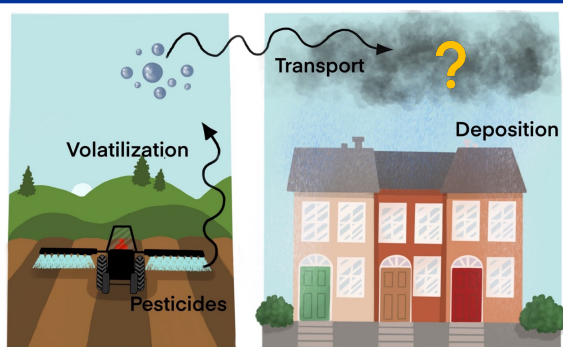


# Pesticide Biotransformation Products in Ohio Rain

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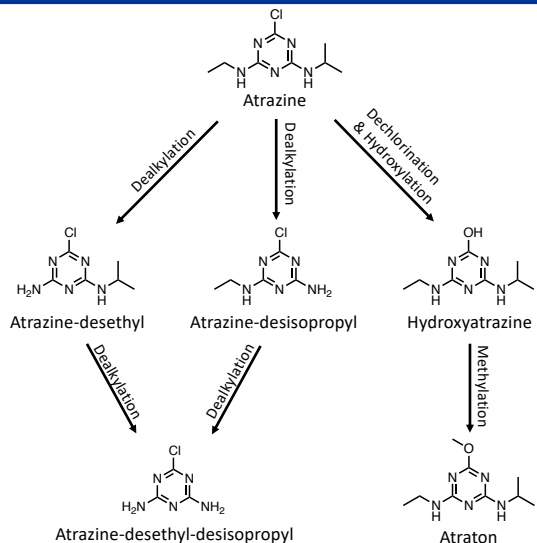
## Motivation



### Objectives:

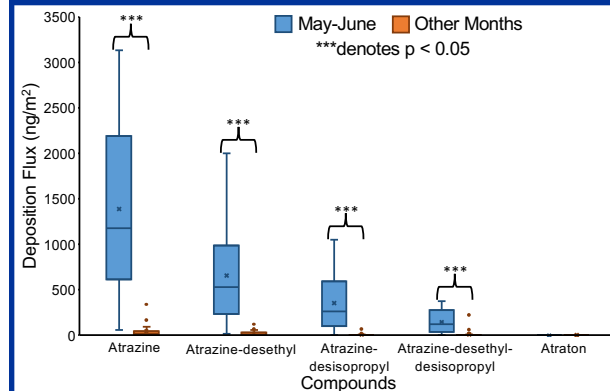
1. Identify pesticide metabolites in rainwater from Wooster, OH.
2. Quantify how much of each compound is in the rain.
3. Analyze seasonal variation and correlations between compounds.

## Mechanism



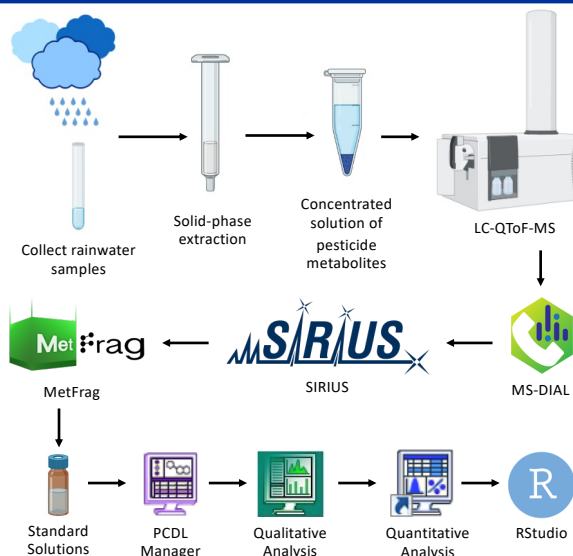
**Major Finding:** Atrazine and several of its breakdown products are present in the rainwater samples collected in Wooster, OH.

## Seasonal Variation

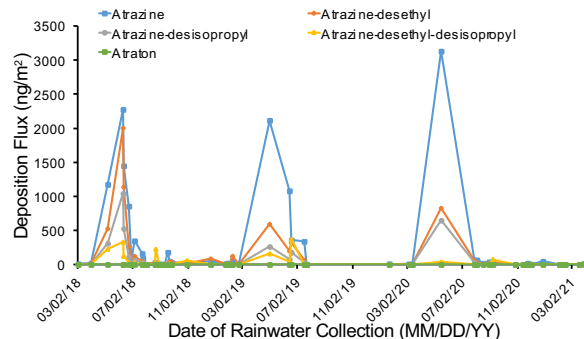


**Major Finding:** The flux of atrazine and 4 of its 5 metabolites is significantly higher in May & June, indicating springtime application of atrazine.

## Methods



## Alignment Results



**Major Finding:** Atrazine and its metabolites spike in concentration in the same samples, indicating that the degradation process occurs quickly.

## Next Steps

### Limitations:

- There are multiple pathways for pesticides, metabolites, and degradants to enter or form in the atmosphere.
- Only a subset of all possible pesticide metabolites were collected, extracted, and analyzed.

### Future work:

- Alter collection methods, extraction methods, and analysis thresholds to increase the diversity of pesticides and metabolites studied.
- Perform a targeted analysis of atrazine-based metabolites to provide more insight into the degradation of atrazine specifically.

