

This Issue:

- Crop update.....1
- Soybean aphid scouting 2
- Twilight Tour 2
- Field pea desiccation 3
- Ultimate Soybean Challenge update.....3

Quick Links:

[Aphid Advisor App](#)

[Soybean Growth Staging Guide](#)

[NSW Agriculture Desiccation & Harvest of Field Peas](#)



Soybeans at the R3 stage with a fully closed canopy.

Soybeans

Most soybean crops are currently at the R3 stage, with some of the earliest fields nearing the R4 stage. This means that pod and seed formation is underway in both the lower and upper canopy. Hail events over the weekend have caused damage to various crops, so it's important to assess the damage in each field. According to preliminary research results, the R2-R3 soybean stages are the most sensitive to hail damage. Early results have shown that damage resulting in 100% defoliation can cause up to 42 to 65% yield loss. In southwestern Manitoba, soybean defoliation is approximately 80% on average for hail-damaged fields. Aphids have also been reported in many soybean fields, but they are generally below economic threshold at this time (page 2). Soybeans are susceptible to aphid damage until the R5-R6 stages.

The first of two soybean disease survey events was completed at the R1-R2 development stages in mid-July. This early survey included visual ratings of foliar diseases and collection of both leaf and root samples. Septoria brown spot, a common foliar disease of soybeans, was found in nearly all surveyed fields. Bacterial blight was also found in several surveyed fields—especially those that had previous damage caused by hail or insect feeding. Stay tuned for full disease survey results later this year.

Dry Beans

Dry beans across the province range from the R2 to R4 stages. The R2, or "pin bean" development stage, is characterized by pods that are half an inch in length at the first blossom position (right). The first blossom position refers to the 2nd or 3rd node at the base of the plant. For farmers still considering fungicide application in dry beans for control of white mould, the R2 stage is an appropriate time for fungicide application. Consult the [Fungicide Decision Worksheet for White Mould in Dry Bean](#), also available in the MPSG Bean App, to determine your risk level.

Pin beans emerging from the first blossom position.



Field Peas

Field peas are beginning to dry down in the province. Physiological maturity of peas begins at the bottom of the canopy and progresses upward. Desiccation considerations are being made for field peas at this time (page 3).

SMART Day Recap

The 3rd annual MPSG Soybean Management and Research Transfer (SMART) Day held on July 19th at CMCDC in Portage la Prairie was a success! This year's field tour covered topics including soybean hail damage, soil compaction, variety selection, the critical weed-free period and volunteer canola, and the Ultimate Soybean Challenge. Approximately 60 agronomists and 40 farmers were in attendance. We would like to extend a special thank you to all of our speakers, volunteers, attendees, Bill's Sticky Fingers for catering, and the Red River College culinary students for providing pulse-based tarts for dessert.

Soybean Aphid Scouting



Figure 3. Parasitized soybean aphid mummy among healthy aphids. Source: NY State IPM Program, Cornell University.

Farmers and agronomists should continue to scout for soybean aphids, as populations have been on the rise in North Dakota and Manitoba. Aphids are small, yellowish-green insects that cause damage by piercing the plant tissue and removing the sap. They can be identified by the presence of cornicles or “tailpipes” at the end of the abdomen. They progress through nymph stages, where young nymphs look identical to older nymphs, except for the size difference. They can also be winged or wingless. All stages of aphid development can be present at one time. White flecks found among aphid populations are the castings, or skin that they shed as they progress through the nymph stages.

Scouting Methods

Aphids should be assessed by examining individual plants across the field in a “W” or zigzag pattern. They tend to prefer new growth, where they can hide in the folded leaflets of new trifoliates at the top of the plant. However, they can also be found on the undersides of older leaves and along the stem. Sticky, shiny soybean leaves are another indicator that aphids are present in high populations. This is caused by the excretion of sap.

If aphids are present, it is important to monitor the pressure over a few days. It is recommended to **return to the field in 3-5 days** to assess whether the population is rising or declining. The beneficial insect population can increase in response to the presence of aphids, and the aphid population can decline due to predation. Aside from declining aphid populations, another indication that beneficial insects are doing their job is the presence of aphid mummies (Figure 3). They appear as enlarged, golden-brown aphids that have been parasitized by other insects. There are several types of parasitoids in Manitoba that can cause this.

Beneficial insects can be both predatory and non-predatory to aphids. Examples of non-predatory insects include pollinators such as honeybees and hover flies (which resemble wasps). Examples of predatory insects include lady beetle adults and larvae, lacewing larvae, syrphid fly larvae, and ambush bug. Refer to the July 27th NDSU Crop & Pest Report for images and descriptions of these [aphid predators](#).

Thresholds

The action threshold for soybean aphids is **250 aphids per plant** (all sizes, winged and wingless) **and rising across 80% of the field**. However, the economic threshold for soybean aphids is actually **670 aphids per plant**. The action threshold is set at a lower level to provide time to acquire chemical and make arrangements for field application. If considering chemical control, ensure honey bee hives are not located nearby. If so, contact the apiarist to allow them to move the hives. It is recommended to apply insecticide when pollinators are less active—when the sun is down. According to the latest NDSU Crop and Pest Report, [pyrethroid resistance](#) is suspected in soybean aphids (e.g. Lambda-cyhalothrin – Matador, Silencer 120EC). Take note of any insecticide failures.

Use the new [Aphid Advisor App](#), which helps estimate the threshold accounting for aphid and beneficial populations. [Visual guides](#) are also available to help estimate the number of aphids per leaf.

Twilight TOUR

Wednesday, August 9, 2017
University of Manitoba Ian N. Morrison Research Farm
CARMAN, MB

RESEARCH HIGHLIGHTS:

- Insect displays and questions with John Gavloski, Manitoba Agriculture
- Corn row spacing and planting density with Yvonne Lawley, University of Manitoba
- Lodging in wheat with Amy Mangin, University of Manitoba
- Soybean seeding dates and seeding depths with Kristen MacMillan, University of Manitoba
- Dry bean row spacing and planting density with Laura Schmidt, Manitoba Pulse & Soybean Growers
- Soybean crop rotation with Yvonne Lawley, University of Manitoba
- Crop rooting systems and enhanced efficiency fertilizers with John Heard, Manitoba Agriculture
- Pasmo disease management in flax with Rachel Evans, Flax Council of Canada

PORK ON A BUN 5 PM
TOUR 5:30 PM to 9:00 PM








APHID SCOUTING SUMMARY

- Examine new growth, top and bottom surfaces of leaves, and stems of individual plants.
- Revisit the field every 1-2 days to monitor aphid and beneficial populations.
- Economic threshold: 670 aphids per plant.
- Action threshold: 250 aphids per plant and rising across 80% of the field, to buy time for insecticide application if needed.
- Insecticide will wipe out the entire ecosystem.
- If considering chemical control, ensure honey bee hives are not located nearby. If so, contact the apiarist.

Field Pea Desiccation

As field peas are beginning to dry down in the lower canopy, the time for desiccation is near. Desiccation is the chemical termination of plant growth at the stage when seed size and yield have been set. Benefits of desiccation include: earlier maturity (can advance pea harvest by 10 days), even ripening of the crop, reduced lodging and increased harvest speed, and reduced weed seed set and growth late in the season.

Desiccation Timing

The optimal time for field pea desiccation is when seeds are at 30% moisture. It is recommended to begin monitoring the crop for pod colour and developmental changes approximately 20 days after flowering. Field peas are at 30% seed moisture when the lower 75% of pods are brown, and seeds are firm, rubbery and split when they are squeezed. The tops of plants may still be green and middle pods may be shrunken and leathery at this stage. Examine 10-20 seeds from random plants across the field for splitting.

Both early and late desiccation can have negative effects. Early desiccation can reduce yield and lock in the green colour of yellow peas prior to colour change. Conversely, late desiccation can reduce quality and cause seed bleaching.

Desiccation Products

It is important to be aware of maximum residue levels of products and the potential market restrictions they can impose. Glyphosate, saflufenacil (Heat) and flumioxazin (Valtera) are registered field pea desiccants that do not cause market restrictions. However, glyphosate should not be used if peas are grown for seed due to the risk of reduced seed viability. Click [here](#) for information on maximum residue levels of desiccation products in pulse crops.



Maturing field peas in southwestern Manitoba on July 25, 2017.



The Quest to Maximize Soybean Yield & Profitability in Manitoba!

Nodulation Update



Team A



Team B



Team C



Team A:
Average of 14 nodules per plant.



Team B:
Average of 7 nodules per plant.



Team C:
Average of 7 nodules per plant.

	Team A	Team B	Team C
Variety	Akros R2	S007-Y4	OAC Prudence
Inoculant	Liquid + granular	Liquid	Granular
Seed treatment	None	CruiserMaxx Vibrance + Heads Up Plant Protectant (fungicide + insecticide)	Evergol (fungicide only)
Seeding equipment	Air seeder, 9" spacing	Planter, 30" spacing	Planter, 30" spacing
Seeding rate (seeds/ac)	190,000	150,000	150,000
Anticipated weed control	Pre-emergent residual herbicide (if needed) + 1 glyphosate pass	3 glyphosate passes	Rotary hoe + inter-row cultivation, in-crop herbicide if escapes unacceptable
Fungicide	None	Yes	None
Foliar nutrients	None	Depending on tissue test	None

Nodule assessment was conducted on July 18th. Assessment was done by counting the number of live nodules on the entire root system of five plants per plot (three reps x three treatments = total of nine plots), and calculating the average for each treatment. Research has shown that 5-10 nodules per plant are adequate for maximum yield potential. Team A plants had double the amount of nodules (14 per plant) compared to Teams B and C (7 per plant). However, all treatments had enough nodules for maximized yield potential.

Click [here](#) for more information on the Ultimate Soybean Challenge.