CROP: Garlic (*Allium sativum* L.), Leek (*Allium porrum* L.)
PEST: Leek Moth (*Acrolepiopsis assectella* (Zeller))

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TITLE: SURVEY OF LEEK MOTH POPULATIONS IN ONTARIO, 2024

MATERIALS: DELTA 1 Pheromone trap, lure #40AS009.

METHODS: DELTA 1 pheromone traps with a leek moth (*Acrolepiopsis assectella*) lure #40AS009 (Distributions Solida, Montreal, Quebec) were set up in eight locations in six counties in Southwestern Ontario from 4 April to 10 May, 2024. Counties surveyed include Grey, Huron, Oxford, Perth, Prescott-Russell, and Renfrew. Two traps were hung on wooden stakes just above the crop canopy approximately 40 cm above the ground in every field monitored. Seven fields surveyed were planted with garlic and a single field in Perth County was planted with leek. If onions were grown nearby, traps were moved from garlic to onions once the garlic was harvested. Sticky cards were usually changed on a weekly basis while pheromone lures were changed every three weeks during the duration of the study. Specimens were counted visually without extracting genitalia. Traps were left in several fields after garlic harvest to capture the third flight of the season. In the leek field, the traps were left until 15 August.

RESULTS: As outlined in **Figures 1-6**.

CONCLUSIONS: Leek moths were detected on sticky cards at all locations surveyed during the 2024 field season with the exception of the two sites in Huron county. Like previous years, field sites had three distinct population spikes between May and September when they were monitored for the entire season. The three distinct peaks taken from the average of all locations in 2024 appear to be early-May, early-July, and mid-August. Of the fields monitored by OMAFA staff, plant damage was only observed on leeks in July at the Perth field site. Results from previous years suggest that leek moth populations can be managed by insecticides in commercial garlic fields if insecticides are applied three to 10 days after second peak trap capture. Exclusion nets used alone (no conventional insecticides applied) have not been effective at reducing leek moth numbers, but the exclusion net did lower the amount of damage to the crop.

ACKNOWLEDGEMENTS: Thank you to Joseph Roy, Daniel Stein, Sasha VanDyk, McKenzie Susil, Hannah Fraser, Dennis Van Dyk, and Josh Mosiondz for their help throughout the 2024 growing season.

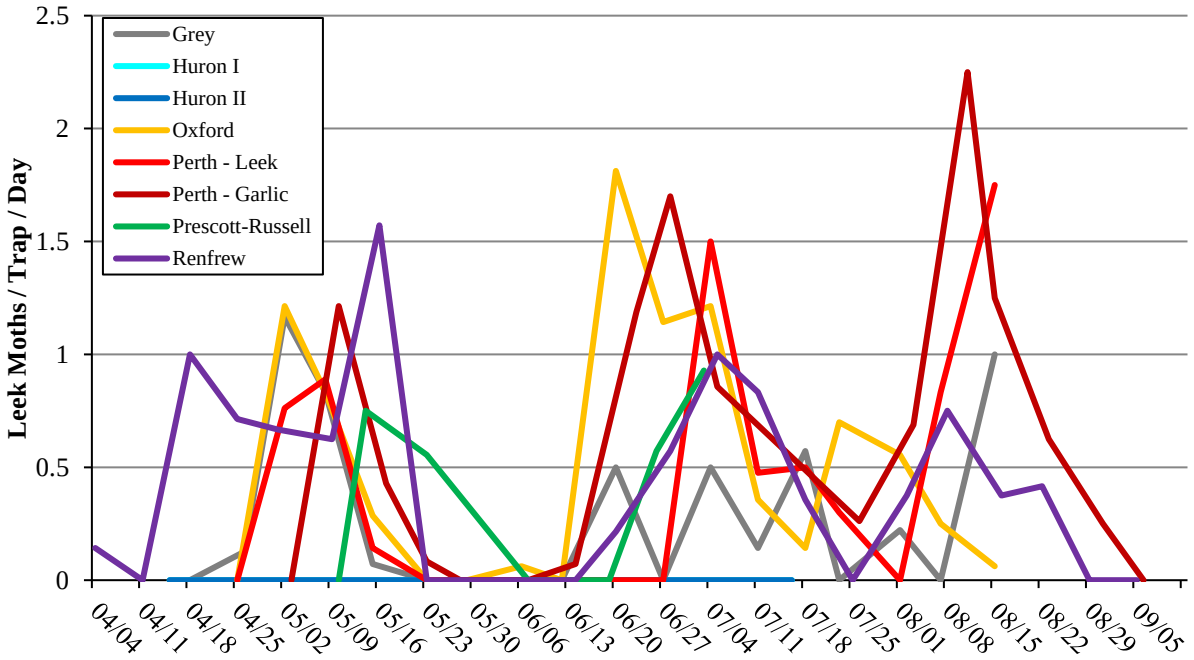

Figure 1. Average number of leek moths per sticky trap per day at seven garlic fields and one leek field within the surveyed counties of Grey, Huron, Oxford, Perth, Prescott-Russell, and Renfrew, 2024. No leek moths were observed at either location in Huron county in 2024.

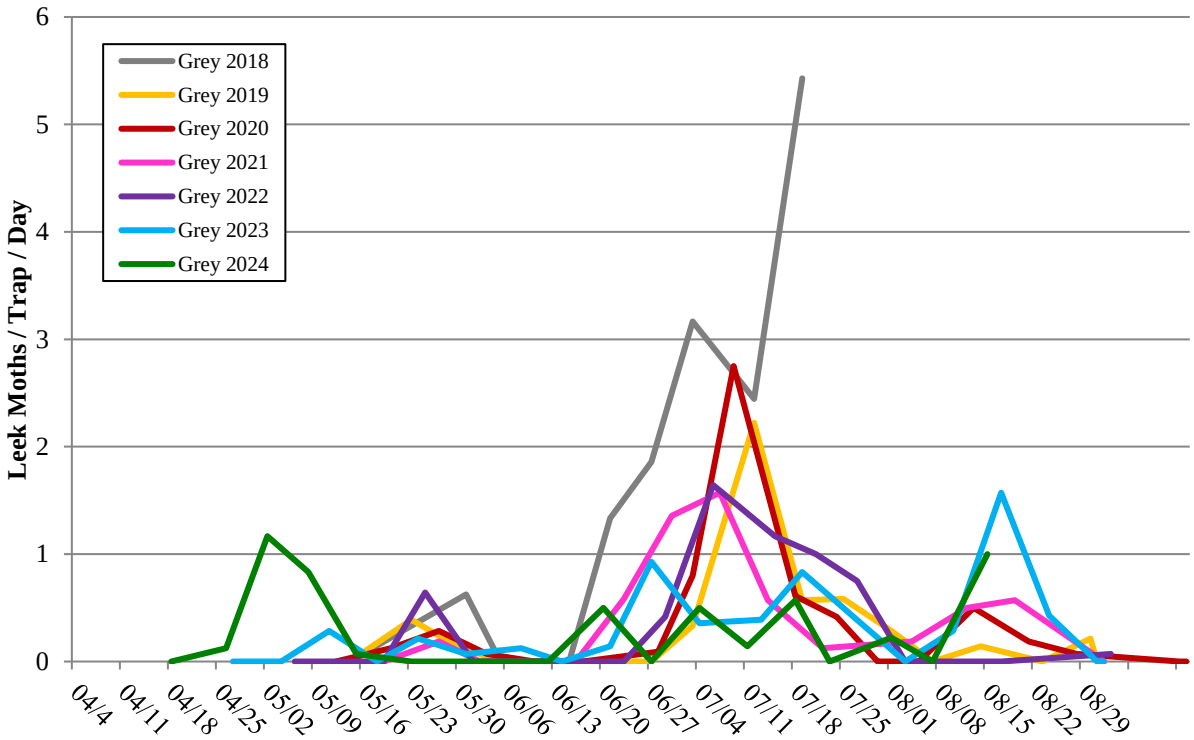

Figure 2. Leek moth counts at several fields within a 5km radius in Grey County from 2018-2024. Monitoring stopped in 2018 following garlic harvest, however, monitoring continued until September in 2019-2024. Insecticides were applied in June prior to the second peak in 2019-2022. No foliar insecticides were applied in 2023-2024.

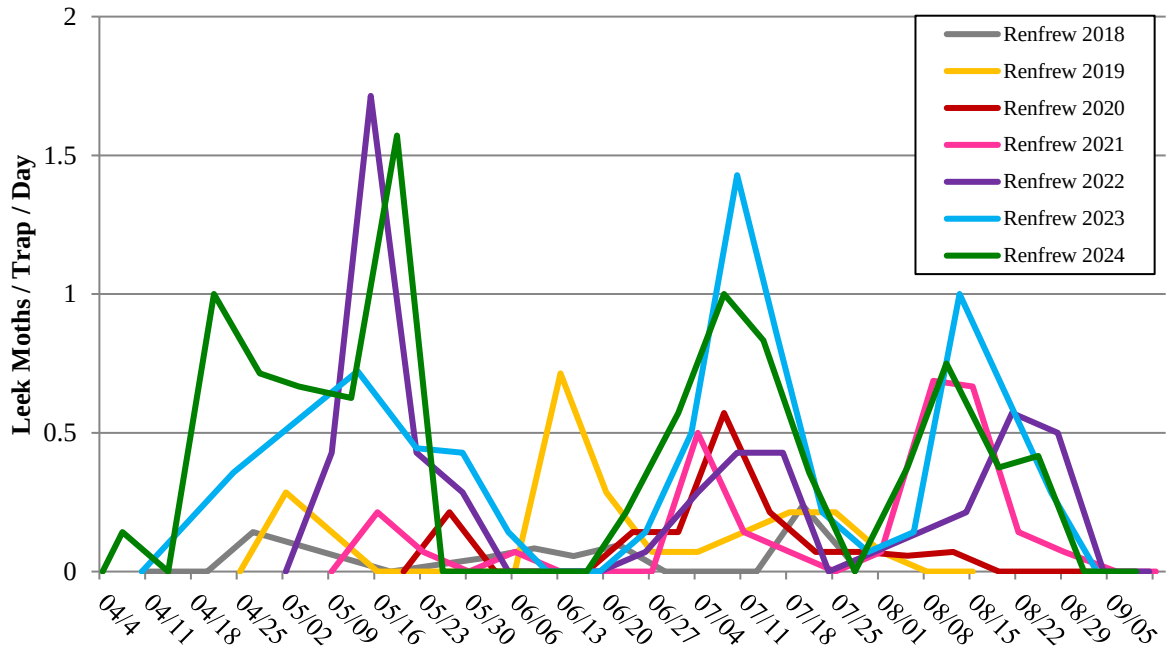

Figure 3. Leek moth counts in fields directly adjacent to one another in Renfrew County from 2019-2024. No insecticides have been applied and exclusion nets have been implemented from 2021 onward.

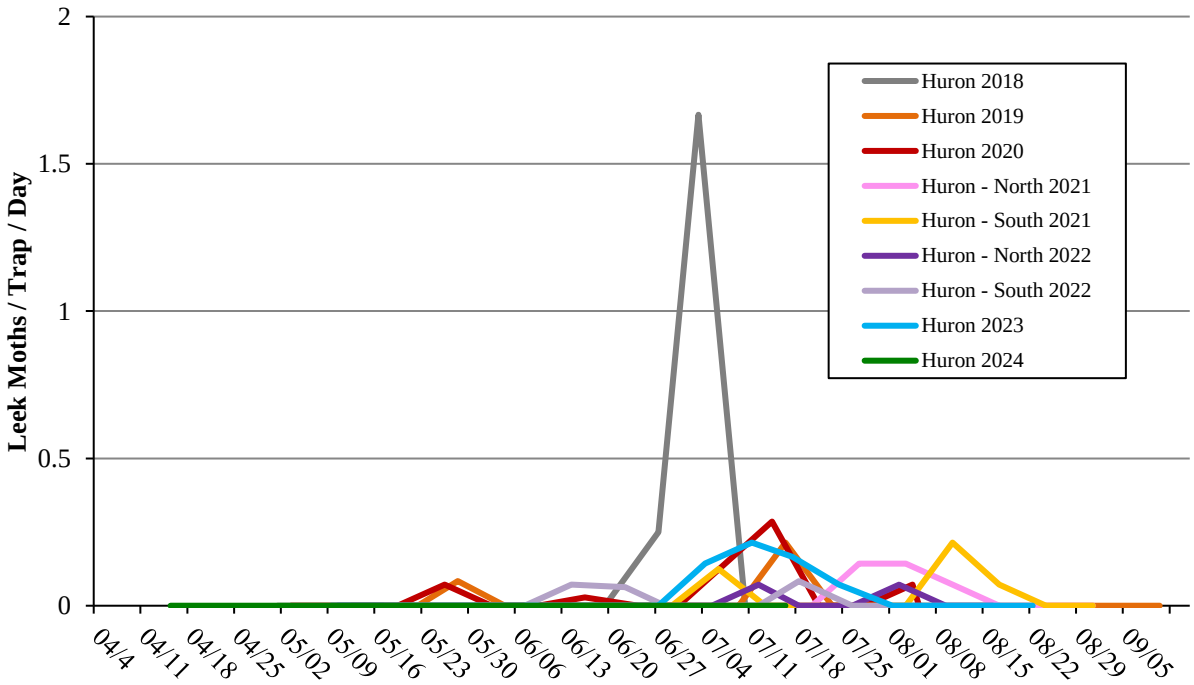

Figure 4. Leek moth counts at several field sites within 20 km of each other in Huron County from 2018-2024. Two insecticide applications following the July peak have been applied each year prior from 2018 to 2024 with the exception of 2022.

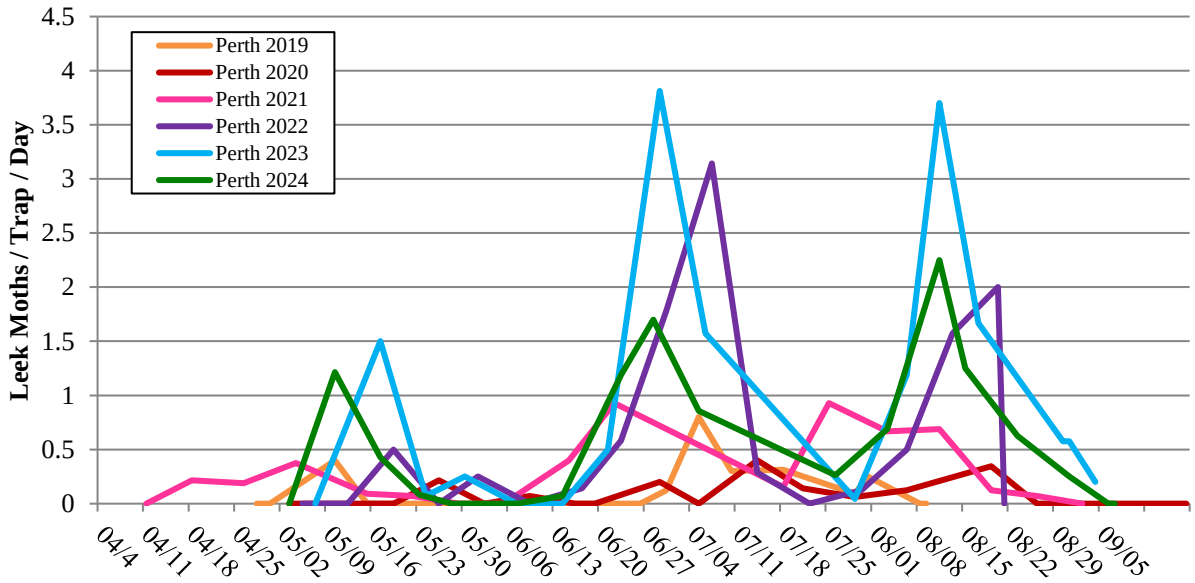

Figure 5. Leek moth counts where garlic was grown within 500 m of the previous year's field in Perth County from 2019-2025. No insecticides have been applied, however female parasitic wasps (*Diadromus pulchellus*) were released in 2019 (31 July, 29 Aug), 2021 (18 July), and 2022 (25 Aug). Leek moth traps were moved to a garden containing onions after the garlic was harvested each year.

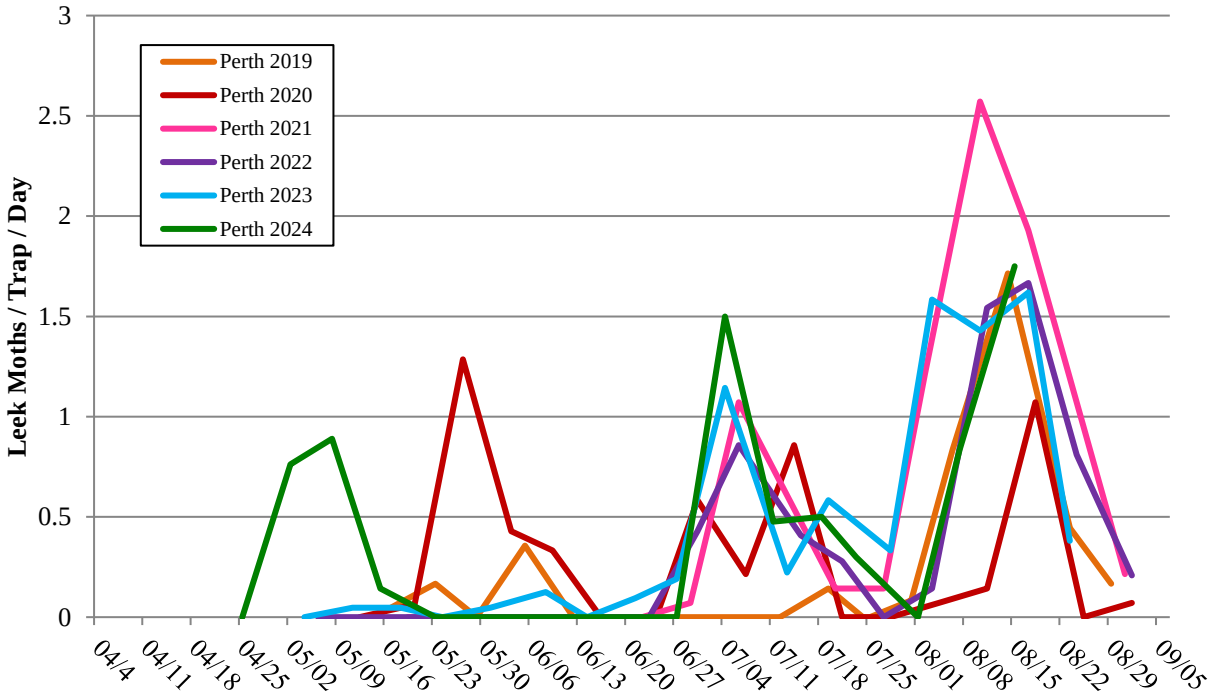

Figure 6. Leek moth counts where leeks were grown within 4 km of the previous year's field in Perth County from 2019-2024 No insecticides were applied, however female parasitic wasps (*Diadromus pulchellus*) were released in 2019 (31 July, 29 Aug), 2021 (18 July), and 2022 (25 Aug).