



Pulse Agronomy Network~ *Partnership in Industry*

May 25, 2004 - All Pulse Bulletin #11

IN THIS ISSUE

Crop Scouting How To's

Emergence problems in direct seeding systems

Crop Scouting How To's...

Emile deMilliano P.Ag CCA

Now is a great time to evaluate crop emergence and to identify any potential problems with germination. Often, we overlook some of the little things the emerging crop can tell us!

Where to start? Follow a process that collects information before drawing any quick conclusions;

1. Stand at the edge of the field; scan your eyes across the entire field to look for variation due to differences in soil moisture, topography and type.
2. Are there any patterns that reveal potential mechanical causes? (e.g. uneven seeding depth)
3. Determine a scouting pattern that will provide a representative assessment of the crop (e.g. W or X or Z pattern)
4. Do plant counts as you cross the field. Ideally we want 7-8 plants per square foot but stands of 3 to 5 will generate reasonable yields provided we maintain proper weed control.
5. Carefully examine individual seedlings especially those that do not appear normal or seeds that have not germinated or emerged.
6. If plants did not emerge?
 - a. Was it seeded too deep?
 - b. Could mechanical damage or pre-harvest glyphosate damage have caused the problem?
Mechanical damage is normally identified as split or cracked seed where the root and shoot may be detached. Pre-harvest damage shows stunted roots with few secondary roots.
 - c. Was the seed treated? Could diseases like seedling blights, seed rots or foot rot be the cause of the problem?
7. If the plants did emerge, what symptoms do they exhibit? Is the growing point affected? Or are the plants just simply chlorotic and unthrifty in nature?
 - a. Could herbicide residues be an issue?
 - b. Is nitrogen fixation a problem?
 - c. Could too much fertilizer with the seed cause a problem?

Hopefully the points above provide a starting point for scouting pea fields. More information is available at the following websites;

Field scouting manual

<http://www.gov.mb.ca/agriculture/crops/cropproduction/gaa01d02.html>

Crop Scouting - Emergence Problems in Direct Seeding Systems

Rick Taillieu, Reduced Tillage LINKAGES, Camrose

The following are three of the most common emergence problems that occur in direct seeding systems related to seeding equipment performance:

1. If every 3rd or 4th row is late (corresponding to seeding with a 3 or 4 rank seed drill), the first row seeded was being covered by soil thrown from subsequent openers usually caused by seeding too fast or the drill may not have been properly leveled.
2. Good emergence in centre section of drill (look for tractor and air tank tracks) and poor emergence on outside sections is often caused by inadequate down pressure on the wings of the drill which results in poor packing. This is compounded by seeding too fast.
3. Crops seeded with paired row openers that emerge as single rows are usually caused by seeding too fast for the soil conditions or seed bounce caused by using more air flow than required. Check the seed depth to see if the seed has been placed in the deeper fertilizer trench.

For more information on assessing seed drill performance and diagnosing emergence problems visit:

<http://www.reducedtillage.ca/Planterjob.html>
