Canola Insect Thresholds Update

Summer 2010

Bertha Armyworm

Watch for bertha armyworm outbreaks this year. Thresholds can vary based on the average canola price expected and the cost of insect control (chemical and application). Manitoba Agriculture, Food and Rural Initiatives (MAFRI) updated the bertha armyworm threshold chart in 2009 to look like this:

Expected Seed Value - $/bushel											
Spraying Cost - $/acre	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Number of Larvae/metre²											
7	20	17	15	13	12	11	10	9	9	8	8
8	23	20	17	15	14	13	11	11	10	9	9
9	26	22	19	17	16	14	13	12	11	10	10
10	29	25	22	19	17	16	14	13	12	11	11
11	32	27	24	21	19	17	16	15	14	13	12
12	34	30	26	23	21	19	17	16	15	14	13
13	37	32	28	25	22	20	19	17	16	15	14
14	40	35	31	27	24	22	20	19	17	16	15
15	43	37	32	29	26	23	22	20	19	17	16

Table 1 - Bertha armyworm thresholds in canola, courtesy of MAFRI

Under drought conditions, where bertha armyworm feeding is concentrated on canola pods by early leaf drop, economic thresholds may be lower than indicated in Table 1. Under drought stress, dividing the economic thresholds above by 1.48 may give more appropriate economic thresholds.

Cabbage Seedpod Weevil

To scout for cabbage seedpod weevil, scout each canola field individually at bolting and early flower.

Using a sweep net, walk rapidly through the field and sweep through the crop 10 times with full 180-degree swipes. Shake the contents of the net to the bottom and then sort through the material.

With canola prices currently in the $9 to $12/bu range, the recommended threshold for cabbage seedpod weevil is 20 to 30 weevils in 10 sweeps.

The first fields into flower tend to have the highest number of weevils present, and in southern Alberta and southwest Saskatchewan chemical control is required in the majority of canola fields. If control is required, the best time to spray is prior to 10% to 20% flower to avoid egg laying in newly formed pods. This is the stage when 70% of plants in the field have at least three to 10 open flowers. Spray late in the day to minimize harmful effects to beneficial insects in the crop, especially bees. Check provincial crop protection guides for registered insecticides.

Diamondback Moth Larvae

It could be a busy year for diamondback moth larvae spraying. Diamondback moths do not overwinter in any significant number in western Canada. They typically will travel northward from the southern U.S. and Mexico on upper level winds. The thresholds for diamondback moth larvae are:

—10 to 15 larvae per square foot at early flowering if bud feeding
—20 to 30 larvae per square foot at pod ripening if pod feeding

To determine the number of diamondback larva present, lay down a tarp in the field, and carefully pull out the plants in a one square foot area and shake the plants out vigorously one by one on the tarp to dislodge the larvae. If you don't have a tarp, use the hood of the truck.

Lygus Bug

Thinner canola stands can be more conducive to lygus infestations, as lygus bugs do better in environments with increased air movement. With thin stands and dry conditions present in the Peace region in particular, infestations of lygus are possible. Lygus bug thresholds depend on the average expected price of canola, the cost of control (chemical and application), crop stage and the number of lygus found in 10 sweeps.

There is no evidence of lygus feeding at the bud stage reducing yields as canola has the ability to compensate for such damage. The exception to this, however, is that under very dry conditions, the crop may not have enough moisture to compensate.

Each field should be evaluated individually as insect numbers can fluctuate greatly over short distances.

MAFRI has generated the following charts on lygus bug thresholds:

Application Cost		End of Flowering (Canola Crop Stages 4.4 - 5.1)					
$ / ha	$/ ac	Economic Injury Level					
22	8.00	11	8	7	5	5	4
25	10.00	13	10	8	7	6	5
27	12.00	16	12	10	8	7	6
30	14.00	19	14	11	9	8	7
32	16.00	22	16	13	11	9	8
35	18.00	24	18	15	12	10	9
Canola Price ($/bu)		6.00	8.00	10.00	12.00	14.00	16.00

At crop stages prior to end of flowering, feeding by lygus bugs on canola does not generally result in economic damage

Table 2 - Lygus bug thresholds in canola at end of flowering, courtesy of MAFRI

Application Cost		Pod Ripening (Canola Crop Stage 5.2)					
$ / ha	$/ ac	Economic Injury Level					
22	8.00	15	12	9	8	7	6
25	10.00	19	14	11	10	8	7
27	12.00	23	17	14	11	10	9
30	14.00	27	20	16	13	11	10
32	16.00	30	23	18	15	13	11
35	18.00	34	26	20	17	15	13
Canola Price ($/bu)		6.00	8.00	10.00	12.00	14.00	16.00

Table 3 - Lygus bug thresholds in canola at pod ripening, courtesy of MAFRI

For more information on canola agronomics, please visit the Canola Council of Canada website at www.canolacouncil.org