



Pest e-alerts



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Vol. 15, No. 3

<http://entopl.okstate.edu/pddl/pdidl>

Feb 25, 2016



Update on Alfalfa Weevil Egg Populations, Degree Days, and Viabilities 2016

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Alfalfa weevil egg populations for January 2016 are located in the attached table (**Table 1**). In addition, degree days through February 23, 2016 are presented in the last column. For the purpose of comparison, January egg populations and viability of those eggs for the previous collection years are also depicted in the table. Viability measurements for this year's samples have been processed; with two locations (Grady and Payne Counties) having sufficient egg numbers for testing. An average of 74.5 % viability was obtained from the two sites. Compared to previous sample years (2007, 2012, 2013, 2014 and 2015), relatively low numbers of eggs were recovered. However, there is a slight increase in comparison to this time last year. In 2016, degree days through February 23, 2016 are averaging 224.3 across ten sites. As stated in the previous report ([Vol. 15, No. 1](#)), in an ongoing effort to identify effects on alfalfa weevil and aphid populations over the current and previous years, we continue to look at the percentages of normal precipitation and other environmental factors throughout the state. So far this year, and toward the end of last year, we experienced fairly cool temperature. Daily averages for the most part have not been above 500 until recently, with cool or freezing rain also occurring. Last week's warming weather and the upcoming warming trend may change that.

Extremely cold temperatures have the ability to kill eggs as well as larvae that may be present. This year's average egg numbers are only slightly above what we seen last year at this time, however, in processing this year's samples, there have been many early (suicidal) emerging larvae that

were present. In a normal season, these early emerging larvae are likely killed by subsequent cold weather events. Continued and persistent cold with ice and/or rainfall will further enhance mortality for both weevils and aphids. Any upcoming coming cold weather events with ice and freezing rain, while not agreeable to us would aide in the control of insect development. Adult activity of alfalfa weevil generally peaks in January and February of each year; however, if a warm pattern would start to occur we may start to see egg populations increase. If present populations hold through to February and early March, and oviposition remains low between now and then due to cold weather events, we could get lucky and experience a lower and/or later infestation of alfalfa weevil than normal. However, with milder temperatures alfalfa weevil and spotted alfalfa aphids could end up being a concern. As far as alfalfa weevil populations, 150 degree-days represent the level that serves as an indicator for growers and consultants to begin scouting for larvae. That time has ARRIVED. Looking at Mesonet data from above, 150 degree-day numbers have already been reached and are approaching 250 degree-days in some areas of the state. In sampling at the Cimarron Valley Research Station this morning the larvae I found were still relatively small and not yet at threshold levels. However, that can change quickly!!!

We will continue to monitor conditions and developments closely throughout the state in the coming weeks and forward any new information as it arises.

Dr. Richard Grantham - Director, Plant Disease and Insect Diagnostic Laboratory

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Table 1. Alfalfa Weevil Egg populations for January, 2016. Degree Days through February 23, 2016 are presented in the last column.

County	January 2016	January 2016 % Viable	January 2015	January 2014	January 2014 % Viable	January 2013	January 2013 % Viable	January 2012	January 2012 % Viable	January 2007	January 2007 % Viable	Degree Days 2016
Alfalfa	23.6	--	61.6	6.0	---	72.4	64.0	198.0	75.0			148.5
Major		--		15.2	---	77.2	81.5	74.8				179.2
Payne	95.6	69.0	56.0	42.8	---	4.0		69.6	72.0	56.4	70.0	218.2
Kingfisher		--		20.0	---	36.4		77.6	82.0	48.0		175.7
Comanche	40.4 (Stephens)	--	20.4	69.2	59.0	273.6 (Tillman)	69.0	54.4 (Tillman)		2.0 (Tillman)		311.6
Kiowa	37.6	--		53.6	---	31.2 (Washita)		74.4 (Washita)	76.0	3.6 (Washita)		228.0
Pottawatomie	13.2	--		59.2	---	22.0		4.8		14.8		269.6
Rogers		--	44.8	78.8	---	26.0		17.6				179.1
Garvin	34.8	--	22.4	28.4	---	59.2		52.4				308.9
Grady	129.2	80.0	48.0	159.6	64.0	401.2	58.0	33.2		.8		224.7
**Means	53.4		42.2	53.28	61.5	100.5		65.68		20.3		224.3

--- 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 relatively low numbers so far, two 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 yet to come will likely have some detrimental effects.