# INSECT SURVEY RESULTS – 2022 – PARKLAND

**2022 Summary**

No cabbage seedpod weevil were found in Parkland County. In the case of the bertha armyworm monitoring, the traps did not go over the first warning level of 300 moths.

Wheat midge was found in three out of the four fields sampled, but there were very few midge in the samples, one or two. It will be important for producers and agronomists to keep an eye on the developing situation in 2023 as the wheat heads out, especially if seeding is delayed and/or wet conditions prevail just in case.

Pea leaf weevil feeding damage was found in 3 fields evaluated in 2022. Producers need to be aware that pea leaf weevil is around and plan to treat based on their experience with the insect on their farm. Scott always said that he thought that pea leaf weevil would be successful in the Edmonton region and to the SK border. This years' survey is confirming his belief as we found more damage in more fields and in some cases more damage than in the past. Producers are going to want to monitor their fields and make decisions for control in 2024 based on their risk tolerance and management practices. Foliar insecticide applications for the weevil are not very successful.

The diamondback moth trap caught one moth, this is the same across the province as there was no migration of the moths into Alberta during the trapping period.

**BERTHA ARMYWORM (BAW)**

Bertha armyworm is very cyclical. To catch outbreaks and help producers minimize losses it is necessary to maintain a good monitoring system using pheromone traps. The number of moths caught in the traps informs us of the risk of damaging populations with a 3-to-5-week lead time. These numbers are generated from paired pheromone traps in individual fields.

Bertha armyworm populations are normally kept in check by such factors as weather and natural enemies. Potential damage may be more or less severe than suggested by the moth count data depending on weather and crop conditions and localized population dynamics. Research has clearly shown that very few fields are ever affected in an area with moth catches less than 300. Even at higher moth counts field scouting is critical for pest management decisions because experience has shown that field to field and even within field variations can be very large.

| LLD | TRAP AVERAGE | | LLD | TRAP AVERAGE |
|---|---|---|---|---|
| 52-27-W4 | 143 | | 53-1-W5 | 70 |
| 52-1-W5 | 107 | | 50-27-W4 | 125 |

Shaded cells were managed by County

**CABBAGE SEEDPOD WEEVIL (CSPW)**

In southern Alberta, including all counties south of and touching Highway 1, the earliest flowering canola crops will be at the highest risk from cabbage seedpod weevil and should be monitored very closely.

Cabbage seedpod weevil overwinters as an adult, so the risk of infestation is further indicated by the adult population of the preceding fall. Winter condition also appear to have an impact on populations with mild winter favoring build-up of populations and expansion of their range.

We track the population of other insects in these sweeps as well. These go into long term data sets that will help us research their population trends over time from individual fields.

| LLD | CSPW in 25 sweeps | Lygus Adult | Lygus Nymph | Leafhopper | Striped Flea beetle | crucifer | Other Flea Beetle | Turnip beetle | DBM Adult | DBM larva | Wasp <5 mm | Wasp >5mm | honey bee | bee but not honey | caterpillar |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51-5-W5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 52-1-W5 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 52-27-W4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 |
| 51-1-W4 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 0 | 0 | 0 | 0 | 0 |

Samples done with standard sweep net. (15" diameter & 3 foot handle). 25-180 degree sweeps.
Sampling done by Alberta Agriculture and Irrigation, Plant and Bee Health Surveillance Section

**DIAMONDBACK MOTH (DBM)**

It is generally accepted that diamondback moth adults don't overwinter in the prairies and that most infestations occur when adult moths arrive on wind currents in the spring from the southern or western United States or northern Mexico. In mild winters there is suspicion that diamondback moth does overwinter in Alberta. To assess the population, a network of 43 monitoring sites has been established across the province. This network is meant to act as part of an early warning system for diamondback moth and should be used in conjunction with crop scouting.

| LLD | TRAP AVERAGE |
|---|---|
| 50-27-W4 | 1 |

Trapping period May 8 – June 18

**PEA LEAF WEEVIL (PLW)**

Experience has shown us that high numbers of pea leaf weevil adults in fall will likely mean significant infestation levels in the following spring. The timing and intensity of spring damage is strongly related to the onset of warm conditions (>20$^{o}$C) for more than a few days in April or May. The earlier the weevils arrive in fields the higher yield loss potential. Extended cool weather delays weevil movement into the field. Yield impact is lower if the crop advances past the 6-node stage before the weevils arrive. The numbers represented here are generated from assessing feeding damage on 10 plants in 5 locations in a field.

| LEGAL LAND DESCRIPTION | | | | | AVERAGE NODE STAGE | TOTAL NOTCHES | AVERAGE NOTCHES/PLANT |
|---|---|---|---|---|---|---|---|
| | | 53 | 3 | 4 | 5.86 | 36.00 | 0.72 |
| | | 52 | 1 | 5 | 6.16 | 1045.00 | 20.90 |
| | | 52 | 27 | 4 | 6.34 | 785.00 | 15.70 |

Sampling done by Alberta Agriculture and Irrigation, Plant and Bee Health Surveillance Section

**WHEAT MIDGE (WM)**

Wheat midge is an insect that increases in numbers in wet years. Numbers can vary drastically from field to field, and we try to sample wheat adjacent to the previous years' wheat in order to pick up populations if they are present. There is no definitive way to know exactly the risk in any given field so field scouting when the wheat comes into head is critical. The numbers shown here give a general trend of midge populations. Individual fields will have a different risk.

These numbers are generated by taking soil samples from wheat fields after harvest using a standardized soil probe.

The risk level as shown on our maps is as follows:

- 0 midge will be displayed as light grey (No infestation)
- 2 or less midge will be shown as dark grey (<600/$m^2$)
- 3 to 5 will be shown as yellow (600 to 1200/ $m^2$)
- 6 to 8 will be shown as orange (1200 to 1800/ $m^2$)
- 9 or more will be shown as red. (>1800/ $m^2$)

| LEGAL LAND DESCRIPTION | | | | | TOTAL MIDGE | VIABLE | PARASITOID |
|---|---|---|---|---|---|---|---|
| | | 51 | 1 | 5 | 2 | 2 | 0 |
| | | 52 | 1 | 5 | 1 | 1 | 0 |
| | | 50 | 27 | 4 | 1 | 1 | 0 |
| | | 51 | 27 | 4 | 0 | 0 | 0 |

Sampling done by Parkland County staff.

**WHEN DOING FIELD VISITS, WE:**

- never drive into the field
- sanitize our equipment between fields with bleach solution
- sanitize our footwear between fields with bleach solution or wear boot covers