

## Weekly Insect Sampling Report: June 11, 2015

**Overview:** Beginning the week of May 21<sup>st</sup>, the small grains team at Washington State University began conducting weekly sampling of insect pest populations in wheat and barley fields throughout the dryland region of Washington State. Current funding for the regional insect sampling network comes from WSU Extension. The objective of this monitoring network is to alert the small grains industry about the size and location of damaging insect pest populations to aid in early detection and management efforts for each insect pest. In this fourth week we sampled 19 fields for 5 pests: Hessian fly, Aphids, Cereal Leaf Beetle (CLB), Grasshoppers, Wheat Midges, and Wheat Head Armyworm (complex). Data will be published weekly on the [smallgrains.wsu.edu](http://smallgrains.wsu.edu) website

**Monitoring summary:** The table below presents the insect monitoring results from the week of June 11<sup>th</sup>. Shown are the counts of each insect pest from fields located throughout the dryland region in Eastern Washington State. Sites not sampled are indicated with an NA. Cells shown in green indicate the pest were 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 higher than average levels.

It is important to note that the insects of concern this week (Wheat midge and Wheat head armyworm) were both collected in pheromone traps. These particular tests are highly sensitive as the wind-blown pheromone draws in adult male insects from a large area of the field. Consequently it is not possible to correlate trap numbers with occurrence of the insect on a per plant basis. We recommend that growers in these areas sample their fields for these insects by recommended means and apply insecticide only if these tests show high pest numbers..

At many sites we are also finding high numbers of beneficial insects such as the ladybird beetle and the soft-winged flower beetle (*Collops* spp), which is often mistaken for the cereal leaf beetle. These beneficial insects play a great role in managing pest species! They are very sensitive to insecticides that are labeled for use on wheat, so balance the pros and cons before making a spray application.

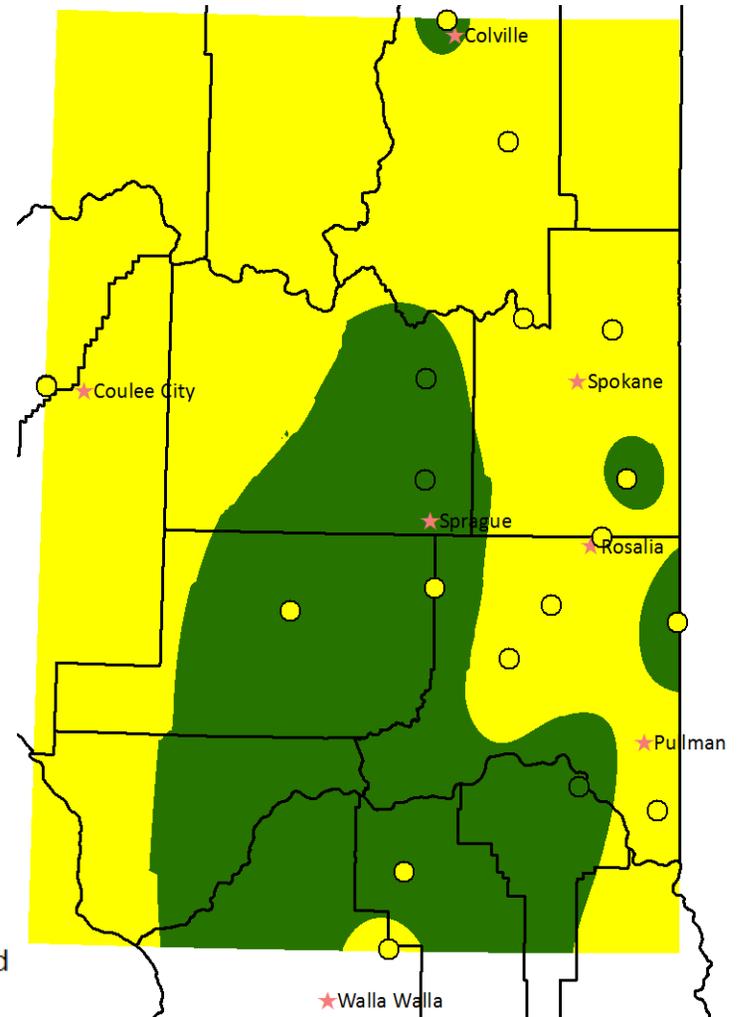
Soft-winged flower beetle (left) and cereal leaf beetle (right)



FIELD #	AREA NAME	CLB	HESSIANFLY	APHIDS	GRASSHOPPER	WHEAT	WHEAT HEAD
		Larvae	Immature	All Stages	All stages	MIDGE	ARMY WORM
		AVG #/plant	AVG #/plant	AVG #/plant	AVG#/sweep	AVG #/trap	AVG #/trap
		Visually Inspected			Swept	(2 traps per field)	(2 traps per field)
1	Farmington	0.02	0	0.08	0	0	0
2	Plaza	0	0.02	0.38	0	0	0.5
3	St. John	0	0	0.54	0	0	1
4	Endicott	0	0	0.24	0	0	0.5
5	Colton	0	0	0.48	0	0	0
6	Walla Walla	0.02	0	0.26	0	0	0
7	Dayton	0	0	0.04	0	0	0
8	Mayview	0	0	0	0	0	0.5
9	Colville	0	0	0.14	0.02	2.5	0
10	Chewelah	0	0.04	0.96	0	0	0
11	Peone Prairie	0	0	0.28	0.01	0.5	0
12	Nine Mile Falls	0.2	0	0.82	0.03	1	0
13	Fairfield	0	0	0.12	0	29.5	10
14	Revere	0.02	0.02	0.06	0.1	0	0
15	Ritzville	0	0	0.02	0.03	0	0
16	Edwall	0	0	0	0.09	0	21.5
17	Mondovi	0	0	0	0	0.5	44
18	N. St Andrews	0	0	0.5	0.07	NA	0
19	S. St Andrews	0	0	0.76	0.02	NA	0.5

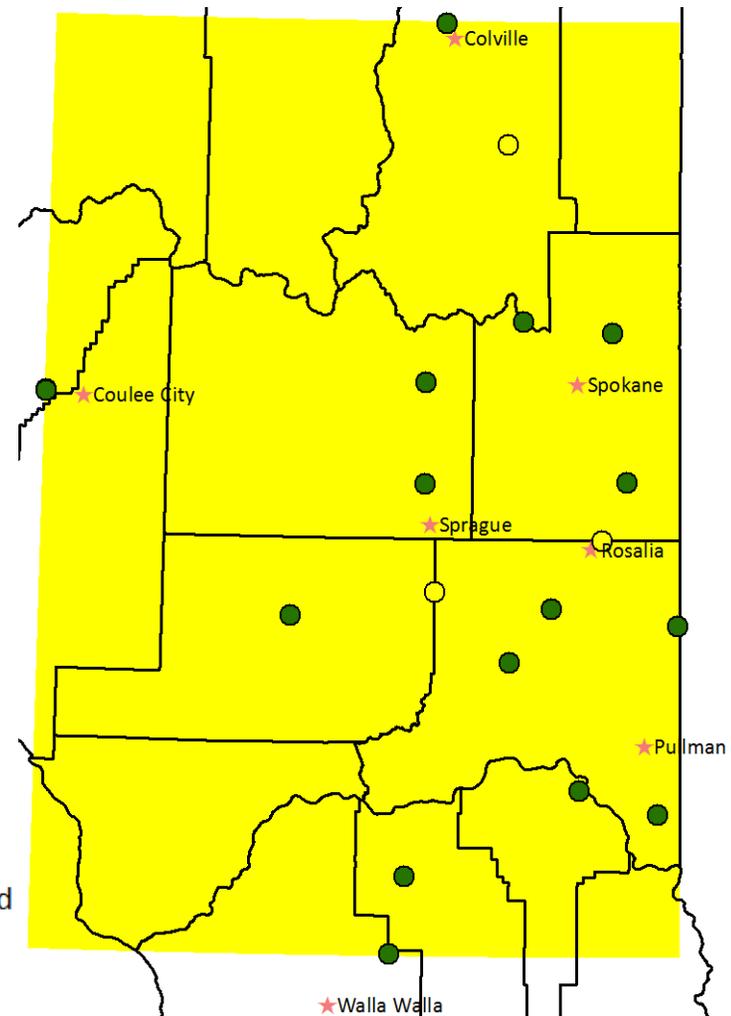
**Aphids:** Aphids were found at 16 of the 19 sampling locations at densities ranging from 0.02 to 0.96 aphids per plant. These densities are below economic thresholds for aphids. Shown below is a map of aphids occurrence. The circles indicate fields that were sampled as part of the network. Yellow circles indicate fields where aphids were observed, and green circles indicate fields where aphids were not observed (from samples of 50 plants per field). Also shown is a prediction of aphid occurrence throughout the dryland region using Geographic Information Systems (GIS) software. Areas shaded green are low-risk locations where aphids are not expected to exceed a density of 0.2 insects per plant and areas shaded yellow are medium risk locations where aphids are not likely to exceed 1 aphid per plant. Areas shaded red would indicate a high risk but there are none this week. As the season progresses populations will continue to move North and East. Growers in these regions should be aware that aphid populations are likely present and growing. See the [smallgrains.wsu.edu](http://smallgrains.wsu.edu) website for information on economic thresholds for aphids in order to make appropriate management decisions.

-  Aphids Absent
-  Aphids Present
-  Aphid predicted to be present but very low
-  Aphid predicted to be at medium levels but below economic threshold

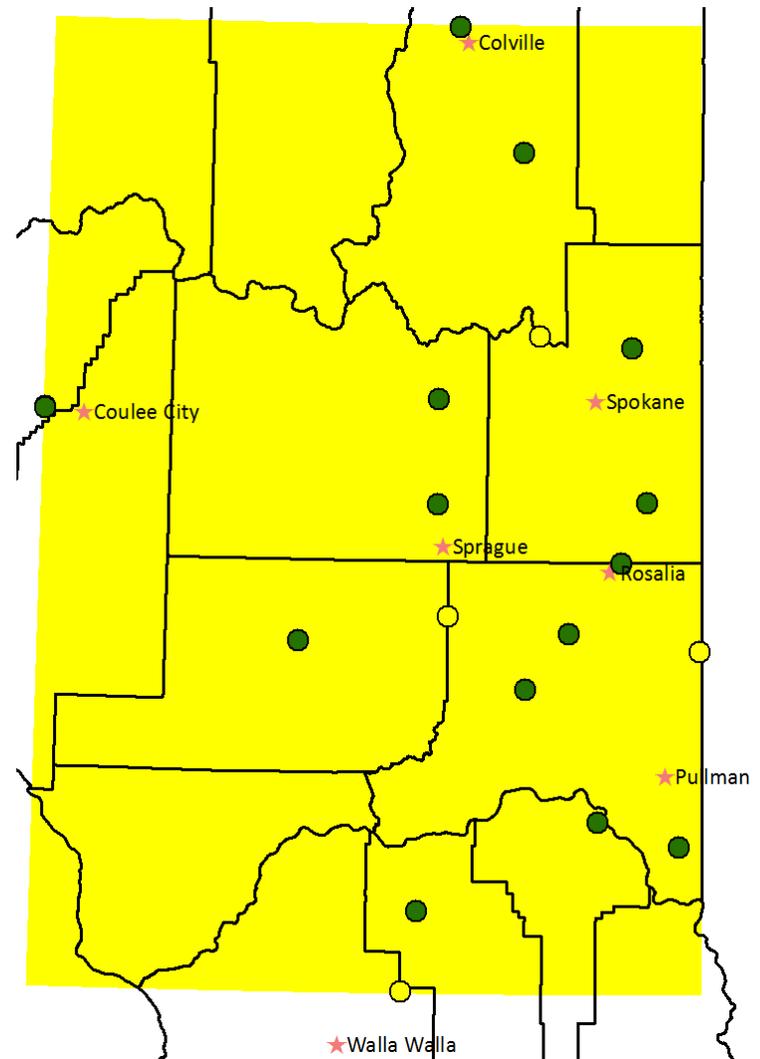
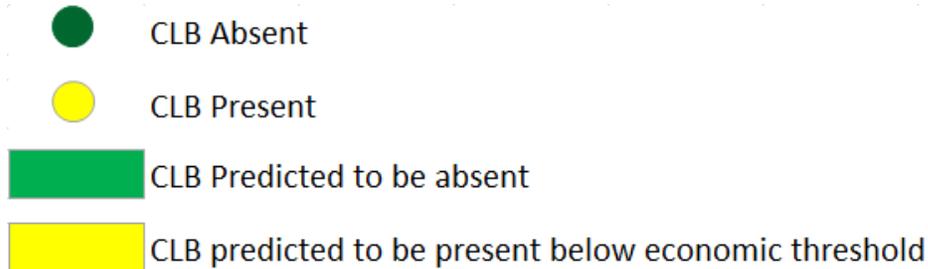


**Hessian fly:** Larvae of Hessian fly (HF), the primary damaging stage in wheat and barley crops, were found at 3 of the 19 sampling locations ranging from a low density of 0.02 to 0.04. These densities are below economic thresholds for HF. These first-generation adults are likely laying eggs and we expect to find damaging larval stages in future weeks. On the map below, yellow circles indicate fields where HF were observed, and green circles indicate fields where HF were not observed (from samples of 50 plants per field). Also shown is a prediction of HF occurrence throughout the dryland region using Geographic Information Systems (GIS) software. Areas shaded green are locations where HF are not expected to be found at this time, and areas shaded yellow are regions where HF are likely present but below economic thresholds. As the season progresses populations will continue to move North and East. See the [smallgrains.wsu.edu](http://smallgrains.wsu.edu) for more information on economic thresholds and management options for HF.

-  Hessian Fly Absent
-  Hessian Fly Present
-  Hessian Fly Predicted to be absent
-  Hessian Fly predicted to be present below economic threshold

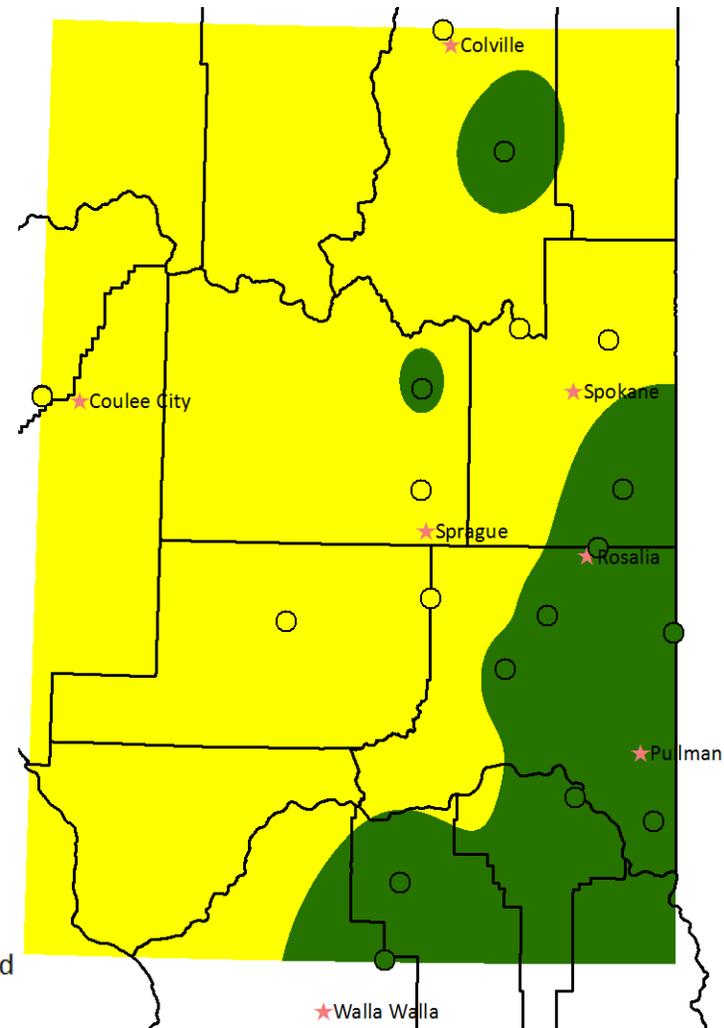


**Cereal Leaf Beetle:** Cereal leaf beetles were collected at 4 of the 19 sampling locations at densities ranging from 0.02 to 0.2 larvae per plant. These densities are below economic thresholds for CLB. Shown, right, is a map of CLB occurrence. The circles indicate fields that were sampled as part of the network. Yellow circles indicate fields where CLB were observed, and green circles indicate fields where CLB were not observed (from samples of 50 plants per field). Also shown is a prediction of CLB occurrence throughout the dryland region using Geographic Information Systems (GIS) software. Areas shaded green are locations where CLB are not expected to be found at this time, and areas shaded yellow are regions where CLB are likely present but below economic thresholds. As the season progresses populations will continue to move North and East. See the [smallgrains.wsu.edu](http://smallgrains.wsu.edu) for more information on economic thresholds and management options for CLB.

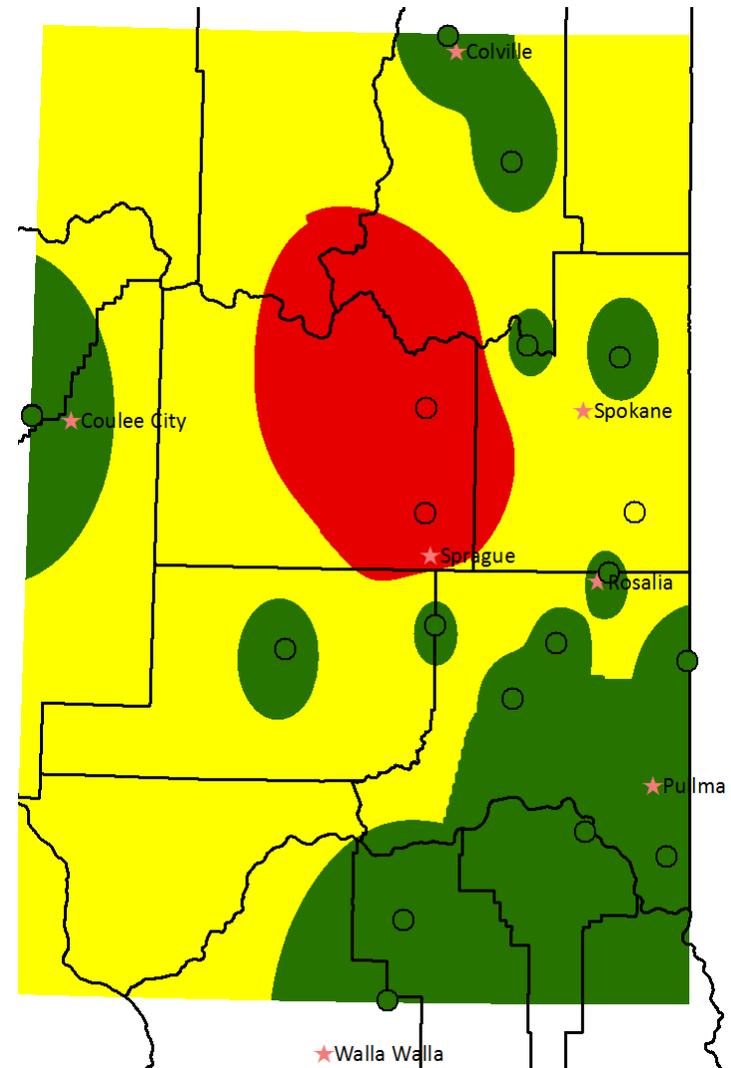
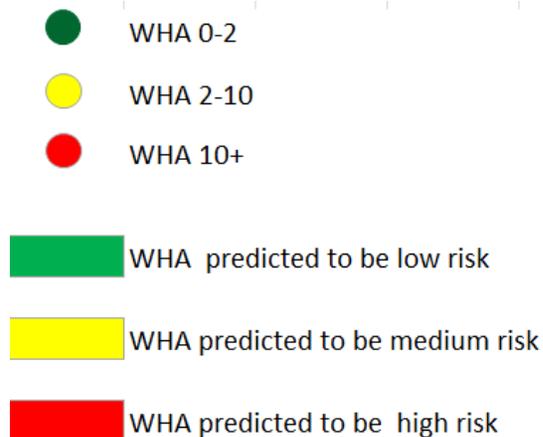


**Grasshoppers:** Grasshoppers (GH) were found at 7 of 19 sampling locations, at a density ranging from 0.02 to 0.1. These are below economic thresholds from grasshoppers. The average grasshopper density is calculated per sweep, out of 100 total sweeps. On the map to the right, the circles indicate fields that were sampled as part of the network. Yellow circles indicate fields where grasshoppers were observed, and green circles indicate fields where grasshoppers were not observed. Also shown is a prediction of grasshopper occurrence throughout the dryland region using Geographic Information Systems (GIS) software. Areas shaded green are regions where grasshoppers are likely present at very low densities, less than 0.01. Areas shaded yellow are regions where grasshoppers are likely to present at medium densities, but still below economic threshold. Grasshopper populations are expected to increase over the course of the season due to the dry, warm spring. See the [smallgrains.wsu.edu](http://smallgrains.wsu.edu) for more information on economic thresholds and management options for grasshoppers.

-  Grasshoppers Absent
-  Grasshoppers Present
-  GH predicted to be present but very low
-  GH predicted to be at medium levels but below economic threshold



**Wheat Armyworm Complex:** The wheat armyworm complex (WHA) consists of two species: the true WHA, *Dargida diffusa*; and the false WHA, *Dargida terrapictalis*. WHA were found at 8 of 19 sampling locations, at a density ranging from 0.5 to 44 insects per trap. These species are collected by pheromone lures in bucket traps (for a total of 2 traps per site). On the map to the right, the circles indicate fields that were sampled as part of the network. This was our second week of collection and we already seeing a shift in numbers. Green circles indicate fields where an average of 2 or fewer WHA were observed, yellow circles indicate fields where 2-10 WHA were observed and red circles indicate where over 10 WHA were observed. Also shown is a prediction of WHA occurrence throughout the dryland region using Geographic Information Systems (GIS) software. Areas shaded green are regions where WHA are likely to be present at very low densities, yellow are regions where WHA are likely present at medium-risk densities and red are regions where WHA are expected to be at high-risk densities. See the [smallgrains.wsu.edu](http://smallgrains.wsu.edu) for more information on economic thresholds and management options for Wheat Head Armyworm.



**Wheat Midge.** Wheat Midge (WM) was sampled for the first time this week and was found at 4 of 17 sampling locations, at a density ranging from 0.5 to 29.5 insects per trap. This species is collected by pheromone lures in delta traps (for a total of 2 traps per site). On the map to the right, the circles indicate fields that were sampled as part of the network. Green circles indicate fields where an average of 1 or fewer midges were observed, yellow circles indicate fields where 1-5 midges were observed and red circles indicate where over 5 midges were observed. Also shown is a prediction of WM occurrence throughout the dryland region using Geographic Information Systems (GIS) software. Areas shaded green are regions where WM are likely to be present at very low densities, yellow are regions where WM are likely present at medium-risk densities and red are regions where WM are expected to be at high-risk densities. See the [smallgrains.wsu.edu](http://smallgrains.wsu.edu) for more information on economic thresholds and management options for Wheat midge.

