Pest e-alerts

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Update on Alfalfa Weevil Egg Populations 2019

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On February 12-13, 2019, alfalfa crown samples were taken at seven sites across the state to determine egg populations of alfalfa weevil. In light of the type of winter we've had thus far, numbers in sample locations remain extremely low. Alfalfa weevil egg populations for February are located in the attached table (Table 1). Numbers presented reflect weevil eggs/ft^2. In addition, degree days through February 25, 2019 are presented in the last column. For the purpose of comparison, egg populations and viability of those eggs for previous collection years are also depicted in the table. Viability measurements for this year's samples were not taken due to insufficient egg numbers collected. Compared to previous sample years (2014, 2015, 2016, 2017, and 2018), continued lower eggs counts were recorded.

This year's mean numbers (6.4) are similar to sample site means from this time last year, prompting a continuation in decreased overall numbers compared to previous years. As recent as 2016, while the overall average was lower than previous years, some individual sites sampled were still averaging eggs/ft^2 in excess of one hundred. However, there have been seasons where the average number from all sites across the state were approaching five hundred. Degree days through February 25, 2019 are averaging 115.3 across twelve sites around the state.

Keep in mind, these numbers may not indicate the severity of the upcoming season's infestation. Early numbers obtained in this sampling indicate oviposition that has taken place thus far, including last fall (October and November), when conditions coming out of summer aestivation were conducive for mating and oviposition. In contrast to last year's collections, through February 2019, most areas of the state have not experienced single digit to below zero temperatures which could have increased the chance that early eggs that had already been placed may not have survived that extreme cold. This could explain the lower egg numbers we observed during last year's sampling period. This year, while no single digits have been recorded, we have had some low teens and an unusually wet winter and more winter weather appears to be on the way for the next week or so. Continued and persistent cold with ice and/or rainfall will further enhance mortality for both weevils and aphids and aide in the control of insect development.

In processing this year's samples we have seen a few early emerging larvae in a couple of locations in southern Oklahoma. In "normal" years, early emerging larvae would likely not survive subsequent cold weather events like what is on the way in the next week. Daily averages for most of the state have remained somewhat normal to slightly below normal for this time of year. However, there have been enough days where temperatures have increased allowing degree days to accumulate in the far southern portion of the state. Hopefully the upcoming weather event will aide in keeping numbers in check for a bit longer.

As the season progresses and daytime temperatures increase, scouting will be vital to accurately determine weevil and aphid population levels leading to first harvest. Regarding alfalfa weevil populations, 150 degree-days represents the level that serves as an indicator for growers and consultants to begin scouting for larvae. Throughout the state, degree day numbers are averaging 115.3, however, some southern counties have already reached the 200 mark. As mentioned above, upcoming cold/icy conditions will delay insect activity, but numbers can increase quickly when a warming trend develops. We'll keep you posted as the season progresses.

Table 1. Alfalfa Weevil Egg populations for February, 2019. Degree Days through February 25, 2019 are presented in the last column.												
County	February 2019	February 2019 % Viable	February 2018	February 2018 % Viable	January 2017	January 2017 % Viable	January 2016	January 2016 % Viable	January 2015	January 2014	January 2014 % Viable	Degree Days 2019
Alfalfa	0.0	--	0.0	--	23.2	--	23.6	--	61.6	6.0	---	98
Major		--		--		--		--		15.2	---	111
Payne 1. Payne 2.	8.4	--	9.0 14.8	--	46.4	--	95.6	69.0	56.0	42.8	---	112
Kingfisher		--		--		--		--		20.0	---	99
Comanche		--		--		--	40.4 (Stephens)	--	20.4	69.2	59.0	141
Canadian			6.4									99
Kiowa	11.6	--	6.8	--	11.6	--	37.6	--		53.6	---	128
Blaine	1.2		.4									100
Pottawatomie	.4	--	.4	--	.8	--	13.2	--		59.2	---	119
Rogers		--		--		--		--	44.8	78.8	---	88
Garvin	.4	--	10.4	--	.8	--	34.8	--	22.4	28.4	---	154
Grady	22.8	--	4.4	--	3.2	--	129.2	80.0	48.0	159.6	64.0	135
**Means	6.4		5.8		14.3		53.4		42.2	53.28	61.5	115.3

--- No viabilities in a specific county means that egg numbers recovered were insufficient to conduct an assessment.

** Means within each year, represent all areas sampled not simply those depicted.
Unfortunately, due to time restraints, only seven counties were utilized in collections this year. With low numbers observed, no viabilities were taken. Degree day numbers presented represent all the above counties.

During sampling, we keep our eye out for any additional insect activity, such as army cutworm or aphid. No other insect activity was observed during collection. The cold weather in previous weeks and colder weather that is predicted will likely have some effects on the impending population.

Disease and Insect Diagnostic Laboratory

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