



August 11, 2022

Jim Macy, M. Ed.  
Director  
Nebraska Department of Environment and Energy  
245 Fallbrook Blvd.  
Lincoln, NE 68521

Dear Director Macy:

Thank you for the opportunity to meet with you and your staff on July 26, 2022, and have a wide-ranging conversation centered on our common mission to improve environmental health and protect human health in Nebraska. The unprecedented contamination in Mead, NE from improperly processed coated seed grains, exposes the unique circumstances we are faced with from both the research and regulatory perspective.

Your department's website provides invaluable information about the actions you've taken and the results of your inspections and analyses of the AltEn ethanol plant and residual toxins. We also strive for transparency in our assessment work as a component of our respect for the Mead, NE community, who invited us to do this work. We are also dedicated to first informing the community of our environmental, agricultural, and medical assessment results. We have posted on our website ([unmc.edu/env-pollution](http://unmc.edu/env-pollution)) our presentations at the Mead townhall meeting on June 19, 2022. For your convenience, we have also attached them to this letter.

We respect your desire to see our sampling protocols and to ensure they are sufficiently scientifically robust and have attached those protocols to this document. We welcome your suggestions to improve on the methodology to allow NDEE to take regulatory action.

We include a link to the [2017 EPA draft registration document](#) for Clothianidin, which summarizes human health risk values, including inhalation risk thresholds. The tables on pages 19 & 20 are helpful in outlining the lowest observable adverse effects levels (LOAEL) for several different mammalian studies. The levels of neonicotinoids found in the single residential home we have sampled to date (clothianidin detected in air at 59 mg/m<sup>3</sup> and imidacloprid detected in dust at 407 ng/g) are unfortunately within the LOAEL. Some symptoms listed in these studies are minor (i.e., weight changes) and would not constitute immediate concern; however, other studies indicate potential impacts on reproductive functions and on the health of developing children (i.e., autism). Given the range in severity and types of symptoms associated with neonicotinoid/fungicide exposure, coming to some consensus on how we are defining "harm" and what levels would be considered harmful would be very helpful for communicating results and providing the public with the appropriate context. We have attached some relevant articles that provide information on levels of neonicotinoids in people.

Please also note that the EPA document details the estimated drinking water concentrations (EDWCs on pg. 23) for modelling risk of clothianidin contamination in surface and ground water, but the levels reported are based on the normal application or approved use of these compounds, and their estimated risk values are well below the levels that have already been detected at the AltEn site, further indicating just how unprecedented the levels of contaminants are in this case. If you have any more recent documents that report LOAEL values for



neonicotinoids or other helpful threshold/risk assessment guidance that NDEE is referring to, please let us know so we can share amongst our research team.

We are also as committed as you to promptly notify the community if we obtain any evidence of imminent public health danger from our proposed 10-year assessment and medical registry; subject to the financial support to continue to work. This time should allow observations of children born during this period. Please share:

- 1) What levels of the neonicotinoids in indoor air, drinking wells, and human biological specimens have been set by NDEE to be considered sufficiently high to require removal of people from their homes?
- 2) What levels would require abandonment of the homes because it would be infeasible to clean up the contamination?
- 3) Are these levels different based on the age, health, and pregnancy status of the occupants?
- 4) Are the levels based on reproductive and neurodevelopment effects or some other health condition?
- 5) Have you established a remediation protocol for homes, or other buildings, that are found to be contaminated in indoor air and surfaces by the neonicotinoids?
- 6) Are there levels NDEE wants to use as triggers for regulatory action in environmental samples: vertebrates, invertebrates, and plants?

Your answers will help us, and the community interpret the results we obtain from our animal sampling, sampling of homes & drinking wells, analysis of blood and urine samples from the local residents and plant employees, and human health surveys.

We are delighted to work with you on this unique human health risk and extend our environmental and regulatory science to protect this community and others at risk. I really appreciate the efforts you made to meet and discuss how to best collaborate and share information.

Respectfully,

Ali S. Khan, MD, MPH, MBA  
Assistant Surgeon General (ret.),  
USPHS  
Dean and Professor  
University of Nebraska Medical Center

cc: S. Bartelt-Hunt, J. Bell, P. Greenberg, K. Michaud, E. Rogan, J. Schalles, D. Snow, L. VanWormer, J. Wu-Smart

Enclosed PDFs and Word Documents:

- Ehp-Neonics; Neonics Intecticides; Acs\_jafc8b02982 Neonics; Neonics Insulin; Neonics Adiposity; Environmental Toxicology 2022; Neonics 3; Neonics 2; Neonics 1; House Sampling Protocol; Surface Water Sampling Protocol

Townhall PowerPoints

- Townhall 6.16.2022\_Dr. Jesse Bell; TownHall Slides\_Dr. Shannon Bartelt-Hunt; Air and Surface Sampling at Mead 6-15-22\_Dr. Eleanor Rogan