



2018

***Monitoring Pea Weevil
(*Bruchus pisorum*) in
Pulse Crop(s) Results***

Washington State University Extension



Pea Weevil (*Bruchis pisorum*) Insect Sampling Report: June 18, 2018

Overview: Beginning the week of May 2nd, Washington State University began conducting weekly sampling of Pea weevil (*Bruchis pisorum*) in pea fields throughout the dryland region of Washington State. A total of six fields were identified within the Waterville area and an additional six fields spanning from Davenport down to Lind. Funding for this project comes from Highline Grain Growers. The overall goal of this research project is to better understand the severity of this pest across our region, better define when this pest should be targeted for control, if any, and to alert pea producers about the size and location of damaging insect pest populations in order to aid in early detection and management efforts for this pest. The “action” or “treatment” threshold for this pest is (1 adult in 25 sweeps).

Monitoring summary: Monitoring protocol consisted of 100 sweeps with a canvas type sweep net. Canvas type nets are more durable than traditional insect or butterfly nets. A total of 50 samples were taken along the field border and an additional 50 samples were taken walking toward the interior of the field in a “zig-zag” type pattern. In addition to collecting/counting pea weevil samples, any pea leaf weevil (*Sitona lineata*), collected in the samples were also recorded as part of this study. The two weevils differ in size, shape and color (see Fig 1.)

Fig 1. Pea weevil (left) and pea leaf weevil (right).



One aspect that stood out between the two project areas was the difference in pea maturity. The Davenport/Ritzville area was about 1 to 2 weeks ahead of those in the Waterville area. With peas in “bloom” I anticipated on finding weevils in Ritzville/Lind area as it was reported to be a “hot” spot last year. To my surprise, the first pea weevils actually showed up in Waterville. I thought that I had collected this pest five days early in a field north of Ritzville. However, the weevils in question turned out to be *Ceutorhynchus obstrictus* (Marsham), a.k.a. cabbage seedpod weevil, a pest of canola. This insect pest was utilizing volunteer mustard that was scattered throughout the field as an alternative host. This will be something to watch for in the future, especially if canola fields are being grown nearby.




Shown are the counts of weevils collected from fields located throughout the dryland region in Eastern Washington State (Table 1.). Cells shown in green indicate the pest was not found. Cells colored yellow indicate the pest was found below economic thresholds. Growers in these regions should be on the lookout for these pests but management action is not warranted unless populations exceed thresholds. Cells shown in red indicate the pest was found at levels that were beyond action or treatment thresholds. These fields and fields nearby should be treated with an appropriate insecticide.

The first three weeks of sampling resulted in zero weevil from either area. I started to question if it was a matter of timing on when the samples were taken. Were weevils less active in the morning/early afternoon hours and more active in the late afternoon/evening? To test this theory, I started sampling 4 hours later finishing at 5:30 p.m. in the Waterville area. It may all be coincidental, but weevil numbers went from 0 to 21 in 1 week with the later sampling time frame. Therefore, time of sampling may be an important factor in getting accurate numbers for future pest populations.




With pea weevil numbers exceeding treatment thresholds in the Waterville area from both my sampling and Howard Nelson's, an email went out encouraging producers to treat fields with insecticide i.e. (Warrior) Lambda Cy. A second email followed on 5/29 after four pea weevils were found in the Lind area from my sampling and an additional two to 11 per 50 sweeps in the Ritzville area by Ron Conway. After producers treated fields with insecticide, all fields yielded zero weevils from that point on. This is an indication that the insecticide application worked! Producers choosing not to pay the \$1.60 per acre according to Ag Chem dealers risk losses in both yield and a dockage rate at the elevator. It appears that pea weevil is more common than we had originally anticipated. Producers will want to keep a watch out each year for this pest especially when the peas start to bloom.

Table 1. Pea and Pea leaf weevil Weekly Monitoring Data from May 2nd to June 6th.




WEEKLY INSECT FIELD SAMPLING REPORT: May 2, 2018			
FIELD #	Field Name	AVG#/100 Sweeps	AVG#/100 Sweeps
		<i>Bruchis pisorum</i>	<i>Sitona lineata</i>
1	Waterville 1	0	0
2	Waterville 2	0	0
3	Waterville 3	0	0
4	Waterville 4	0	0
5	Farmer	0	0
6	Waterville 5	0	0
7	Davenport	0	0
8	NE Sprague	0	0
9	Ritzville 1	0	0
10	Ritzville 2	0	0
11	S. Ritzville 3	0	0
12	Lind	0	0

	<i>Bruchis pisorum</i> not found
	<i>Bruchis pisorum</i> low risk (below 1 in 25 sweeps threshold)
	<i>Bruchis pisorum</i> high risk (above 1 in 25 sweeps threshold)




WEEKLY INSECT FIELD SAMPLING REPORT: May 9, 2018			
FIELD #	Field Name	AVG#/100 Sweeps	AVG#/100 Sweeps
		<i>Bruchis pisorum</i>	<i>Sitona lineata</i>
1	Waterville 1	0	0
2	Waterville 2	0	0
3	Waterville 3	0	0
4	Waterville 4	0	0
5	Farmer	0	0
6	Waterville 5	0	0
7	Davenport	/	/
8	NE Sprague	/	/
9	Ritzville 1	/	/
10	Ritzville 2	/	/
11	S. Ritzville 3	/	/
12	Lind	/	/

	<i>Bruchis pisorum</i> not found
	<i>Bruchis pisorum</i> low risk (below 1 in 25 sweeps threshold)
	<i>Bruchis pisorum</i> high risk (above 1 in 25 sweeps threshold)

WEEKLY INSECT FIELD SAMPLING REPORT: May 11, 2018			
FIELD #	Field Name	AVG#/100 Sweeps	AVG#/100 Sweeps
		<i>Bruchis pisorum</i>	<i>Sitona lineata</i>
1	Waterville 1	/	/
2	Waterville 2	/	/
3	Waterville 3	/	/
4	Waterville 4	/	/
5	Farmer	/	/
6	Waterville 5	/	/
7	Davenport	0	0
8	NE Sprague	0	0
9	Ritzville 1	0	0
10	Ritzville 2	0	0
11	S. Ritzville 3	0	0
12	Lind	0	0

	<i>Bruchis pisorum</i> not found
	<i>Bruchis pisorum</i> low risk (below 1 in 25 sweeps threshold)
	<i>Bruchis pisorum</i> high risk (above 1 in 25 sweeps threshold)

WEEKLY INSECT FIELD SAMPLING REPORT: May 16, 2018			
FIELD #	Field Name	AVG#/100 Sweeps	AVG#/100 Sweeps
		<i>Bruchis pisorum</i>	<i>Sitona lineata</i>
1	Waterville 1	2	0
2	Waterville 2	0	0
3	Waterville 3	21	0
4	Waterville 4	7	0
5	Farmer	1	0
6	Waterville 5	0	0
7	Davenport	/	/
8	NE Sprague	/	/
9	Ritzville 1	/	/
10	Ritzville 2	/	/
11	S. Ritzville 3	/	/
12	Lind	/	/

	<i>Bruchis pisorum</i> not found
	<i>Bruchis pisorum</i> low risk (below 1 in 25 sweeps threshold)
	<i>Bruchis pisorum</i> high risk (above 1 in 25 sweeps threshold)



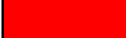
WEEKLY INSECT FIELD SAMPLING REPORT: May 23, 2018			
FIELD #	Field Name	AVG#/100 Sweeps	AVG#/100 Sweeps
		<i>Bruchis pisorum</i>	<i>Sitona lineata</i>
1	Waterville 1	0	0
2	Waterville 2	0	0
3	Waterville 3	0	0
4	Waterville 4	0	0
5	Farmer	0	0
6	Waterville 5	0	0
7	Davenport	/	/
8	NE Sprague	/	/
9	Ritzville 1	/	/
10	Ritzville 2	/	/
11	S. Ritzville 3	/	/
12	Lind	/	/

	<i>Bruchis pisorum</i> not found
	<i>Bruchis pisorum</i> low risk (below 1 in 25 sweeps threshold)
	<i>Bruchis pisorum</i> high risk (above 1 in 25 sweeps threshold)




WEEKLY INSECT FIELD SAMPLING REPORT: May 24, 2018			
FIELD #	Field Name	AVG#/100 Sweeps	AVG#/100 Sweeps
		<i>Bruchis pisorum</i>	<i>Sitona lineata</i>
1	Waterville 1	/	/
2	Waterville 2	/	/
3	Waterville 3	/	/
4	Waterville 4	/	/
5	Farmer	/	/
6	Waterville 5	/	/
7	Davenport	1	4
8	NE Sprague	1	5
9	Ritzville 1	0	0
10	Ritzville 2	1	0
11	S. Ritzville 3	1	0
12	Lind	4	0

	<i>Bruchis pisorum</i> not found
	<i>Bruchis pisorum</i> low risk (below 1 in 25 sweeps threshold)
	<i>Bruchis pisorum</i> high risk (above 1 in 25 sweeps threshold)

WEEKLY INSECT FIELD SAMPLING REPORT: June 1, 2018			
FIELD #	Field Name	AVG#/100 Sweeps	AVG#/100 Sweeps
		<i>Bruchis pisorum</i>	<i>Sitona lineata</i>
1	Waterville 1	0	0
2	Waterville 2	0	0
3	Waterville 3	0	0
4	Waterville 4	0	0
5	Farmer	0	0
6	Waterville 5	0	0
7	Davenport	/	/
8	NE Sprague	/	/
9	Ritzville 1	/	/
10	Ritzville 2	/	/
11	S. Ritzville 3	/	/
12	Lind	/	/

	<i>Bruchis pisorum</i> not found
	<i>Bruchis pisorum</i> low risk (below 1 in 25 sweeps threshold)
	<i>Bruchis pisorum</i> high risk (above 1 in 25 sweeps threshold)

WEEKLY INSECT FIELD SAMPLING REPORT: June 6, 2018			
FIELD #	Field Name	AVG#/100 Sweeps	AVG#/100 Sweeps
		<i>Bruchis pisorum</i>	<i>Sitona lineata</i>
1	Waterville 1	/	/
2	Waterville 2	/	/
3	Waterville 3	/	/
4	Waterville 4	/	/
5	Farmer	/	/
6	Waterville 5	/	/
7	Davenport	0	0
8	NE Sprague	0	0
9	Ritzville 1	0	0
10	Ritzville 2	0	0
11	S. Ritzville 3	0	0
12	Lind	0	0

	<i>Bruchis pisorum</i> not found
	<i>Bruchis pisorum</i> low risk (below 1 in 25 sweeps threshold)
	<i>Bruchis pisorum</i> high risk (above 1 in 25 sweeps threshold)