LETHBRIDGE COUNTY

Nutrient Management

WINTER 2017

- New logo and name but the same great service -

Tiffin Conference at the Lethbridge Lodge on January 19th, 2017

Getting the Most from

NUTRIENT MANAGEMENT

As I am writing this we are experiencing record snowfalls in the south west. It is nice to see that there should be ample runoff to fill the reservoirs this year. Of course anything can happen between now and then but at least it looks favourable at this point.

I am just getting back from having an extended leave due to some health issues and must say it is nice to get back in the saddle again. January was a very busy month and February is looking to be filled with activity as well. Events that I am connected with are discussed below.

On January 16th the Manure Management Update was held at the Lethbridge Lodge with a record crowd in attendance. We had many students from the College attend and the entire event was received very favourably. It was great to see so many students in attendance because we all know that they are the future and they need to be exposed to as many agricultural issues as possible, to help them choose a career in agriculture.

On January 19th the Tiffin Conference took place at the Lethbridge Lodge. This was another great event with some excellent speakers in attendance. We had great student participation here as well. All speakers were well received and after assessing our evaluations, I can see that we did a good job with our lineup of speakers. Jude Capper was our Keynote after dinner speaker and she knocked it out of the park. Some of the comments were; "Jude was excellent. Overall very insightful to a variety of topics." "Jude Capper was amazing! Bring her back." There were many great comments for all of the speakers and it was nice to see we produced a great conference for the participants. Another great event that is coming up is the Getting the Most from Nutrient Management Workshop that is cohosted by Lethbridge County and Lethbridge College.

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Lethbridge County Agriculture Service Board

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Getting the Most from Nutrient Management Workshop

Presented by Lethbridge College and Lethbridge County

WHEN: Feb. 23 WHERE: Lethbridge College Cousins Building

Schedule of Events

8:30 a.m. **Registration**

9 a.m. **Welcome & Keynote Introduction**
Dwayne Rogness - Rural Extension Specialist, Lethbridge County

9:10 a.m. **Maximizing Agronomic Benefits and Minimizing Environmental Threat from Applied Nutrients in Western Canada: It Is Possible!**
Dr. Jeff Schoenau - Professor of Soil Science and SMA Chair, Department of Soil Science, University of Saskatchewan

10:05 a.m. **Soil Health:**
Soil Health: A Definition - Newton Lupwayi - Research Scientist in Soil Microbiology, Lethbridge Research Centre
Does Your Soil Have What it Takes? - Adriana Navarro Borrell - Instructor, Agriculture Sciences at Lethbridge College
Assessing Soil Health in Alberta - Yamily Zavala - Soil Health and Crop Management Specialist, Chinook Applied Research Association

Sampling for Soil Nutrients
Sampling for Soil Nutrients - Eric Bremer - Soil Scientist for Western Ag Innovations
Demystifying Laboratory Analysis and Nutrient Recommendations - Len Kryzanowski - Director, Environmental Strategy and Research Section
Understanding in Interpreting Soil Test Reports - Ross Mckenzie - Retired Agronomy Research Scientist

11:15 a.m. **Manure and Compost**
What's the Scoop - Francis Larney - Research Scientist in Soil Conservation, Agriculture and Agri-Food Canada
Compost for the Farm - Harold Perry
Assessing and Predicting the Availability of Nutrients in Manure - Dr. Jeff Schoenau - Professor of Soil Science and SMA Chair, Department of Soil Science, University of Saskatchewan;

Environment Nutrient Loss and Capture:
Non-Legume Cover Crops Can Increase Non-Growing Season Nitrous Oxide Emissions - Ben Thomas - Postdoctoral Research Scientist in Nutrient Management at Agriculture and Agri-food Canada
Using Aerobic Bioreactors to Improve Nutrient Management in Agriculture and Aquaculture - Nick Savidov - Senior Research Scientist, Aquaponics Program at Lethbridge College
Nutrient Management and Water Quality: Striving from Practical Solutions - Barry Olson - Research Scientist with Agriculture and Forestry in the irrigation and Farm Water Branch

12:15 p.m. **Lunch**

1:00 p.m. And 2:10 p.m. **Mitigating Nutrient Waste in Aquaculture and Aquaponics**
Nick Savidov - Senior Research Scientist, Aquaponics Program at Lethbridge College

Precision Agriculture
Remote Sensing Contributions in Precision Agriculture - Craig Coburn - Remote Sensing Scientist
Field Characteristics of Soil Physical Properties - Willemijn Appels - Mueller Applied Research Chair in Irrigation Science at Lethbridge College
4-R Nutrient Management Stewardship and Sustainable Soil Management - Jack Payne - Western Prairies Regional Agronomist with Farmers Edge

3:20 p.m. **Alternate Nutrient Management Strategies**
Potential for Cover Crops to Manage Nutrients - Rob Dunn - FarmWise Inc
Fertigation for Nitrogen in Southern Alberta - Doon Pauly - Agronomy Research Scientist
Organic Agriculture - Howard Lieffer

4:20 p.m. **Closing Remarks**
Dwayne Rogness - Rural Extension Specialist, Lethbridge County

NRCB Natural Resources Conservation Board

LETHBRIDGE COUNTY

Lethbridge College

Alberta Insect Pest Monitoring Network

How many of you folks would like to know what is coming down the pipe this year in regards to insect pests? Many of you may know about the Alberta Insect Pest Monitoring Network but for those that don't, I have included some of the pests from the website that I think may be a problem this year. If you are interested in looking at the website go to the Alberta Agriculture and Forestry website and click on agriculture then click on crops, then click on Diseases/Insects/Pests. You can then click on the Alberta Insect Pest Monitoring Network link, you will then be in the website. The pests below are ones that may be problematic to your operation this year. This information is adapted from the Alberta Agriculture and Forestry website.

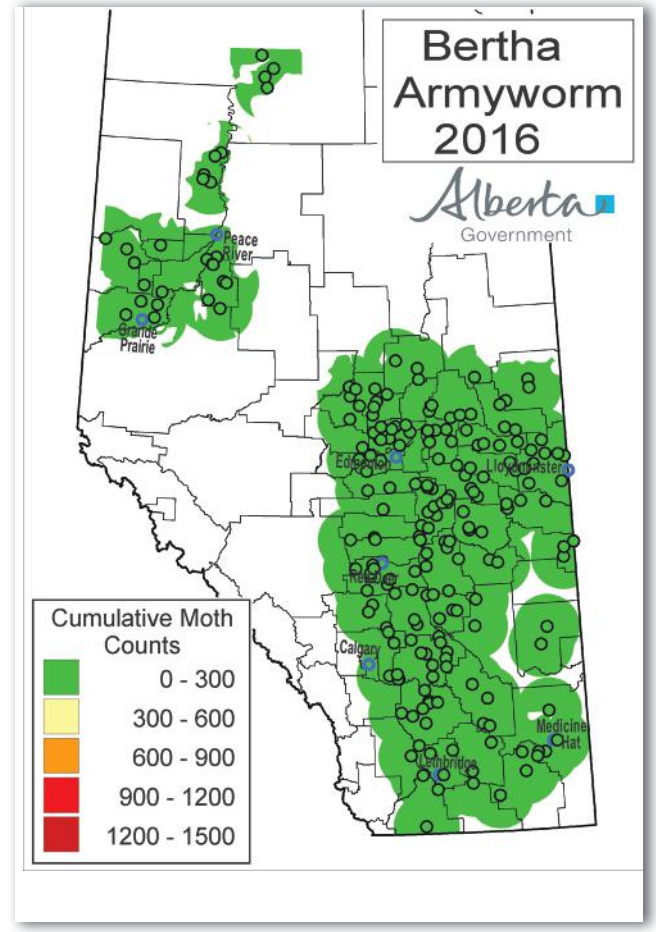
BERTHA ARMYWORM

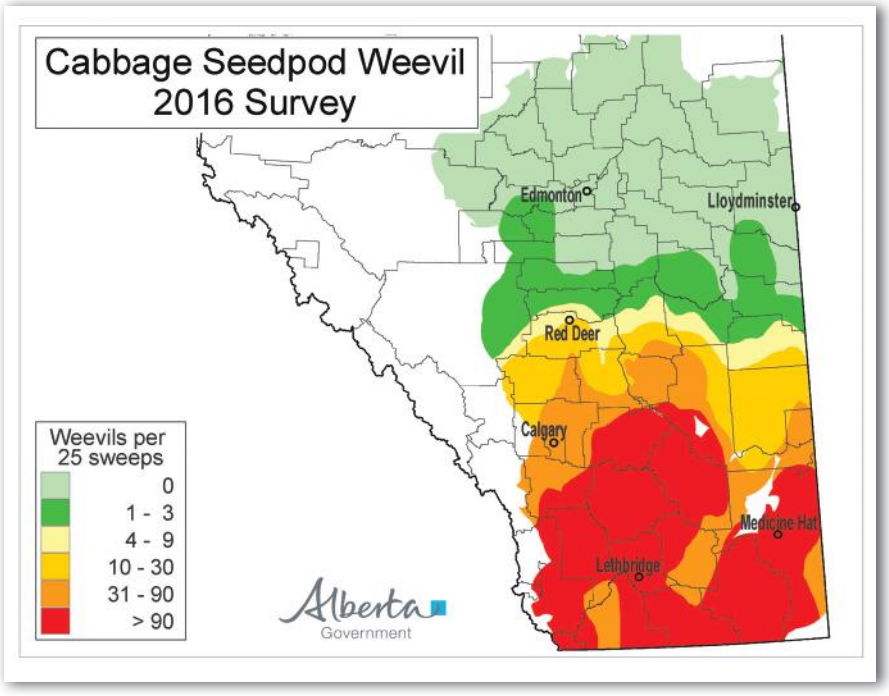
Bertha armyworm (Mamestraconfigurata) was monitored in 2016 using a network of pheromone-baited traps placed in 215 locations throughout Alberta.

Pheromone traps are used to determine the density and distribution of moths. This network of pheromone traps is organized by Alberta Agriculture and Forestry and individual traps are managed by a wide range of cooperators. Without dedicated and willing cooperators such a comprehensive monitoring system would not be possible. Our cooperators can submit their trap counts using their smart phones with a web based application.

The bertha armyworm population in Alberta is currently at a very low level with no serious populations or spraying reported in 2016. This is likely due to the impact of diseases and parasitism in the areas that previously had high populations.

It is difficult to accurately predict the 2017 bertha armyworm population based on the 2016 moth catch but the trend appears to be lower populations in almost all regions of the province. The trap system will be important to capture any resurgence that may take place in 2017. In addition research has clearly shown that snow covers encourages successful overwintering. Once again it will be critical to have very good coverage of pheromone traps in 2017 to develop an early warning of potential problems during the coming growing season





CABBAGE SEEDPOD WEEVIL

was first found infesting canola in southern Alberta in 1995. Since then, the weevil has spread to south-central Alberta and southwestern Saskatchewan. The distribution and abundance of the cabbage seedpod weevil has been monitored yearly in western Canada since 1997.

Predictive models based on climate data indicate that this pest will eventually disperse to all regions of canola production in western Canada, including the Peace Region.

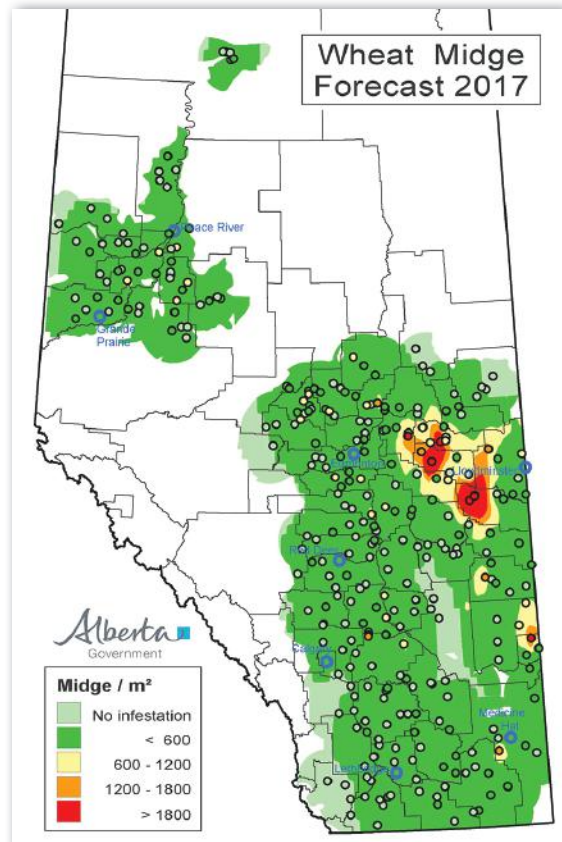
The 2016 survey covered all the canola growing areas of Alberta with 218 fields sampled in 48 municipalities and 68 calls from our online reporting tool.

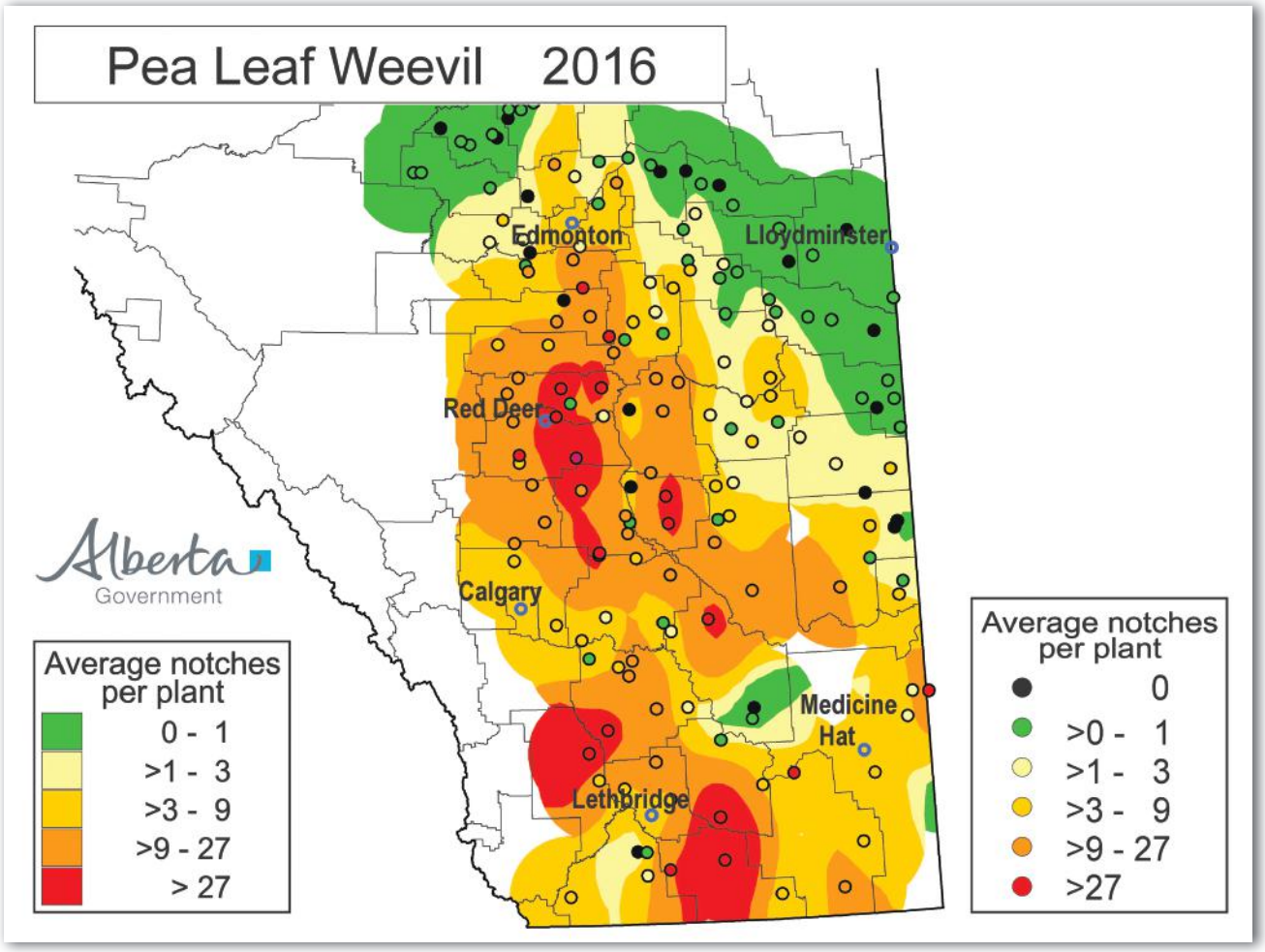
WHEAT MIDGE

The wheat midge forecast for 2016 shows an overall lower level of wheat midge across Alberta. There has been a slight bounce back from the collapse of the extreme populations in the eastern Peace Region. Although wheat midge has not followed our forecasts very well in the Peace region it is important to note that there are likely sufficient populations of midge in the eastern Peace to fuel a resurgence if conditions are in the insects favor (specifically delayed crops and higher than normal rainfall).

Central Alberta has some areas of east of Edmonton with high numbers of wheat midge. The population has remained low in much of southern Alberta with the exception of some irrigated fields. Producers should pay attention to midge downgrading in their wheat samples and use this as a further indication of midge risk in their fields.

Over the past several years the field to field variation has been very considerable throughout the province, especially in those areas with higher counts. Individual fields throughout Alberta may still have economic levels of midge. Each producer also needs to assess their risk based on indicators specific to their farm.





PEA LEAF WEEVIL

Evidence of feeding in 2016 once again was over a wider range than in 2015. The range of pea leaf weevil has expanded dramatically in central Alberta since 2013.

The annual pea leaf weevil (Sitona lineatus L.) survey was carried out in late May and early June, 2016. The 2016 survey was based on damage ratings in 168 fields from 41 municipalities.

In each field the total notches per plant are counted on 50 plants (10 plants in 5 locations near the field margin). The damage rating for a particular field is the average number of notches per plant. Information about the pea leaf weevil and its life cycle can be found here.

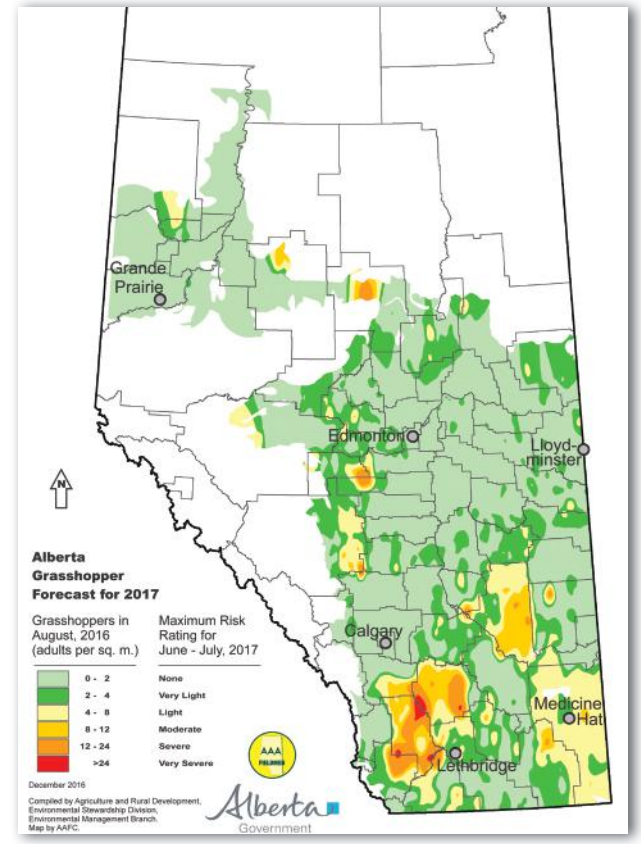
GRASSHOPPER POPULATIONS

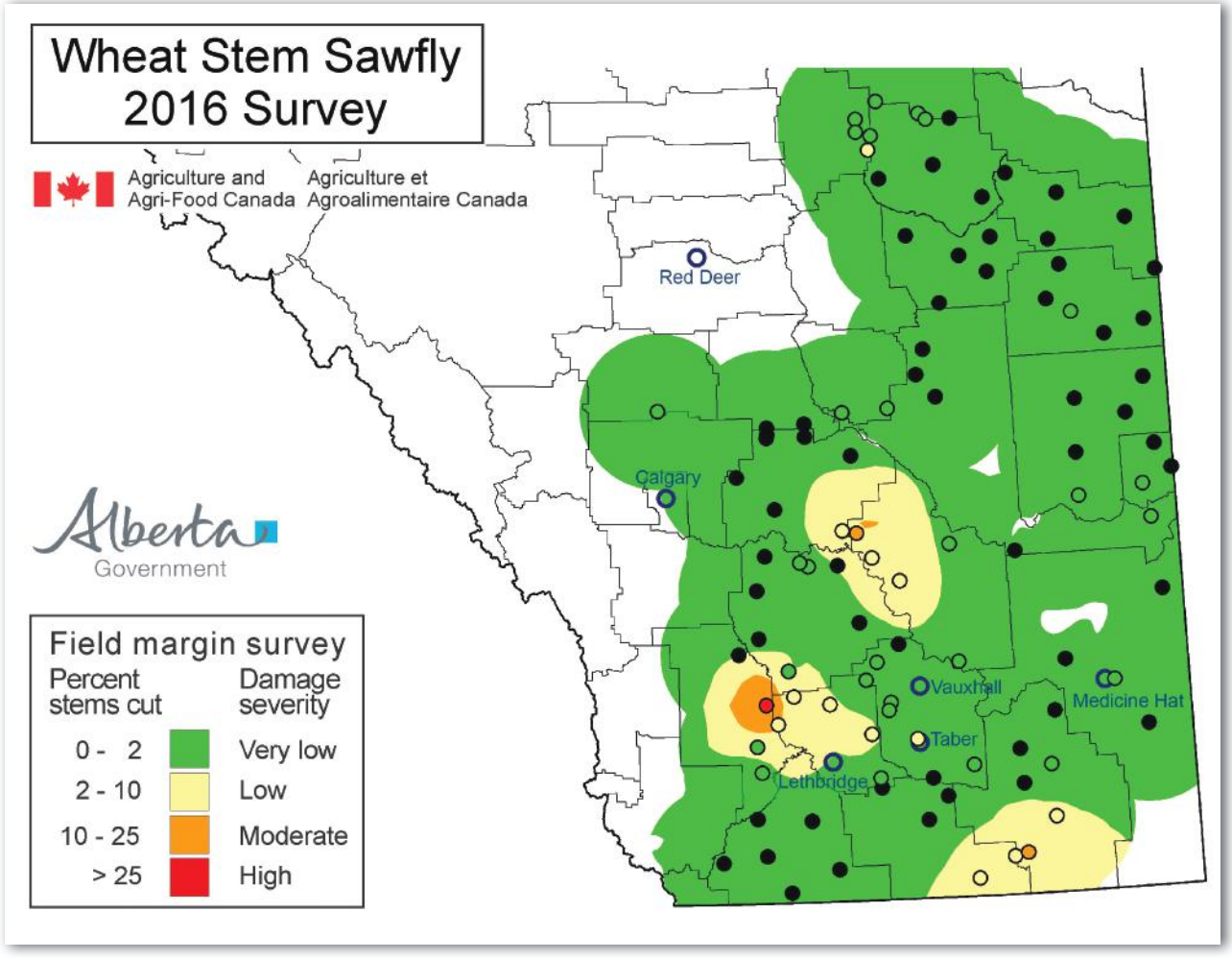
The risk of economically significant grasshopper populations in 2017 has decreased in all areas of Alberta with the exception of southern Alberta.

Significant populations still exist in some areas, notably Special Areas 2, Vulcan and Willow Creek (and northern Lethbridge) counties. Grasshopper populations in Forty Mile and Cypress and the rest of Alberta have collapsed with the heavy rainfalls of 2016.

For this forecast to translate into grasshopper problems requires conditions favorable to grasshoppers as they hatch in the spring of 2017.

Areas indicated with moderate to severe risk could experience problems with grasshoppers if environmental conditions favor the hatching and development of grasshoppers in late May through June. Localized factors such as light soils or south facing slopes result in an elevated risk of grasshopper infestations. Conditions in late spring 2017 will determine the extent of the grasshopper problems later this growing season. Infestation levels in individual fields are NOT indicated in this 2017 Grasshopper Forecast Map.





WHEAT STEM SAWFLY

Sawfly populations increased in some areas and decreased in others based on the 2016 field margin survey. The area most at risk of economically significant sawfly populations in 2017 will be in the Willow Creek /Lethbridge county border. In addition, western Newell County and southern Forty Mile County showed an increase in sawfly populations.

The Wheat Stem Sawfly Map is based on cut stem counts conducted after the 2016 harvest. The percent of stems cut by sawfly gives an indication of the number of reproductive adult sawflies that will emerge in late June through early July. Winter conditions have very little impact on sawfly populations and a high proportion of wheat stems cut in the fall will produce adults. Producers in areas with moderate to high levels of cutting should consider using solid stem wheat as a control strategy.