



Pest e-alerts



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Update on Alfalfa Weevil Egg Populations 2020

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Figure 1. Alfalfa Crown Sampling



On February 11 and 14, 2020 alfalfa crown samples were collected at various location across the state to determine egg populations of alfalfa weevil (Figure 1.). Unfortunately, due to weather and time restraints, only five sites were sampled. Alfalfa weevil egg populations for February are in the attached table (Table 1.). Numbers presented reflect weevil eggs/ft². In addition, degree days through February 19, 2020 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 collection years (2015, 2016, 2017, 2018, and 2019), egg counts remain low.

A continued trend in low numbers compared to previous years has emerged. As recent as 2016 some areas sampled were averaging eggs/ft² in excess of one hundred. There have been seasons where the average egg number from sites sampled across the state was approaching five hundred. Degree days through February 19, 2020 are averaging 125.9 across twelve sites around the state.

Keep in mind, these numbers may not indicate the severity of the upcoming season's infestation. Early egg 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 (Figure 2.). In contrast to last year's sampling, most areas of the state have not experienced single digit to below zero temperatures which could increase the chance that early eggs that had already been placed may not have survived that extreme cold. This year, while minimal single digits have been recorded, we have had some low teens and wet conditions. 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.



Figure 2. Alfalfa Weevil Eggs



Figure 3. Alfalfa Weevil Larva

In processing this year's samples, I have seen minimal early emerging larvae (Figure 3.). In "normal" years, early emerging larvae would likely not survive subsequent cold weather events like what we've recently encountered or is on the way in the next week or so. 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 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 up 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 125.9, however, some southern counties have already reached the 200 mark or higher. As mentioned above, upcoming cold/wet 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 2020. Degree Days through February 19, 2020 are presented in the last column.

County	February 2020	February 2020 % Viable	February 2019	February 2019 % Viable	February 2018	February 2018 % Viable	January 2017	January 2017 % Viable	January 2016	January 2016 % Viable	January 2015	Degree Days 2020
Alfalfa			0.0	--	0.0	--	23.2	--	23.6	--	61.6	76.0
Major				--		--		--		--		103.0
Payne 1. Payne 2.	0.0	--	8.4	--	9.0 14.8	--	46.4	--	95.6	69.0	56.0	130.0
Kingfisher				--		--		--		--		117.0
Comanche				--		--		--	40.4 (Stephens)	--	20.4	148.0
Canadian					6.4							127.0
Kiowa			11.6	--	6.8	--	11.6	--	37.6	--		128.0
Blaine	2.8	--	1.2		.4							101.0
Pottawatomie	0.0	--	.4	--	.4	--	.8	--	13.2	--		148.0
Rogers				--		--		--		--	44.8	100.0
Garvin	3.2	--	.4	--	10.4	--	.8	--	34.8	--	22.4	189.0
Grady	26.4	--	22.8	--	4.4	--	3.2	--	129.2	80.0	48.0	144.0
**Means	6.5		6.4		5.8		14.3		53.4		42.2	125.9

-- 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 five 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. While no other insect activity was observed during our collection, we have had reports from SW area extension agronomist, Heath Sanders, on army cutworm activity in the western part of the state. The cold weather in previous weeks and colder weather that is predicted will likely have some effects on the impending population.

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