



THE PULSE AGRONOMY NETWORK
PARTNERSHIP WITH INDUSTRY



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Pea Leaf Weevil Concern Warms Up

Neil Whatley, Crop Specialist – AARD; Hector Carcamo, Insect Pest Management – AAFC;
Scott Meers – Integrated Crop Management Specialist - AARD

The temperature has been uncharacteristically low this spring except for a few warm days earlier. Pea leaf weevil (PLW) begins to fly, seeking field pea or faba bean crops, when the temperature reaches 17°C and higher. Generally, early planted field pea plants are at greater risk of damage but cool weather could increase the risk for later emerging pea plants.

The main range of PLW is in southern Alberta, south of highway 1, where the weevil causes more visible damage. Crop damage occurs in both the foliage and root nodules with root nodule damage being the main concern, resulting in partial or complete inhibition of nitrogen fixation by the pea plant. The adults feed on pea leaf margins producing a characteristic scalloped (notched) appearance (see Figure 1). These adults lay eggs in the soil near to the stem of pea plants and after hatching from the eggs, the larvae proceed downwards to feed on the pea nodules.



Figure 1. PLW Feeding Damage on pea. (Photo: L. Dosdall)

To control PLW, Cruiser Maxx Pulses can be applied as a seed treatment to reduce weevil damage for up to 28 days from the time of seeding. A foliar insecticide (Matador) is also registered as an option to reduce weevil numbers and timing of this foliar application is important. The objective is to control the adult weevils before they lay eggs. Therefore, it is important to use insecticide control when the pea seedling is very young. The economic threshold is to spray before the 6th node stage when one or more feeding notches appear on

30% (3 out of 10 plants along a seeded row) of the pea seedlings and as long as these 30% have received feeding damage to the plant's clam or terminal leaf (the most recently emerged leaf). Damage on the clam leaf suggests the weevils are still actively feeding in the field.

The pea leaf weevil can fly a long distance (a few kilometers). Since the weevil enters the field from the outside, initial damage will occur along the field borders. Therefore, it may be economically wise for farmers to spray insecticide on the field borders if damage is restricted to this area. When scouting, observe at least 10 plants at each of five spots along the edge of the field. Repeat this at another five spots more than 100 meters into the field. Chemical application should only occur if there is new feeding damage on the clam leaf.







The pea leaf weevil becomes more active when the temperature rises. Whether field pea crops are later emerging due to cold weather, or if seeding is late due to precipitation disruptions, pea producers in the southern regions of the province should be scouting for pea leaf weevil to prevent crop damage. As of late May, it appears that pea fields at more advanced stages have been damaged more than late planted fields.

Lentil Disease Scouting Tips

Faye Dokken-Bouchard, MSc., PAg - Provincial Specialist, Plant Disease, Saskatchewan Ministry of Agriculture

Scouting for diseases takes practice. In addition to learning how to accurately identify signs and symptoms of disease, it is also important to recognize the conditions favourable to disease infection and spread. Ultimately, scouting will help you make management decisions and avoid economic loss. Consider these tips when designing a scouting routine for your lentils.

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| Who? | Growers and agronomists should know how to scout for disease. Ask experienced neighbours and colleagues for advice, or contact the Saskatchewan Ministry of Agriculture for more information at 1-866-457-2377, or e-mail aginfo@gov.sk.ca or contact your local Regional Office. In Alberta please call the Ag Info Centre at 310 FARM (310-3276). |
| What? | Scout lentil crops for disease each year. Keep good records and consider each field's history of crops, inputs and pests. |
| Where? | If time does not allow scouting of every field, focus on higher risk areas including: <ul style="list-style-type: none"> • Fields planted with infected seed; • Fields that had the same pulse crop within the previous two years; • Field margins adjacent to last year's infected pulse residue; • Areas where the plants have been stressed or have a dense plant canopy; and, • Fields planted to the most disease-susceptible cultivars. |
| When? | Disease scouting in lentils may begin at the seedling stage and continue regularly throughout the summer. Scout every seven days depending on disease risk. Seedling diseases predominate under adverse soil conditions (cold or extremely dry/wet), while rain and warm temperatures generally favour foliar diseases. |
| Why? | It is important to scout for and manage lentil diseases properly to protect crop yield and quality. Seedling diseases create poor, uneven stands. Foliar disease lesions reduce photosynthetic efficiency, translating into yield loss. Sometimes disease may result in severe blighting, stem breakage and dropping of leaves and blossoms, resulting in yield loss and impeding harvest. Seeds may also be infected as a result of late infection or spread of foliar diseases. |

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|  | <p>Seedling Disease Complex (<i>Botrytis</i>, <i>Sclerotinia</i>, <i>Fusarium</i>, <i>Pythium</i>, <i>Rhizoctonia</i>) Soil-borne pathogens can cause seed rot, root rot, damping-off (sudden death either pre- or post-emergence) and seedling blight (yellowing, severe withering).</p> |
|  | <p>Ascochyta Blight (<i>Ascochyta lentis</i>) Lesions begin as tiny brown spots and expand into tan-coloured, dark-bordered lesions containing small, round fungal fruiting structures called pycnidia.</p> |
|  | <p>Anthracnose (<i>Colletotrichum truncatum</i>) Symptoms are similar to ascochyta, but lesions are usually found on stems and do not develop pycnidia, but rather irregularly shaped black fungal structures (microsclerotia).</p> |
|  | <p>Stemphylium Blight (<i>Stemphylium botryosum</i>) Symptoms appear initially as small, light beige lesions on leaves/leaflets. Small lesions coalesce to produce large, irregularly shaped lesions which kill entire branches.</p> |
|  | <p>Sclerotinia Stem & Pod Rot (<i>Sclerotinia sclerotiorum</i>) Similar to other crops affected by sclerotinia, infected lentils wilt and tissues become bleached and covered with a white mouldy growth with formation of black sclerotia.</p> |
|  | <p>Botrytis Stem & Pod Rot (<i>Botrytis cinerea</i>) When humid conditions persist, infected plants are covered with grey fuzz (spores).</p> |
| <p>How?</p> | <p>Follow a regular scouting routine and pattern:</p> <ul style="list-style-type: none"> • Check at least five sites in a field of <100 acres, and at least 10 sites for >100 acres. Walk a zigzag pattern throughout the crop to cover a large area. • Observe lower leaves and stems closely for early symptoms. Bring a magnifying glass to identify inconspicuous signs and symptoms of diseases, and use photos or illustrated field guides to aid your diagnosis. • Note symptom patterns in the field. A uniform pattern may suggest an abiotic (non-living) factor, such as chemical damage or residue. Random patterns are more likely to indicate disease. • Signs of disease include structures or products associated with the pathogen (e.g. mould, pycnidia, sclerotia). Symptoms are the detectable external and/or internal changes in the plant, as a result of infection (e.g. lesions, discolouration). If unsure, take a photo, consult an agronomist or send a sample to a diagnostic facility such as the Saskatchewan Agriculture Crop Protection Laboratory in Regina. • Mark specific areas with flags to aid in monitoring disease spread and/or to determine |

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| | <p>the effectiveness of fungicide applications.</p> <ul style="list-style-type: none">• Be mindful of your movements and take sanitation precautions between fields, as it is possible to spread disease spores from crop-to-crop on tools, tires and shoes. |
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Remember to make crop scouting part of your routine, to keep good records, to learn what you can from your colleagues and neighbours, and to pass on your expertise to other farmers and agronomists in your area. ** Larger pictures of each disease symptom are found in the attached pdf.



Note: Not all damage is caused by disease; there are other factors that may cause similar damage including wind, extreme heat, hail or insects. In this case, the cause is suspected to be hail damage, but continued monitoring for disease development will help to ensure the diagnosis is correct.

Photo courtesy: Kristina Polziehn.

Ascochyta Research Update

Robyne Bowness - MSc focus

The repeated use of Headline fungicide on Ascochyta blight (*Mycosphaerella pinodes*) may result in resistance developing within the pathogen. This could mean that higher levels of fungicide must be used to obtain the desired efficacy or the pathogen may no longer respond to the fungicide.

The main focus of the research is to determine the baseline sensitivity level of *M. pinodes* isolates from western Canada and the north western US. Isolates from Alberta, Saskatchewan, North Dakota and Washington were collected prior to the registration of Headline fungicide. These isolates will be used to determine the lowest concentration of Headline fungicide needed to inhibit pathogen growth. There will be two types of measurements used to detect these levels to ensure accuracy.

It is important to determine these concentrations in order to monitor the *Mycosphaerella* populations and detect changes to determine if fungicide resistance is developing. If anyone would like more information, on this study please contact:

Robyne Bowness
Pulse Pathology Technologist - Alberta Agriculture and Rural Development
6000 C & E Trail
Lacombe, AB T4L 1W1
Phone: (403) 782-8595

Upcoming Tour Dates

June 22

The first southern Alberta Crop Walk is scheduled for June 22, starting at 8:45 am. Meet at the Lethbridge Research Centre Visitor Parking Lot. The Research Centre is 1 km east of Lethbridge on Secondary Highway #512 (Goal Road). For more information contact: Ross McKenzie (ARD) at 403-381-5842 or Ken Coles (SARA) at 403-381-5118.

June 23

APG Zone 3 Pea Ascochyta workshop will be held in Westlock starting at 9 am. Learn how to scout for disease in peas, and how to manage them. 9:00 am to noon beginning at the Westlock Community Hall.

Complimentary Breakfast starts at 9:00 am. BUS leaves the hall to the fields at 10:00 am

Topics will include an overview of Ascochyta blight, products available –company reps, discussion of Disease Prediction Score card, including a Q&A and growers success stories using score card, field Scouting –using disease score card and field disease summary comments. Sponsored by: Alberta Pulse Growers (Zone 3), BASF, Syngenta, UFA@Westlock, Viterra@Westlock, Neerlandia CO-OP, Flatlander Agri Services

PLEASE REGISTER FOR BREAKFAST BY JUNE 21 by calling Cliff at 780-349-4775 or Ken at 780-674-7941.

June 28, 2010

St. Albert Crop Walk - 8:30 am to 12:00 noon at the new University of Alberta farm - Directions to plots; The plots are south of Highway 2 and Highway 37 overpass intersect. Travel 3.2 km (2 miles) south in Highway 2 South, turn East on Township Road 554, continue 0.8 km(0.5 mile) and there will be an approach on North hand side of the road.

Topics will include:

- Genotypic mixtures for improved competitive ability of field pea and Late and sequential herbicide applications in herbicide resistant canola systems - Dr. Chris Willenborg, Alberta Agriculture and Rural Development/University of Alberta, Edmonton
- Trialing genetic materials into broad agro-climatic zones - Christy Hoy/Boris Henriquez/Mark Olson, Alberta Agriculture and Rural Development, Edmonton
- Optimum economic and maximum rates of seed placed and banded ESN/Soft Wheat and CPS Wheat Agronomy in Five Soil-Climate In Alberta Zones/Triticale project - Dr. Ross McKenzie, Alberta Agriculture and Rural Development, Lethbridge
- Quantifying pulse crop N credits to northern prairie cropping systems - Drs. Jane King & Shirley Ross, Christina Williams, University of Alberta, Edmonton
- Canola biodiesel trials - Dr. Linda Hall, University of Alberta, Edmonton

To register call Sturgeon Valley Fertilizers (phone 780 -458-6015). For more information on the crop walk call Christy Hoy (780-422-3825) or Boris Henriquez (780-422-0736).

June 29, 2010

Vegreville/Willingdon Crop Walk - 8:30 am to 12:00 noon Stop 1. Directions to Vegreville plots; traveling on Highway 16 East past Vegreville, turn south off Highway 16 East onto Holden Road. Travel 4.8 km(2.9 miles) until the intersection Range Road 152 Township Road 530. Turn west 1.6 km (1 mile). Plots on right hand side of the road. Stop 2. Directions to Willingdon plots; travelling Highway 45 West past Willingdon, go 4.0 km (2.5 miles) west, turn south onto Range Road 154, go 3.2 km (2 miles) and turn West onto Township Road 562, plots are on north side of road.

To register call Brenda McLellan at the Ag Info Centre (310-Farm). For more information on the crop walk call Christy Hoy(780-422-3825) or Boris Henriquez (780-422-0736).

July 6, 7 or 8 (Pick one day)

SARA Diagnostic Field School - Lethbridge

Featured topics: Energy Use in Tillage Systems (comparing pulses and canola), Inter-row Seeding, Bio-mass Production, Winter Pulses, Agronomy, Pests, Variety Demonstrations and more.

To register, contact Elizabeth (403) 345-6550 or sara-research@platinum.ca.

July 14 & 15, 2010

Integrated Crop Management Field School – Olds College

What's the diagnosis? - Perfect your skills in crop management and diagnostics with this field-based workshop. Come one or both days to join specialists from Olds College and industry to discuss the current issues you are facing. Contact Nancy at 1-800-661-6537 ext. 4677.

July 21, 2010

Battle River Research Group - Stettler tour at 9:30 am with the Castor tour at 1:30 pm. Contact the BRRG at 1-866-828-6774 for more details.

July 27 and 28, 2010

Seed & Soil Expo – Didsbury

This year's Expo has expanded to encompass over 130 acres, with seven half-acre pulse plots featuring green and yellow peas, as well as soybean, lentil and fababean plots, the new Cruiser Maxx Pulses® seed treatment, a new foliar treatment for mitigating yellowing from herbicide and a live swathing demonstration. For more information, or to register for the event, please call Pat at 403-888-2050 or inquire with your local Crop Production Services retail location.

July 27, 2010

Smoky Applied Research and Demonstration Association – MD of Greenview Tour

COST: \$20 Tour, Lunch and Refreshment Included

For more information and to pre-register for the tour, please call the SARDA office in Falher at 780-837-2900.

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To register call Brenda McLellan at the Ag Info Centre (310-Farm). For more information on the crop walk call Christy Hoy (780-422-3825) or Boris Henriquez (780-422-0736).

July 28, 2010

The Gateway Research Organization (GRO) summer tour is scheduled for July 28, 2010, approx. 7:30am-3:30pm. For more information contact Andrea Fox-Robinson at (780) 349-4546.

July 28, 2010

North Peace Applied Research Association Annual Field Tour - Manning
For more information or to pre-register call Nora Paulovich or Jana Ungarian at 780-836-3354.

July 29, 2010

Mackenzie Applied Research Association Annual Field Day will take place at the MARA Experimental Farm at Fort Vermilion. For more information please call Nasar Iqbal at 780-927-3776.

August 4, 2010

Battle River Research Group - Viking tour at 9:30 am. Contact the BRRG at 1-866-828-6774 for more details.

August 5, 2010

Battle River Research Group – Killam tour at 9:30 am. Contact the BRRG at 1-866-828-6774 for more details.

Previous PAN Bulletins

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

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