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Insect Pest Surveys in Crops in 2019

Each year, entomologists from AAFC Research Centres collaborate with extension agrologists, crop specialists, and industry groups to conduct insect pest surveys in field crops throughout the prairie region. We would like to take this opportunity to thank all of you for your tremendous support of the provincial insect monitoring programs in the past. We look forward to working with all of you again in 2019.

Pest surveys furnish valuable information as to what insect pest species are present at different times of the year, and also provide an estimate of their density within different crops. Producers, provincial agricultural representatives, and industry groups are provided with advance warning of potential pest problems through well-run insect pest monitoring programs. From a research perspective, survey results help to guide our research efforts on integrated insect pest management. For a summary of results of past insect surveys, please visit the Prairie Pest Monitoring Network (PPMN) blog: http://prairiepestmonitoring.blogspot.ca/p/risk-warning-maps.html

In 2019, our plans are to conduct organized surveys of a number of different insect pests, potentially including: cabbage seedpod weevil, swede midge, grasshoppers, leafhoppers, bertha armyworm, diamondback moth, cereal leaf beetle, pea leaf weevil, lygus bugs, and wheat midge. In most cases, the protocols require survey locations to be selected at random, making it very difficult to predict exactly where and when surveyors will be in a specific area. Most survey protocols will require that the surveyor enter randomly selected fields to visually inspect plants or to take sweep samples with a standard insect net. Other protocols may require that the surveyor enters selected fields to take random plant or soil samples. The details of survey protocols have also been posted on the PPMN blog: http://prairiepestmonitoring.blogspot.ca/p/ppmn-insect-monitoring-protocols.html

Agriculture and Agri-Food Canada staff performing these surveys in Saskatchewan will be driving vehicles clearly marked with the Government of Canada logo and will be carrying photo-ID cards. We avoid trespassing on posted lands, and any lands that have been restricted by their owners. If, during our surveys, you wish to obtain further clarification or wish to be provided with a report on the insect pests found at specific sites, our field staff would be more than pleased to discuss the results of their findings with you. Weekly Updates from the Prairie Pest

Monitoring Network can also be found on the PPMN blog:
http://prairiepestmonitoring.blogspot.ca/p/2016-weekly-updates.html

All surveyors follow protocols to prevent the spread of clubroot in canola crops.

Please feel free to contact us at the addresses above for additional information.

In order to give you a sense of the insect monitoring activities planned for (current year), we have provided brief examples of what to expect from some of the different surveys:

Cabbage seedpod weevil in canola. This pest was first discovered in southwest Saskatchewan in 2000. The objective is to determine the extent to which this pest has spread from the original infestation area in southern Alberta and estimate its population density. Field staff will be surveying much of Saskatchewan during the flowering stage by taking sweep samples in canola and mustard fields.

***Contarinia brassicola* (canola flower midge).** A newly identified midge, related to swede midge is now confirmed to be present across the three prairie provinces. Research is underway to evaluate the impact of this insect on canola yield, as its pest status is not yet known. A survey of the distribution of this midge is conducted in late July and early August to determine the distribution and abundance of *C. brassicola*. The survey is visual and conducted from the field edge.

Leafhoppers in canola. This pest carries the plant disease called Aster Yellows, a disease that has become more common in canola in recent years. The objective is to determine the extent and severity of leafhopper populations and their level of infectivity. Field staff may be surveying, primarily in the central and northern agricultural areas, prior to the flowering stage and will be taking sweep samples in canola fields.

Bertha armyworm and diamondback moth in canola. Advance warning of these two pests are provided by the pheromone traps that have been set out by cooperators across the province to monitor the arrival of adults in canola. Cumulative trap capture indicates risk related to larval feeding. In-field scouting by growers or agronomists is necessary to make management decisions.

Wheat midge in wheat. There are two life stages of the wheat midge that are monitored, the adult and the larval cocoon. The objective of the **adult survey** is to assess population density in the crop during the susceptible period, from head emergence to flowering. The objective of the **larval cocoon survey** is to determine the extent and severity of midge populations in wheat. Field staff will be surveying in late fall throughout the province and will be entering fields after harvest to take small soil cores.

Grasshoppers in field crops and pastures. The objective of the adult grasshopper survey is to determine the extent and severity of grasshopper populations in field crops and pastures. Field staff will be surveying in early fall and will be entering ditches, fields and pastures to visually estimate grasshopper numbers over an 100m transect.

Pea leaf weevil in field pea. Recently, pea leaf weevil has begun to cause economic yield losses

to field peas in Alberta, and it has been also been recorded in southwest Saskatchewan. This small weevil notches field pea leaves and damages root nodules, decreasing production. In late May and early June, weevil damage to plants will be assessed visually in selected fields.

Swede midge. Pheromone traps are used to determine if swede midge are present in Saskatchewan. Cooperators manage these traps until late summer and return the trap contents to AAFC-Saskatoon for analysis.

Cereal leaf beetle. In 2008, the Canadian Food Inspection Agency (CFIA) announced that cereal leaf beetle is present in Saskatchewan. This insect has not been as damaging to cereal crops in Canada as it has been elsewhere thanks to an effective biological control program using parasitoids. No formal survey activity is planned for cereal leaf beetle in 2019 in Saskatchewan, but if you detect it in your fields, researchers want to know about it to support ongoing research projects. Please contact Meghan Vankosky using the information at the top of this letter if you would like to report cereal leaf beetle sightings.