

# Walking Your Fields®

## Welcome

to the third issue of *Walking Your Fields®* newsletter for the 2014 growing season. On behalf of your DuPont Pioneer Agronomy team, we will be producing this newsletter on a monthly basis through to October. For more detailed agronomic information please feel free to contact your local Pioneer Hi-Bred sales representative or check out [www.pioneer.com](http://www.pioneer.com).

## Late June scouting tips for your canola and soybeans in 2014

Hopefully, as you read this most of your canola fields are at bolting to early flowering, but unfortunately with the cold, wet start to this season, some fields may still be at late seedling or rosette. For soybeans, shortening days will likely be triggering a transition to flowering regardless of planting date, but there may be some delayed fields as well. Here are some scouting tips to keep in mind at this time:

### In Canola

#### What you want to see:

- The plant population you targeted. Assess whether your seeding rate produced at least 6 or 7 plants per square foot to maximize yield potential. Lower numbers can still perform well, but may delay maturity.
- Healthy leaves, stems and roots. For canola, that means dark green colour for the above ground tissues and bright white for the hypocotyl and roots below ground when soil is washed away.

### Inside this issue:

- 1 Late June scouting tips for your canola and soybeans in 2014
  - 4 Critical factors to Assessing Frost and Early Season Hail Damage on Canola
  - 6 Corn V6 and Beyond
- JUNE 2014 Volume 24 Issue 3



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### Things to watch out for:

- Pale green, yellow or purple coloured leaves indicate some type of stress. That stress could be environmental like excess moisture, lack of nutrients, a disease symptom or a sign of herbicide injury. Check for patterns of the symptoms within the field related to landscape or equipment operations to narrow down the possibilities. Darkening or collapse of root tissue indicate seedling disease or root rot.



Examples of seedling disease (top, June 2013) and excess moisture symptoms (bottom, June 2010). Fields in Southwest, MB. Photos courtesy of Derwyn Hammond, DuPont Pioneer Area Agronomist.

- Insect feeding damage or presence of insect pests. Holes or surface pitting in leaves, plants toppling over from feeding below ground or channelling or pruning of roots can all be signs of insect problems. This year, don't assume "early season" pests like cutworms are gone by late June. Heat drives insect development, so the cool May weather could have delayed their pupation. It is also time to get out the sweep net to check for insects like cabbage seedpod weevil, as early flower is the time for control if economic thresholds are exceeded.
- Weed pressure. Normally by now timely herbicide applications will have eliminated early weed competition and the crop will out-compete later emerging weeds. If weather has prevented this you may be getting to the end of the recommended crop stage for application, which for Clearfield or glyphosate tolerant systems will be either 6- or 7-leaf depending on the products used. The risk of crop injury can increase with late applications, so scout to ensure weed populations exceed economic thresholds before going ahead.
- Assess sclerotinia risk – use this guide from Canola Council of Canada to assist with fungicide decisions - [http://www.canolacouncil.org/media/516526/canola\\_disease\\_scouting.pdf](http://www.canolacouncil.org/media/516526/canola_disease_scouting.pdf).

### In Soybeans

#### What you want to see:

- A healthy population of about 150,000 to 220,000 per acre depending on whether they were seeded with a planter or solid seeded. For soybeans, we also want to see lots of healthy productive nodules formed on those roots. Look for pink colouration inside the nodules as evidence that they are actively fixing nitrogen for the plants.



### Things to watch out for:

- Weed pressure. Late planted soybeans will tend to be shorter, further reducing their competitiveness. For soybeans, glyphosate applications can be made up to flowering, but tank mix partners used for control of RR canola volunteers may have a shorter window for application. Consult your provincial guide or company rep to determine the safest options if applications have been delayed.
- Yellowing or browning (necrosis) on leaves. This could be indicative of nutrient deficiencies (e.g. potassium, iron chlorosis) or diseases like bacterial blight, but environmental stress could also be a factor. Darkening of root tissues may indicate root rots which can occur in wet conditions.



Example of patch of yellowed soybeans among healthy looking plants – something to inspect more closely. Field near Virden, MB in 2013. Photo courtesy of Derwyn Hammond, Area Agronomist.

- Insects and feeding damage. Foliar feeders like grasshoppers and fall armyworm can attack soybeans, but they can withstand significant defoliation at early stages without affecting yield. Defoliation at flowering and early pod filling is a bigger threat. Below ground pests include white grubs and wireworms.

Finally, here are some links to additional resources to help with proper crop staging and identifying the cause of any issues your field scouting may reveal in these crops:

### Canola Staging

<http://www.canolacouncil.org/canola-encyclopedia/crop-development/growth-stages/>

### Canola Insect Scouting and Identification Card

[http://www.canolacouncil.org/media/530969/canola\\_insect\\_scouting\\_and\\_id\\_card.pdf](http://www.canolacouncil.org/media/530969/canola_insect_scouting_and_id_card.pdf)

### Soybean Staging

<https://www.pioneer.com/home/site/ca/agronomy/library/template.CONTENT/guid.99131F8F-7834-A072-4D39-E92238EF1D14>

### Soybean Insect and Disease Guide

<https://www.pioneer.com/home/site/us/agronomy/crop-management/soybean-insect-disease/>

Use your provincial guide to crop protection to determine registered control options, timing and rates of applications if required:

### Alberta:

<http://www.agriculture.alberta.ca/app21/>

### Saskatchewan:

[http://www.agriculture.gov.sk.ca/Guide\\_to\\_Crop\\_Protection](http://www.agriculture.gov.sk.ca/Guide_to_Crop_Protection)

### Manitoba:

<http://www.gov.mb.ca/agriculture/crops/guides-and-publications/index.html#gfc>

# Critical factors to assessing frost and early season hail damage on canola

**Spring frost** is always an issue in Western Canada during the later part of May and even into early June. Damage can range from leaf margin blackening to the entire removal (drying off) of all above ground plant tissue. In many instances, plant populations may be reduced by as much as 75% in areas where temperatures remained below freezing for several hours on consecutive nights.



*The above plant on the left will not survive because the hypocotyl has been pinched off due to severe frost (black arrow). The plant on the right will survive because the hypocotyl is still firm and pliable. Photo courtesy of David Vanthuyne, DuPont Pioneer Area Agronomist, Saskatchewan.*

The other critical factor is to look at the growing point of a damaged plant. A light green to lime green color in the very center of the plant (growth point) is a good indicator that the plant will survive. This can be accomplished by peeling back the leaves like a banana.

The last critical factor is to allow the plants enough time to recover from a frost or multiple frosts, before fully assessing the extent of the damage. New leaves may take as long as a week to emerge. Research supports that plant densities as low as 2 to 3 plants/ft<sup>2</sup> (20 to 30 plants/m<sup>2</sup>) will still make a viable crop.

Hail storms don't occur very often in the spring. Thunderstorms can produce severe hail at any time even during plant development. As we know, canola is very elastic and can quickly recover from stress when growing conditions are good. Below are quick tips.

- Wait a minimum of 4 to 5 days to see what regrowth has occurred
- If growing point (new leaf) is damaged, those plants will not survive
- If just leaves are stripped off, the plant will rapidly produce more because each plant has already developed a root mass to balance out above ground leaf area
- Impact to yield will be minimal prior to early flower
- Plants hailed on prior to 3 to 4 leaf will likely see no major delay in maturity; these plants will catch up over summer
- Maturity will however be delayed the more advanced the plant is when damage occurs
- Crusting/compaction could be an issue depending on soil texture (clay can crust over) if late seeded fields of canola have not emerged
- No reseeding necessary! 3 to 4 leaf plants will make a viable crop because the remaining seedlings/plants take advantage of the reduced competition for light, moisture and nutrients





## Additional Resources

Check out this excellent Field Facts article showcasing a Hail Decision Guide from DuPont Pioneer. It can help in assessing corn and beans that have had hail damage and are at a similar stage of development.

<https://www.pioneer.com/home/site/us/agronomy/crop-management/adverse-weather-disease/hail-decision-guide/?site=canada>

*These images were taken on May 26 with hail ranging from the size of peas to as large as a loonie. Photos courtesy of David Vanthuyne, DuPont Pioneer Area Agronomist, Saskatchewan.*

## Staying Connected With DuPont Pioneer:

DuPont Pioneer now has **FREE Applications** available through the App Store on iTunes®



**Canola  
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***If you have any questions, please call your local Pioneer Hi-Bred sales representative.***

If you wish to continue to receive agronomic updates and other electronic communications from the DuPont Pioneer Agronomy Team, please visit [www.pioneer.com/register](http://www.pioneer.com/register) to opt-in to receive the emails. On July 1, 2014, Canada's Anti-Spam Legislation (CASL) comes into effect. This new law requires that we obtain your permission (called an opt-in) to send you information electronically.



# Corn V6 and Beyond

There is an expression for corn: “Knee high on the 4th of July.” It means that your corn is on track to reach maturity. If that holds true, it would mean your corn has reached at least the V6 stage. At this point the growth point is now above ground and ear shoots and tassel are initiated. As the number of potential kernels around the ear are being determined, as is yield potential, so minimal stress is needed to ensure maximum girth.



**V6 stage**



**VT (V Tassel)**

*Photos courtesy of DuPont Pioneer.*

Last minute weed control may be required but ensure the choice of herbicide is proper (your crop is at the right stage and has not gone past the stage as per the label). DuPont Pioneer does not recommend the use of 2,4-D or MCPA at any stage of growth.

Over the next 30 days, if weather cooperates, the corn will move from V6 to VT or tassel. At the VT stage the overall ear size is determined both length (# kernels/row) and girth. It is

also during this stage that fertility and moisture requirements are the highest. It is important to note that any lacking nutrients need to be topped up as soon as possible, and the V6 stage may be your last opportunity to top up your fertility. Deficiencies could be in nitrogen, phosphorous, potassium or zinc. Dribble banding or granular broadcasting are options to use to apply needed nutrients, remembering soil moisture and rain are needed to get surface-applied nutrients into the root zone. Foliar-applied fertilizers can be risky from a leaf burn perspective and typically absorption is only around 10% through the leaves. It is also difficult to add much more than a few pounds of actual nutrients per acre with a foliar product. The sooner you can get the fertilizer on the better, to ensure the root system has access to these nutrients while crop demand is the highest.

## Diseases

At this time, leaf diseases may start to show up, such as common rust, eyespot, Goss's wilt, gray leaf spot, and or Northern leaf blight. Although most of these diseases have not been seen in most parts of Western Canada it is useful to be on the watch out. There are fungicides on the market than can control certain diseases but Goss's wilt is a bacterial infection so fungicides will not work. If you spot or identify Goss's wilt, your only method of combating this disease is by growing hybrids with resistance. There are no in-season products available to control Goss's wilt. The key is to identify disease early so that spraying can occur and to ensure minimal mechanical damage from the sprayer.

## Insects

Although corn can have many insects from aphids to grass hoppers that attack the crop, critical insects to look for are the European corn borer, corn rootworm and corn earworm. None of these have ever been seen in Alberta or Saskatchewan. With respect to insect control, insecticides may only have 80% efficacy rate because of the cyclical effect of the insect. Consider using a product with genetic Bt resistance to help with the control.

The key is to start your scouting early so that if you notice issues it can be treated accordingly. The sooner that the issue is addressed, the more yield potential that can be saved. For more information, contact your Pioneer Hi Bred sales representative.

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