AltEn StRAP 4 Research Description

Identification of contaminants and their transformation products in soils near the AltEn ethanol plant using transformation prediction tools and non-targeted analysis

CSS.402.6 (Build confidence in the use of new approach methods for exposure assessment through applications)

Would be great to have a discussion with Univ of Nebraska to determine best possible locations for soil sampling given discoveries from their targeted work that would fit both of our needs and have them as contributors. I have also reached out to the bee modelers to see if they would have any need for soil data in their modeling efforts.

Objectives:

1) Predict pesticide transformation products in soils using various transformation prediction tools. Leverage data already collected from University of Nebraska targeted analysis. Develop suspect screening list from transformation prediction tools.
2) Identify pesticides and transformation products in soil samples using non-targeted analysis. Using suspect screening lists and NTA approaches identify pesticides and transformation products in soils.
3) Evaluate predicted and identified pesticides and transformation products.
4) Data-dependent: evaluate possible transport of pesticides and transformation products, source identification, and formation of transformation products over time (or other goals based on discussion with Univ of Nebraska).

Soil sample wish list with Objective 4:

Transect radiating outwards from facility or site: possible source identification or transport of pesticides and transformations products. (I believe already being planned?)

Time-series at location TBD (maybe most recent spill site): possible formation of transformation products over time.

Control soil samples.