LIVING LAB - ONTARIO

Biodiversity - Pollinators

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Research Objectives:

- Identify agricultural landscape features that maximize abundance and

Importance of Pollinators

- 85% of flowering plants and 35% of food crops are pollinated by mostly insects
- Global value of pollination is ~$1 trillion per year
- Canada has >800 bee species and 1000s of pollinator fly species
- Pollinator communities in agricultural areas are less diverse, and this correlates with reduced crop yield and quality

What Does This Project Mean for Agriculture in Ontario?

- Determine the importance of forest patches, hedgerows, and grassy field margins in supporting pollinator abundance and diversity
- Identify how to maximize the habitat features to increase pollinator presence
- Improve crop yield and reduce pest pressures by encouraging beneficial insect populations

Native Pollinators in Ontario

Forest patch, grassy field margin, and hedgerow

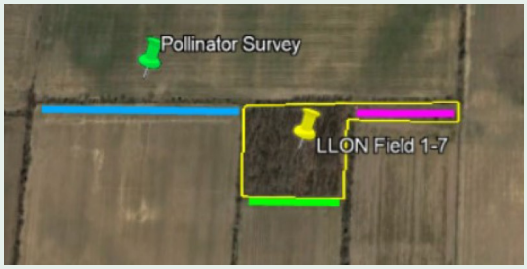
Sites Sampled

Pollinator Habitat sampled

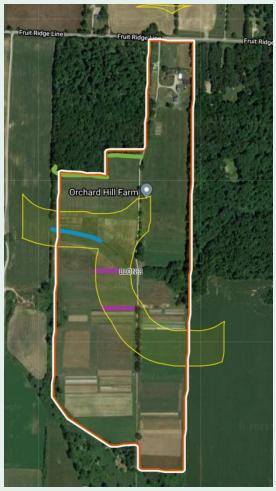
- Blue - Hedgerow
- Pink - Field Edge
- Green - Forest Edge

Three LLON sites part of Norfolk and Essex study areas

Henry Denotter



Ken Laing



Greg Vermeersch

Sampling and Analysis

Malaise traps and sweep nets were used to collect insects. Botanical surveys were performed for all grassy field margins and hedgerows

1140 traps collected 19.6 kg of insects. Each trap contains tens of thousands of insects and 1500-2000 species

Target insects are sorted, dried, mounted, identified, and databased

An overall 'diversity score' is given for flies and bees in each farm and landscape feature

Key Terms

- **Malaise Trap:** tent-like intercept traps which capture flying insects and preserves them in ethanol
- **Botanical surveys:** survey of different plant species within grassy field margins and hedgerows to determine which plants or plant communities correlate with pollinators