

Turning our Attention on Aphids

Aphids have the potential to pose an economic risk for pulse acres in almost any season. The economic impact will certainly vary with crop potential, but it is important to examine the life cycle and possible impact aphids can have on your pulse crops. Pea aphids overwinter as eggs laid in the crown of perennial legumes such as alfalfa. Once we hit April and May they emerge and go through about 2-3 generations which are produced asexually. After June, winged females will move to the annual pulse crops and lay several generations (as many as 15). It is the offspring laid by the mobile females (between 50-150 eggs per female) that do the damage to our pea and lentil crops.

Aphids are known as a piercing and sucking insect. Unlike a grasshopper or bertha armyworm who feed extensively on leaf matter, aphids simply punch holes and do the majority of their damage at flowering and podding. At G-Mac's our "shadows in the field" have witnessed some significant aphid damage in the past few years. Aphids have the potential to negatively impact crops by 7-8 bushel per acre and the severity of their impact seems to coincide with the yield potential of the crop. Last year, after receiving some late rains, the humid conditions and resulting active growth seemed to spur along the rapid development of aphid populations. This explosion of aphid numbers was evident with each step into a lentil field as every pair of boots carried a multitude of tiny green souvenirs out with them (Figure 1). Field experience has shown us time and time again that we can never walk away from a crop, and aphid development is another example of why we need to keep our eyes on pulse crop development right up to desiccation.

There are a variety of opinions regarding the economic thresholds for aphids. Some agronomists use 10 aphids per plant as a guide, while our team prefers to use a sweep net and count the pea aphids present on a 180 degree sweep (Figure 2). To effectively accomplish the sweep method it requires the agronomist to get the sweep just above the soil and through the entire canopy. When we see aphids at 30-40 per sweep it is a sign that we are close to an economic threshold. At 80-100 we are recommending immediate action with a product such as Matador or Lagon and Cygon.

Aphids are small. The adults are about 3 mm long and bright green. They can be dislodged from the plants by wind or rain events so we need to be conscious of looking at both the soil surface and throughout the entire canopy to find the extent of the aphid populations. Aphid control will require the use of 8-10 gpa water volume to cover the canopy and provide contact with these relatively small insects. If the spike in aphid populations aligns with a fungicide spray there are a number of tank mixes which can be used to address the insect and disease pressure.

As part of our Total Acre Lentil approach, we recommend budgeting for an aphid application and following up with the necessary scouting and "shadows in the field" to determine if there is sufficient aphid populations to cause economic damage. We are fortunate to have the ability to utilize a variety of insecticide chemistries to reduce the impact of aphids and other insect pests. Our team has the right products and looks forward to working with your farm to maximize yield potential.



Figure 1. Pea aphids accumulating on agronomists' pants and boots after scouting a lentil field (July 2015).



Figure 2. Pea aphids containing in a net after a 180 degree sweep across a lentil canopy.