



THE PULSE AGRONOMY NETWORK
PARTNERSHIP WITH INDUSTRY



PAN - All Pulse Bulletin #6 – June 15, 2009

In this issue:

- Field Scouting
- Nitrogen Scoring – Nodulation Assessment
- Downy Mildew
- Alberta Weed Survey 2009
- Faba bean fields needed for disease survey
- Tour Listings

Field Scouting

- Neil Whatley, Crop Specialist

The first step when scouting your field is to check node stages of pulse crops, which is a more dependable way to “stage” a pulse or legume crop than staging assessments based on seedling height or leaf stage. Unlike cereal crops, the leaves of legume crops are comprised of leaflets, which can be miscounted. Therefore we count nodes, which are where the leaves are attached to the stem. The first two nodes on a pea seedling are near the soil surface and do not have true leaves, so we call them scale leaves. The first true leaf, comprised of leaflets, emerges from the 3rd node. For further discussion on field pea staging follow this link:

<http://www.pulse.ab.ca/Portals/0/pan/2005%20PAN%20Reports/PAN%20May%20262005%20APB13.pdf>

Node stage is an important decision making tool for several activities:

1. Spraying – Imidazolinone (Group 2) herbicides may be applied up to the 6th above-ground node stage for plant safety and optimum weed control. Please refer to last week’s PAN bulletin for further details.
 2. Assessing nitrogen fixation (see below).
 3. Assessing plant density – 7-8 plants/sq ft is optimum for field pea, while a minimum plant density of 2 plants/sq ft can possibly provide satisfactory yields. A plant density lower than 2 plants/sq ft, may be a consideration for reseeding.
 4. Disease development - it is important to scout for diseases such as Downy mildew (see below), Ascochyta blight and mycosphaerella, although with limited amounts of moisture so far this growing season, this might not yet be a concern.
 5. Insects – at this time of the season a main consideration is to watch for notches at the soil surface on the stems of the seedling and dead foliage on the soil surface which would indicate cutworm damage. Additionally, small notches on the margins of leaves could be an indication of adult pea leaf weevils.
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Nitrogen Scoring – Nodulation Assessment

In the field, a healthy pulse plant is always desired but it does not always mean that the plants are well-nodulated and actively fixing nitrogen. You need to dig for the answer. Nitrogen fixing potential can be evaluated by assessing plant growth and vigour, the number of nodules on a plant, the color of those nodules and where they are located on the root system. By scoring these factors and adding it up, we can evaluate the potential of a crop to fix nitrogen. Nodulation assessments should be done during early flowering, the plants need to be dug up rather than pulled out of the ground and after a thorough but gentle washing of the root system; the scoring can begin. For more details and the assessment procedures and codes, please see the technical bulletin at (http://www.2020seedlabs.ca/tech_bulletin.php?id=38) or the attached pdf.

There are also some “How To” videos with Kevin Zaychuk, 20/20 Seed Labs posted on YouTube. To access the videos, follow the links below:

Nodulation Assessment – Sampling: <http://www.youtube.com/watch?v=DYhnNlbu7Kg>

Nodulation Assessment – Good Nodulation: <http://www.youtube.com/watch?v=o86z9wMw0J0>

Nodulation Assessment – Poor Nodulation: <http://www.youtube.com/watch?v=vjq6h5slwrs>

Many factors may affect nodule formation and nitrogen fixation, for instance, this spring the cool dry weather may have delayed nodule formation. Other factors include low pH soils, high soil nitrogen levels, low soil phosphorus levels, the compatibility of the inoculant and the seed treatment. After nodule formation, a herbicide application may also impact on the nitrogen fixing activity, so nodulation assessments should take place a few days after a herbicide application when the rhizobia have had time to recover.

And remember, the more plants you assess, the more accurate the estimate!



Downy Mildew – Symptoms in Peas

- Kan-Fa Chang- Research Plant Pathologist, AARD

Downy mildew is a fungal disease caused by *Peronospora viciae*. The fungus usually infects the lowest leaves and then gradually moves to the upper leaves under cool and moist or wet weather conditions. The undersides of the leaflets should be checked weekly for grayish fungal mycelium beginning when the plants are at the seedling stage (see picture at left). The fungus sometimes induces yellowish or pale blotches or spots on the upper sides of the leaves. Under ideal environmental conditions, the fungus can infect the whole plant including leaves, stems, tendrils and flowers. Severely infected plants will become stunted. Eventually, the plants will be killed by the fungus. Growers should check for symptoms, particularly after prolonged rainfall, periods of heavy dew and cool weather conditions. The disease will stop spreading

when conditions become hot and dry.

At the late stage of plant growth, the fungus can infect tendrils, shoots and flowers. This will prevent the formation of pods and cause some yield loss.

APG is co-funding a disease survey on downy mildew in commercial pea fields. If you know of a producer who has a pea field infected with downy mildew that could be included in the survey please contact our office.

Faba bean fields needed for disease survey

Alberta Pulse Growers Commission is funding a disease survey that will quantify the incidence and severity of root rot in Alberta faba bean fields. The survey will be conducted on 30 commercial faba bean fields. If you know of a producer who has a faba bean field that could be included in the survey please contact our office. Please note that we are looking for faba bean fields of any variety.

Alberta Weed Survey 2009

Alberta Agriculture and Rural Development in collaboration with Agriculture and Agri Food Canada, and the Agricultural Service Boards is currently contacting farmers to seek participation in a province-wide weed survey, which will be carried out in July of this year. The objective of this study is to assess trends in weed populations, such as the emergence of new problem weeds, shifts in weed distribution, and changes in the composition of weed populations in response to current management practices. The data generated will be compared to previous data sets, obtained over several decades. Results will be made available on the Government of Alberta - Agriculture and Rural Development web site in the spring of 2010. The project is led by Dr. Chris Neeser at the Crop Diversification Centre South in Brooks. In case you receive a call from us, your collaboration would be greatly appreciated.

Tour Listings

June 23, 2009 - Crop Walk - Lethbridge Research Centre

A two hour Crop Walk on Tuesday, June 23 at 9:00 am at the Lethbridge Research Centre will be hosted by Reduced Tillage Linkages, Alberta Agriculture and Rural Development, and Agriculture and AgriFood Canada . Meet in the Visitor Parking lot at the Lethbridge Research Centre between 8:45 and 9:00 AM, on June 23. The Research Centre is 1 km east of Lethbridge on Secondary Highway #512 (Goal Road).

Presenters will include: Hector Carcamo, Scott Meers, Rob Dunn, Don Wentz, Ross McKenzie

Issues that will be discussed will include:

1. Update and discussion on environmental affects on crops - including crop recovery from cold and frost, disease issues, insect populations and problems, soil moisture conditions.
2. Insect Issues - discussion on insect problems and concerns
3. Seeding Dates and Rates - affects on crop growth stages and yield potential of cereal and oilseed crops
4. Irrigation water management - discussion on crop water use, irrigation timing and water application rates
5. Fertilizer management - affects of time of application, forms and rates
6. Winter wheat - discussion on agronomy management in winter wheat field.

For further information contact Ross McKenzie, Agronomy Research Scientist at 403-381-5842, Rob Dunn, Land Management Specialist at 403-381-5904 or Don Wentz with Reduced Tillage Linkages at 403-381-5845

June 29, 2009 - Ascochyta and Pulse Tour, Barrhead

Meet at The Neighborhood Inn @ Barrhead

- 10:30-11:00 AM Coffee and general discussion (probably weather related!!)
- 11:00-12:00 AM Presentation on 4 Year Pea Ascochyta Prediction System Results and How to Use the Prediction System Score Card - Ken Lopetinsky, Pulse Research Consultant
- 12:00-1:00 PM LUNCH sponsored by BASF Canada
- 1:00-3:00 PM TOUR (car pool) with 4 stops (tour Leaders Cliff Cyre and Kevin Watamaniuk)
- 1.--L Morrow field pea site to look at ascochyta in the field
 - 2.--K Anderson field to discuss the benefit of pulse in crop rotations, large research project
 - 3.--R. and R. Mueller faba bean site to discuss desiccation research trial for new faba bean type (Snowbird)
 - 4.--R. and R. Mueller field pea research agronomy site to look at APG Zone 3 pea variety trial/ascochyta scorecard

3:00 PM return to the Neighborhood Inn @ Barrhead.

For further information, please call Ken Lopetinsky at 780-674-7941.

July 7, 8, or 9 (Pick one day), SARA Diagnostic Field School, Lethbridge, Alberta

Diagnostic Field School for producers. Featured topics will include:

- Winter Peas, Lentils, Barley and Triticale
- Contans (Bio-Control of Sclerotinia)
- Nutraceutical for the control of Malaria
- Pests
- Agronomy
- More to be determined...

For more information contact

Ken Coles, 403-381-5118 or sara.research@connectcomm.ca

Chris Procyk, 403-381-5118 or chrisprocyk@hotmail.com

To register contact:

Elizabeth Tokariuk, 403-345-6550 or sara-research@platinum.ca

July 8, 2009 - CARA Crop Nutrient Field Day

10:30 am – 4:00 pm

Featuring Agronomists and Industry reps

Field scale demo of Fertilizer, Micronutrients, and Compost

Plots of Fertilizer applications and Seed Treatments

From Chinook, Alberta 5 km west along Hwy 9 and 2 km south (watch for signs)

From Youngstown, Alberta 14 km east along Hwy 9 and 2 km south

Pre-registration appreciated at 403-664-3777

July 14 & 15, 2009 - Integrated Crop Management Field School, Olds College

Olds College is hosting its Integrated Crop Management Field School to help producers perfect their skills. July 14 will feature Forage Management and July 15 will feature Field Crop Agronomy.

One Day: \$149 GST; Both Days: \$249 GST
Contact Nancy at 1-800-661-6537 ext. 4677

July 21, 2009 - CDC Saskatoon Plant Science Field Day

Crop Development Centre – Plant Sciences Field Day
Kernen Crop Research Farm (Hwy 41 and Blackley Road), Saskatchewan
Morning and afternoon concurrent sessions:

1. wheat, barley, oats, flax and weeds
2. peas, lentils, chickpeas, winter wheat and agronomy

Registration 8:30-9:30; Tours 9:30-4:00; Lunch 12:00

July 21, 2009 - Indian Head Crop Management Field Day

Indian Head Research Farm, Indian Head, SK.

8:30 am – 5:00 PM

Cost: \$25 per person (includes lunch and supper)

Registration: www.iharf.ca or call 306-695-4200.

July 21, 2009 - CARA Summer Project Tour

11:30 am – 4:00 pm

Hanna, Alberta

Topics: Regional Variety Trials, Camelina, Perennial Forage Trial, Cattle Handling Equipment
Starting with lunch at Fox Lake Park- 3 km west of Hanna from corner of Palliser Trail and Fox Lake Trail

Call 403-664-3777 for more information.

July 22, 2009 - Bow Island Sub-station Field Day

Hosted by Alberta Agriculture, Zone 1 Alberta Pulse Growers Commission, Alberta Soft Wheat Producers Commission and Reduced Tillage Linkages.

Meet at the Substation Field Building at 9:00 AM. From Bow Island, travel west on Highway #3 for about 3 km, turn south on Secondary Highway #879 (Foremost Highway) for 10 km. Just after the Spitz Sunflower Plant, is the Substation Field Building (White Trailers) on the west side of the highway.

Research issues that will be discussed include:

1. Special Crops Research Trials - Dr. Manjula Bandara, Special Crops Research Scientist
2. Irrigation Management Research - Ted Harms, Soil and Water Specialist
3. Insect Management Research (including Pea Leaf Weevil)- Scott Meers, Insect Management Specialist
4. Irrigated Crop Agronomy Research and Dryland Crop Rotations - Dr. Ross McKenzie, Agronomy Research Scientist

A "Beef on a Bun" Lunch will be provided. There is no charge for lunch however, registration would be appreciated. To register, contact Judy Chow at 403-381-5170 in Lethbridge or by e-mail at judy.chow@gov.ab.ca.

After lunch there will be several off-site tours to view either dryland or irrigated crop research trials, for those interested.

For further information contact Ross McKenzie, Agronomy Research Scientist at 403-381-5842 or Don Wentz with Reduced Tillage Linkages at 403-381-5845

July 23, 2009 - SARDA Annual Tour, MD of Big Lakes, Alberta

Cost: \$20 for tour, lunch and refreshment

For more information and to pre-register, please call the SARDA office at 780-837-2900

July 28, 2009 - Lakeland Agricultural Research Association (LARA) Summer Tour, Fort Kent

July 30, 2009 - SARDA Annual Tour, Northern Sunrise County, Alberta

Cost: \$20 for tour, lunch and refreshment

For more information and to pre-register, please call the SARDA office at 780-837-2900

July 30, 2009 Lacombe Field Day

\$20 registration Before July 24; call Loree 403-782-8114

July 31, 2009 - Lakeland Agricultural Research Association (LARA) Summer Tour, St. Paul

August 5 & 6, 2009 Seed and Agronomy Expo, Didsbury, Alberta

½ mile north on Hwy 2A from the intersection of Hwy 2A and 582

Parkland Agri Services is hosting the Seed and Agronomy Expo. Demonstrations will showcase new and old varieties, inoculant and fertility effects, fungicide response, and crop response to seeding rate and fungicide application. The expo will also highlight agronomy in other crops. Attendance is limited. Register by calling Pat at 403-888-2050

August 5, 2009 - Lakeland Agricultural Research Association (LARA) Summer Tour, Lac La Biche

Previous PAN Bulletins

View Previous PAN Bulletins at:

<http://www.pulse.ab.ca/ForProducers/Publications/PulseAgronomyNetwork/tabid/125/Default.aspx>

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