Weekly Insect Sampling Report: July 2, 2015

Overview: Beginning the week of May 21st, 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 10 fields for 5 pests: Hessian fly, Aphids, Cereal Leaf Beetle (CLB), Grasshoppers, Wheat Midges, and Wheat Head Armyworm (complex). Data for previous weeks are also published on the smallgrains.wsu.edu website

Monitoring summary: The table below presents the insect monitoring results from the week of July 2nd . 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 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 higher than average levels. We recommend that growers continue to monitor their fields for these insects, even though insects such as wheat head armyworm seem to be completely absent from the southern region where we are sampling.
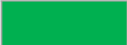
At many sites we are also finding high numbers of beneficial insects such as the ladybird beetle and the soft-winged flower beetle (Collops spp), which is often mistaken for the cereal leaf beetle. These beneficial insects play a great role in managing pest species! They are very sensitive to insecticides 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)

|							
WEEKLY INSECT TRAPPING & FIELD SAMPLING REPORT: July 2, 2015							
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	0	0.06	0	0	0
2	Plaza	0	0	1.2	0	0	0
3	St. John	0	0.02	0.12	0	0	0
4	Endicott	0	0	0	0.7	0	0
5	Colton	0	0	0.34	0	0	0
6	Walla Walla	0	0	0	0	0	0
7	Dayton	0	0	0.02	0.04	0	0
8	Mayview	0	0	0	0.14	0	0
9	Colville	0	0.01	0.6	0.08	262	0
10	Chewelah	0	0	0.4	0.12	5	0
11	Peone Prairie	0	0	0.82	0.01	65.5	0
12	Nine Mile Falls	0.01	0	0.22	0.05	1.5	0
13	Fairfield	0	0	1.54	0	0.5	0
14	Revere	0	0	0	0.14	0	0
15	Ritzville	0	0	0	0.03	0	0
16	Edwall	0	0	0	0.25	0	0
17	Mondovi	0	0	0.64	0.09	0	0
18	N. St Andrews	0	0	0	0.2	0	0.5
19	S. St Andrews	0	0	0	0.29	0	0.5

Aphids: Aphids were found at 11 sampling locations at densities ranging from 0.02 to 1.54 aphids per plant. Shown, right, is a map of aphids occurrence (circles). 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 would indicate low-risk locations where aphids are not expected to be present, yellow are medium risk locations where aphids are not likely to exceed 5 aphids 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 website for information on economic thresholds for aphids in order to make appropriate management decisions.

- ● Aphids Absent
- ○ Aphids Present
- ▮ Aphids Predicted to be absent
- ▯ Aphids predicted to be present below economic threshold
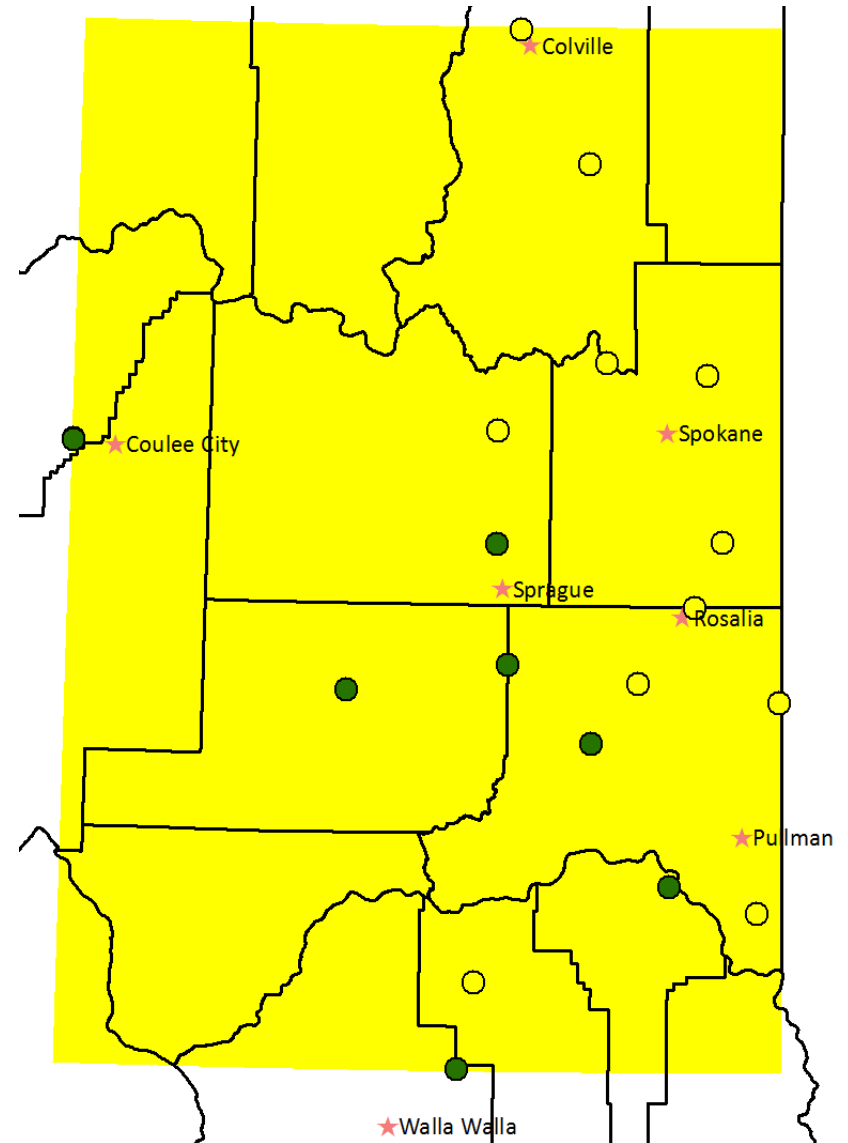
Hessian fly: Larvae of Hessian fly (HF), the primary damaging stage in wheat and barley crops, were found at 2 of the 19 sampling locations. Only 1 larvae were found at each site and these densities are below economic thresholds for HF. These second-generation adults are likely laying eggs and we expect to find damaging larval stages in future weeks. Shown right, 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 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
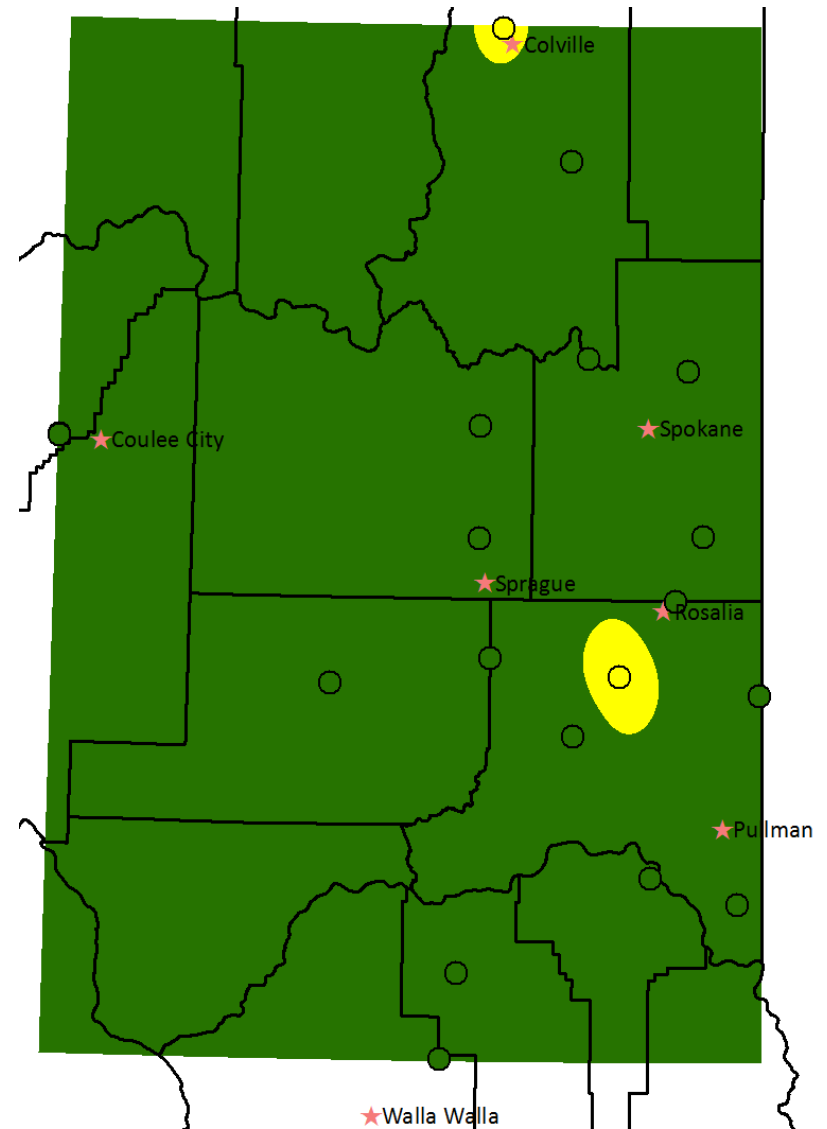
Cereal Leaf Beetle: Cereal leaf beetles were collected at 1 of the 19 sampling locations this week at a density of from 0.01 insects per plant. These densities are below economic thresholds for CLB. Shown, right, is a map of CLB occurrence. The circles indicate fields that were sampled as part of the 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 for more information on economic thresholds and management options for CLB.
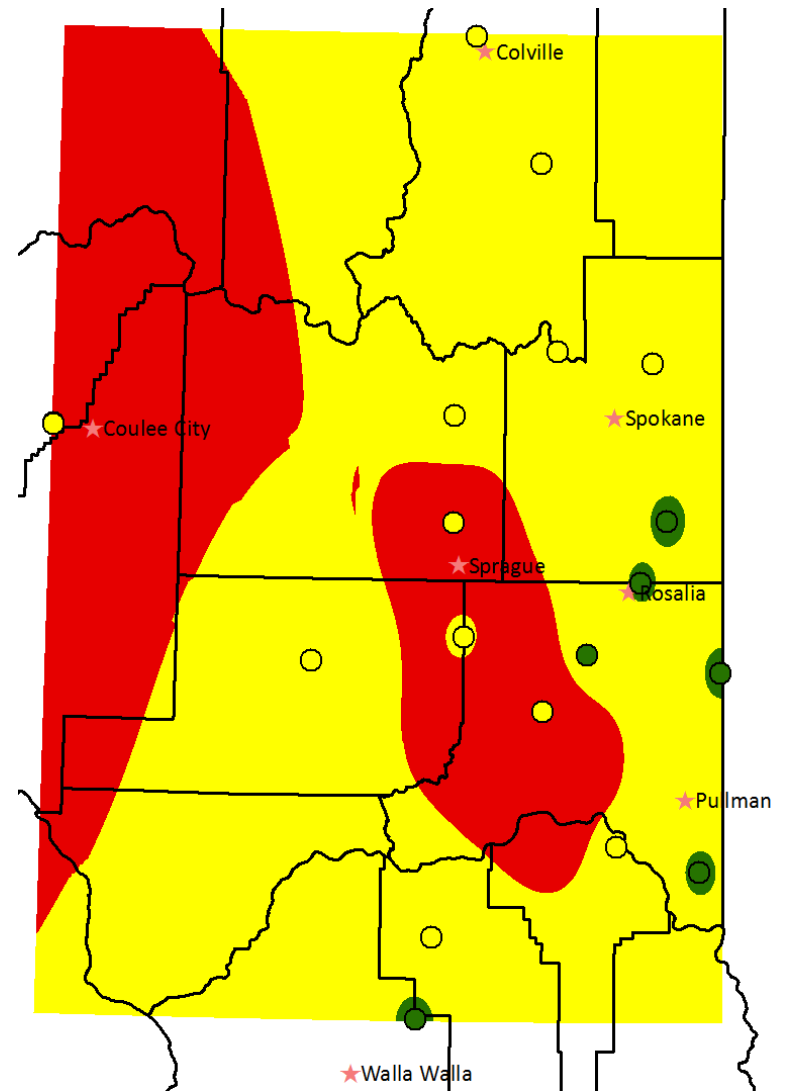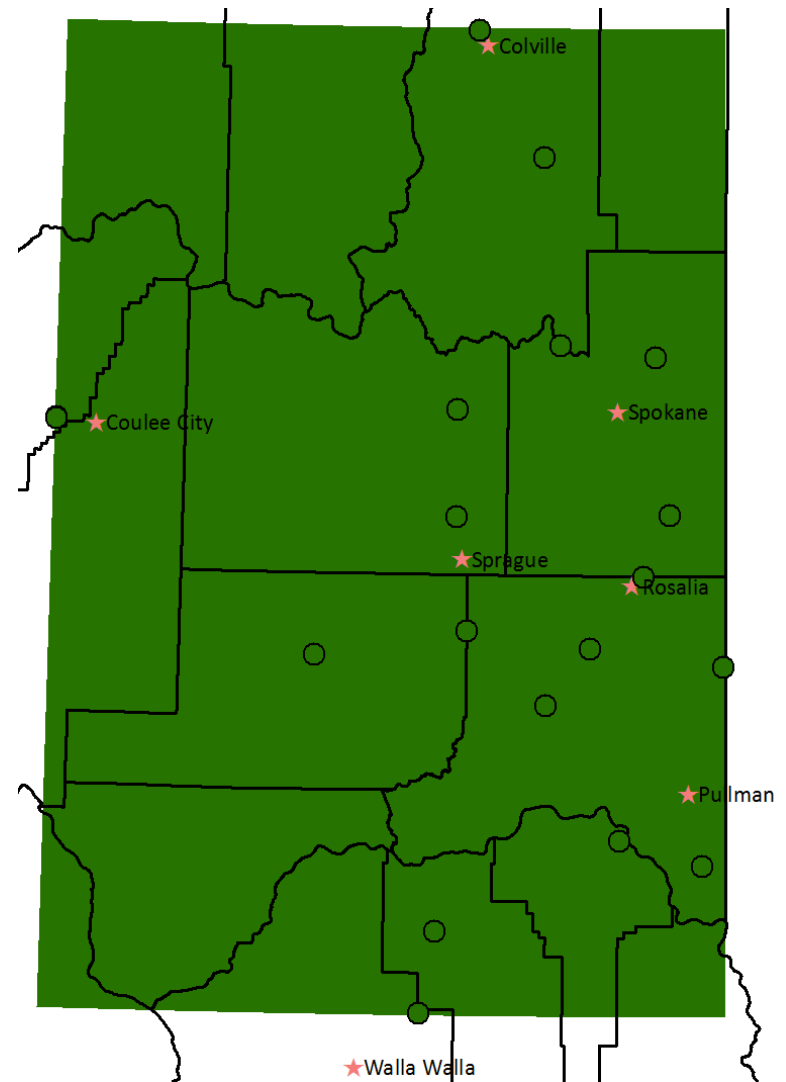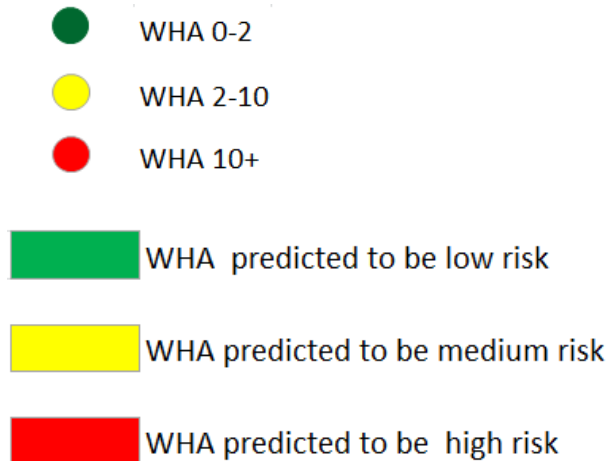

● CLB Absent

○ CLB Present

▮ CLB Predicted to be absent

▮ CLB predicted to be present below economic threshold
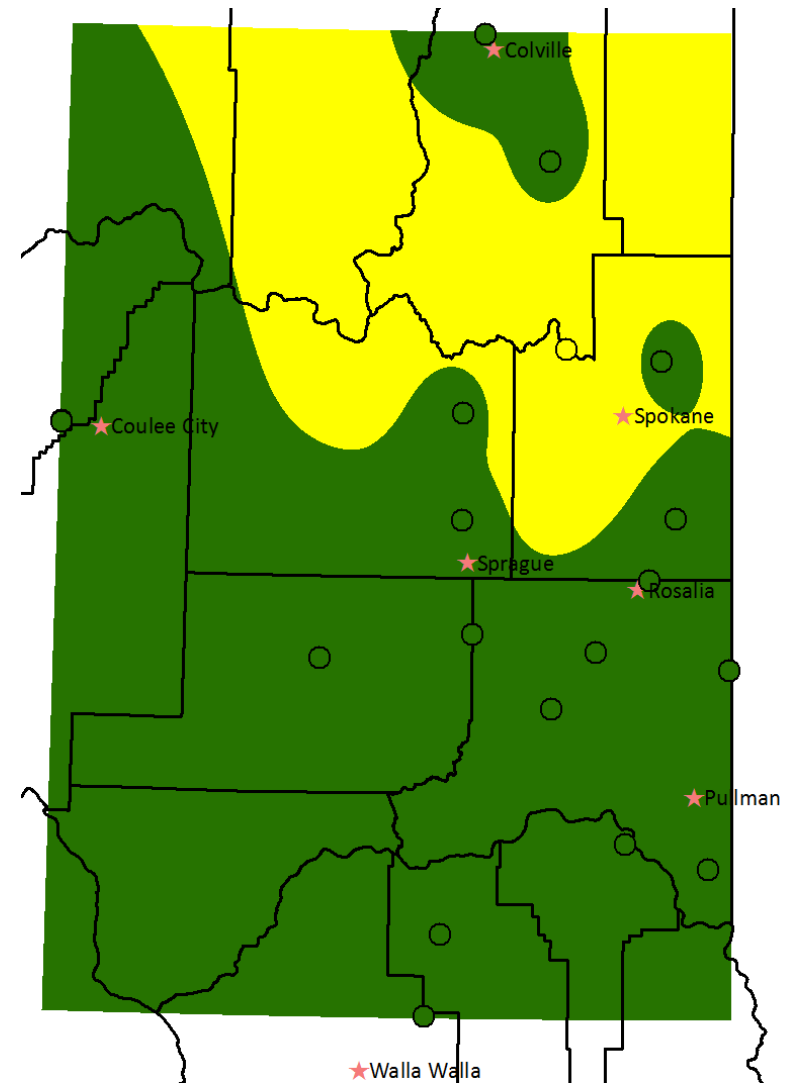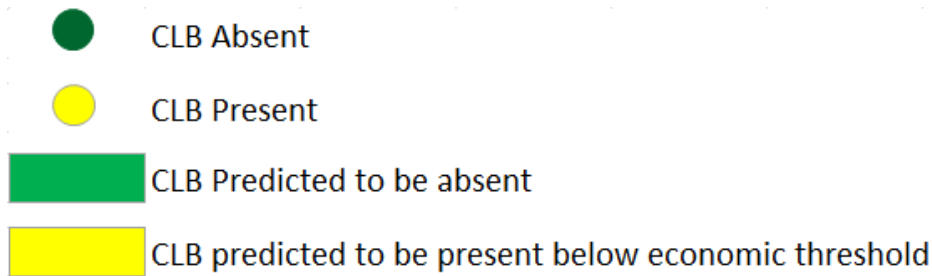
Grasshoppers: Grasshoppers (GH) were found at 13 of 19 sampling locations, at a density ranging from 0.01 to 0.29. The average grasshopper density is calculated per sweep, out of 100 total sweeps. On the map right, the circles indicate fields that were sampled as part of the network. Green circles indicate fields where grasshoppers were not observed and yellow circles indicate fields where grasshoppers were 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 to be absent, yellow are regions are where grasshoppers are likely to present at low densities, and red are regions where grasshoppers are expected to be seen in high densities. See the smallgrains.wsu.edu for more information on economic thresholds and management options for grasshoppers.

Wheat Armyworm Complex: The wheat armyworm complex consists of two species: the true WHA, *Dargida diffusa*; and the false WHA, *Dargida terrapictalis*. WHA were found at 2 of 19 sites this week at at density of 0.5 insects. 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. Green circles indicate fields where and average of 2 or less WHA were observed, yellow circles would indicate fields where 2-10 WHA were observed and red circles would 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 were WHA are likely to be present at very low densities, yellow are regions where WHA are likely present at medium densities and red are regions where WHA are expected to be very high. Pheromone traps draw in insects from across a large area of the field/s. This makes them highly sensitive and not necessarily an accurate indication of infestation levels on a per-plant-basis. Contact your local Extension educator or see the smallgrains.wsu.edu website for information prior to making management decisions.

⬤ WHA 0-2

◯ WHA 2-10

🔴 WHA 10+

▬ WHA predicted to be low risk

▬ WHA predicted to be medium risk

▬ WHA predicted to be high risk

Wheat Midge. Wheat Midge (WM) was found at 5 of 19 sampling locations, at a density ranging from 0.5 to 262 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 were WM are likely to be present at very low densities, yellow are regions where WM are likely present at medium densities and red are regions where WM are expected to be at high densities. Pheromone traps draw in insects from across a large area of the field/s. This makes them highly sensitive and not necessarily an accurate indication of infestation levels on a per-plant-basis. Contact your local Extension educator or see the smallgrains.wsu.edu website for information prior to making management decisions.

WM 0-1

WM 1-5

WM 5+

WM predicted to be low risk

WM predicted to be medium risk

WM predicted to be high risk