for any amount over 5 tons of product distributed to any land they do not own directly.

I recognize this response probably does not give you the answers or resolve your concerns the way you had hoped. There are some aspects of modern agriculture for which there are simply no laws or regulations in place. We do try hard to address all concerns as best the laws allow, and work on a regular basis with other state and federal agencies to try and avoid situations that present harmful situations from occurring.

There is one thing left that I would like to ask you, which is if you could provide me with the name and contact information for the land owner of the field where the waste product was applied. We might want to contact them if we feel the ethanol plant is not being forthcoming with the information we are asking them for.

Sincerely,

**Tim Creger**

*Pesticide/Fertilizer Program Manager* | ANIMAL & PLANT HEALTH PROTECTION

**Nebraska Department of Agriculture**

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