

Effective Pest Treatment That Protects Pollinators

[https://github.com/shivanikuckreja/CitrolaKuckrejaSaltman_ENV872_E
DA_FinalProject/tree/main/Project](https://github.com/shivanikuckreja/CitrolaKuckrejaSaltman_ENV872_E
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1 Rationale and Research Questions

Pollination is a critical component of agriculture. Honeybees are important pollinators. Our research looks to see if there are exposure methods and chemicals that do not cause significant harm to honeybees while eliminating pests. The goal of our research is to determine potential treatment methods that reduce pests while having little to no impact on pollinators.

Questions:

1. *Is there an exposure type that has less impact on bees than non-bee insects?*
2. *Are there chemicals that have a high mortality rate for non-bee insects and low rate for bees?*

2 Dataset Information

Data Source: The dataset was pulled from a repository created for Environmental Data Analytics at Duke University in 2020. The data collected is from several EPA studies on neonicotinoids and their effects on insects. The data we will be analyzing is the type of chemical administered, how it was administered, and how both of these variables affected insects.

In the wrangling process, we selected the relevant information to our topic. This includes the chemical type, insect species, lifestage and age of the species, exposure type and the effect of the exposure.

Dataset	Summary Structure
ECOTOX_Neonicotinoids_Insects	EPA Data observing affects of chemicals and exposure types on insects

3 Exploratory Analysis

4 Analysis

- 4.1 Question 1: Is there an exposure type that has less impact on bees than non-bee insects?
- 4.2 Question 2: Are there chemicals that have a high mortality rate for non-bee insects and low rate for bees?

5 Summary and Conclusions

6 References

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