



**Oklahoma Recommendation Chart**

		Alfalfa Height (inches)																	
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18 or more	
		Number of larvae collected from a 30-stem sample																	
150 to 240 dd*																			
SPRAYING RECOMMENDED		13	20	30	35	40	40	40											
Resample in five to seven days		0-12	0-19	0-29	0-34	0-39	0-39	0-39											
240 to 290 dd																			
SPRAYING RECOMMENDED		10	10	15	15	15	20	20	25	25	25								
Resample in five to seven days		0-9	0-9	0-14	0-14	0-14	0-19	0-19	0-24	0-24	0-24								
290 to 340 dd																			
SPRAYING RECOMMENDED		12	12	18	25	25	25	30	30	30	30	30	30	30	35	35			
Resample in five to seven days		0-11	0-11	0-17	0-24	0-24	0-24	0-29	0-29	0-29	0-29	0-29	0-29	0-29	0-34	0-34			
340 to 390 dd																			
SPRAYING RECOMMENDED		20	20	20	20	25	25	30	30	30	35	35	35	35	35	35	40		
Resample in three to five days		0-19	0-19	0-19	0-19	14-24	14-24	14-29	14-29	14-29	14-34	17-34	17-34	17-34	37-34	17-34	18-39		
Resample in five to seven days						0-13	0-13	0-13	0-13	0-13	0-13	0-16	0-16	0-16	0-16	0-16	0-17		
390 to 540 dd																			
SPRAYING RECOMMENDED		20	20	20	20	20	25	25	25	25	25	25	30	30	35	35	40		
Resample in three to five days		0-19	0-19	0-19	0-19	0-19	8-24	8-24	8-24	8-24	8-24	8-24	14-29	14-29	14-34	18-34	18-39		
Resample in five to seven days							0-7	0-7	0-7	0-7	0-7	0-7	0-13	0-13	0-13	0-17	0-17		
		Change in number of larvae since last sample																	
		Decreased 10 or more.			Within 10			Increased 10 or more											
540 TO HARVEST																			
SPRAY OR HARVEST					35			30			25			This section is to be used as the first					
Resample in three to five days					18-34			14-29			8-24			crop reaches 15-18 inches in height and					
Resample in five to seven days					0-17			0-13			0-7			peak larval populations for the weevil have typically been reached.					

\* Day degree total from January 1

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**EXTENSION**

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**Scouting for the Alfalfa Weevil in Oklahoma**

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Serious loss in production may result from alfalfa weevil infestations. Researchers in several states have worked to provide the guidelines discussed in this report to assist growers in deciding when it is profitable to apply insecticides against this pest. These guidelines help determine the need for insecticide use and proper timing for applications to avoid serious weevil damage. The sampling procedures described in this report provide the most accurate means available for decision-making regarding insecticide use to control alfalfa weevil larvae. They take into consideration the prevailing temperatures by way of day degree calculations; the growth stage of alfalfa, which affects the capability of plants to withstand weevil feeding; and the population levels of weevil larvae which can be permitted in alfalfa before insecticide application becomes profitable. When a decision has been made that use of an insecticide is necessary, information on registered compounds for weevil control may be obtained from your county extension office or OSU Extension Fact Sheet EPP-7150.

**Day Degree Concept**

The response of insects to temperature is similar to that of plants. Each species has a minimum or threshold temperature below which no growth or development can take place. This minimum level for the alfalfa weevil is about 50 F. As temperatures increase above 50, weevils develop. With sufficient numbers of warm days during winter and spring, weevil eggs hatch and damaging larval populations may be seen.

The amount of warm weather required for completion of weevil development is measured in heat units called day degrees. Intervals for checking alfalfa fields as part of this program are based on day degrees and, thus are related closely to weevil development. With cool weather and little chance of weevil development or damage, fields are usually sampled once a week. When weather is warm and there is greater likelihood of weevil damage occurring, fields are checked more frequently. This basis for sampling provides a more reliable means of monitoring weevil activity than any other sampling method that has been used.

Day degrees are computed for each 24-hour period in which the temperature rises above 50 F. Numbers of day degrees are added together to compile totals beginning Jan. 1 of each year for several locations across Oklahoma. The day degree totals are being made available through the OSU Extension in conjunction with the 'Mesonet' system in operation throughout Oklahoma. This information is provided to radio and television stations as part of the Oklahoma Agricultural Weather Advisory prepared by the National Weather Service. This fact sheet informs producers how to keep temperature records and compile day degree totals for their areas.

The alfalfa weevil often lays large numbers of eggs during fall and winter months. Eggs hatch and larvae feed during early spring. Field checking for weevil larvae should begin when a total of 150 day degrees have accumulated after January 1. This accumulation is reached by late February to mid-March in southern and central Oklahoma. Northwestern and Panhandle areas will be somewhat later in reaching 150 day degrees.

**Field Sampling**

It is important to sample as much of each field as possible. The level of infestation may vary in different areas, and inaccurate results are often obtained when only a small part of a field is checked. Avoid field edges because inaccurate sampling may result in these areas. Sampling should be conducted when foliage is dry so large larvae will be found in samples.

At 30 evenly spaced intervals, carefully pick an entire stem (without dislodging any larvae) and place it in a 2- to 3-gallon container. Stems must be selected at random. Pick the first stem the hand touches. Next, beat the 30 stems vigorously against the inside of the container for 10 to 20 seconds. This will shake out all medium-sized and large larvae for counting. Small larvae, which remain in terminals, do not pose an immediate threat of damage to the alfalfa. The decision to spray is based on numbers of larger larvae, which may cause damage within a few days of sampling. Transfer the larvae to a shallow pan for counting and record the number. Randomly select 10 stems from the original 30

