

POTATO UPDATE

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2121 South 1st Street, Hermiston, Oregon 97838, T 541-567-8321 | F 541-567-2240 |

<http://oregonstate.edu/dept/hermiston/>

Silvia I. Rondon, Extension Entomologist Specialist • Ken Frost, Plant Pathologist • Robert Cating, Plant Pathology Lab Diagnostician • Ira Thompson, Bio Science Tech Entomology

Observations of Lygus bugs in the Basin

Over a year ago we started receiving reports from growers in Oregon and Washington suggesting that Lygus bugs (Figure 1) may be playing a bigger role in the potato crop. Lygus bugs were found to be able to carry purple top disease [a.k.a. BLTVA known to be transmitted by beet leafhoppers (Figure 2)]. Since then, we have been studying the biology and ecology of this insect, including monitoring and control options.



Figure 1. Photo OSU-IAEP by



Figure 2. Photo WSPC by AJ

How do you recognize Lygus?

Lygus are small sucking bugs, brown to green and less than 0.25 inch long (Figure 1). Adults are oval-shaped with a conspicuous heart shape on the upper center of the back. Immatures look like aphids but they move more rapidly than aphids (Figure 3); eggs are difficult to find (Figure 4).

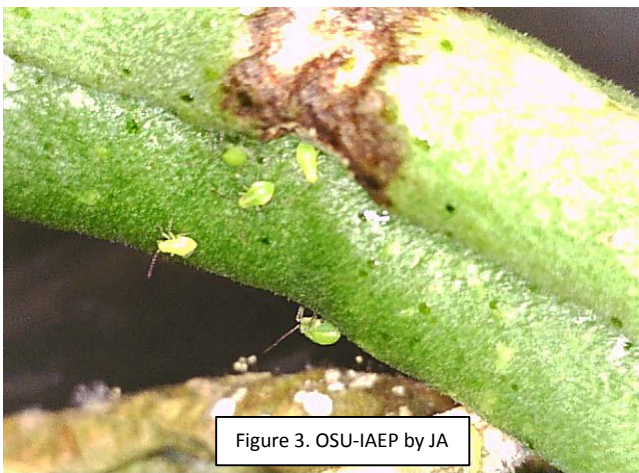


Figure 3. OSU-IAEP by JA

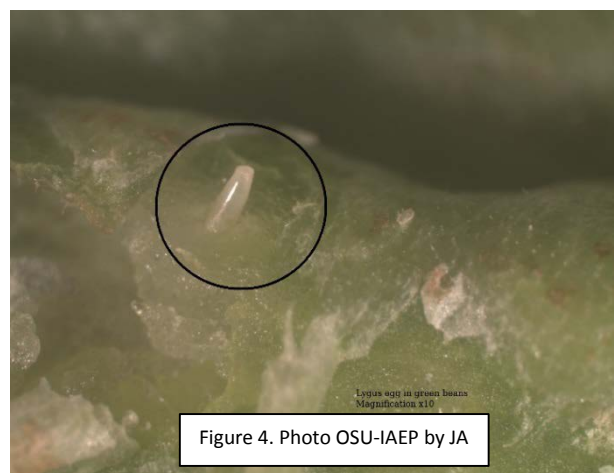


Figure 4. Photo OSU-IAEP by JA

How do you recognize damage by Lygus?

Feeding usually results in leaf flagging, i.e., leaves shrivel, turn brown and die; leaves eventually fall off (Figure 5) and brown lesions at the point of feeding (Figure 6). In the past, they could cause minor damage of unknown economic significance. Chemical treatments were rarely needed.

What have we found so far?

This year, we observed and quantified Lygus bug damage on potato fields. Leaf damage was particularly high in June and July.

- We have collected over 860 Lygus from May to July in 35 sites, with an average of 286 Lygus per month.
- Beet leafhopper numbers were low; we caught a total of 33 individuals in the same time frame.
- Lygus and BLH tested positive for BLTVA.
- BLTVA infection was higher in BLH compared to Lygus.
- In Lygus, BLTVA infection was highest in July than any other month.
- Till date, the highest purple top incidence was observed late July.
- Lygus numbers were particular high when crops such as alfalfa were nearby.....*Josephine Antwi, Postdoctoral Scholar in Silvia Rondon's OSU-IAEP lab.*

Current recommendations.

Lygus numbers are decreasing this month (August) but we see a lot of them in common weeds like pigweed, buttonweed, Russian thistle and purslane in and around potato fields; also in alfalfa. Lygus are easy to find

using a beating sweep, sweep nets or inverted leaf blower. There are no established treatment thresholds for the Columbia Basin. Some chemical control options are found in the PNW Insect handbook <http://insect.pnwhandbooks.org/vegetable/irish-potato/potato-irish-lygus-bug>. The OSU-Irrigated Entomology Program (IAEP) is currently testing the efficacy of some pesticides against this pest in potatoes...*Silvia Rondon, OSU-IAEP (541) 567 8321.*



Figure 5. Photo OSU-IAEP by JA



Figure 6. Photo OSU-IAEP by JA

Plant Disease Diagnostics Clinic Update

This week, 12,570 potato psyllids were brought to the lab to test for the presence of ‘*Candidatus Liberibacter solanacearum*,’ or Lso, the bacterium responsible for zebra chip. Because we had so many submissions, samples are still being processed. However, of the 6,370 that have been tested, only two positives were detected. Other potato samples submitted for diagnosis this week included early blight, Verticillium wilt, black leg, and PVY. In addition, 37 plants tested positive for BLTVA, which is a dramatic increase over the last few weeks.

Growers and consultants have been asking if we can test plants for psyllid yellows. Psyllid yellows of potato is a disorder believed to be a result of the plant response to psyllid feeding; no pathogen is thought to be involved. Since it is a plant response to feeding, there is no laboratory test we can perform to confirm psyllid yellows. For questions about samples submissions, please contact Robert Cating at 541-567-8321 or email Robert.cating@oregonstate.edu. *Ken Frost, Extension Plant Pathologist, Oregon State University, and Robert Cating, Plant Disease Diagnostician, Oregon State University*

Insect Trapping

Potato psyllids were collected on yellow sticky cards in 13 of our 19 sample locations in Umatilla and Morrow county fields this week; potato tuberworms were found in 10 locations out of 17; beet leafhoppers in 2 out of 19 locations. See the interactive [IAEP map](#) for more detailed information about insect counts on our trapping route this week. *Silvia Rondon, Extension Entomologist.*

Thanks to the Oregon Potato Commission for sponsoring our trapping and extension efforts. Also, special thanks to Anderson geographic & consulting for sponsoring our interactive map.



Insect Trap Report - The link to the map can be found at <https://goo.gl/8J9MSY>

Area Pest Alert, Umatilla & Morrow County. Traps are collected Thursday. Please note “-1” value means no data

Date (m/d)	Trap ID	PTM	BLH	OLH	PP	OP	GPA	PA	OA
8/11	1	-	-	-	-	-	-	-	-
8/11	2	3	0	0	0	1	0	0	1
8/11	3	4	5	1	2	1	0	0	0
8/11	4	-	-	-	-	-	-	-	-
8/11	5	5	0	2	3	0	0	0	0
8/11	6	-	-	-	-	-	-	-	-
8/11	7	94	0	0	24	13	0	0	0
8/11	8	1	0	0	0	1	0	0	0
8/11	9	1	0	1	17	10	0	0	0
8/11	10	4	0	0	3	1	0	0	0
8/11	11	-	-	-	-	-	-	-	-
8/11	12	-	-	-	-	-	-	-	-
8/11	13	-	-	-	-	-	-	-	-
8/11	14	-	-	-	-	-	-	-	-
8/11	15	3	0	0	1	2	0	0	0
8/11	16	14	0	0	10	2	0	0	0
8/11	17	-	-	-	-	-	-	-	-
8/11	18	-	-	-	-	-	-	-	-
8/11	19	-	-	-	-	-	-	-	-
8/11	20	-	-	-	-	-	-	-	-
8/11	21	-	-	-	-	-	-	-	-
8/11	22	0	0	1	3	2	0	0	0
8/11	23	0	0	0	0	0	0	0	0
8/11	24	0	0	1	1	0	0	0	0
8/11	25	0	0	0	2	6	0	0	0
8/11	26	0	0	0	0	1	0	0	0
8/11	27	-	-	-	-	-	-	-	-
8/11	28	0	0	0	7	1	0	0	0
8/11	29	0	0	0	9	2	0	0	1
8/11	30	-	-	-	-	-	-	-	-
8/11	34	41	0	0	12	3	0	0	0
8/11	35	-	1	0	0	0	-	-	-
8/11	36	-	0	0	0	2	-	-	-