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Alfalfa Weevils Active Throughout Southern and Central Iowa

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Alfalfa Weevils Active Throughout Southern and Central Iowa

Abstract

Adult alfalfa weevils become active and start laying eggs as soon as temperatures exceed 48°F. Alfalfa weevil eggs develop based on temperature, or accumulating degree days, and hatching can start around 200-300 degree days. Start scouting alfalfa fields south of Interstate 80 at 200 degree days and fields north of Interstate 80 at 250 degree days. Based on accumulated temperatures since January, weevils could be active throughout southern and central Iowa (Figure. 1).

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Alfalfa Weevils Active Throughout Southern and Central Iowa

April 10, 2017

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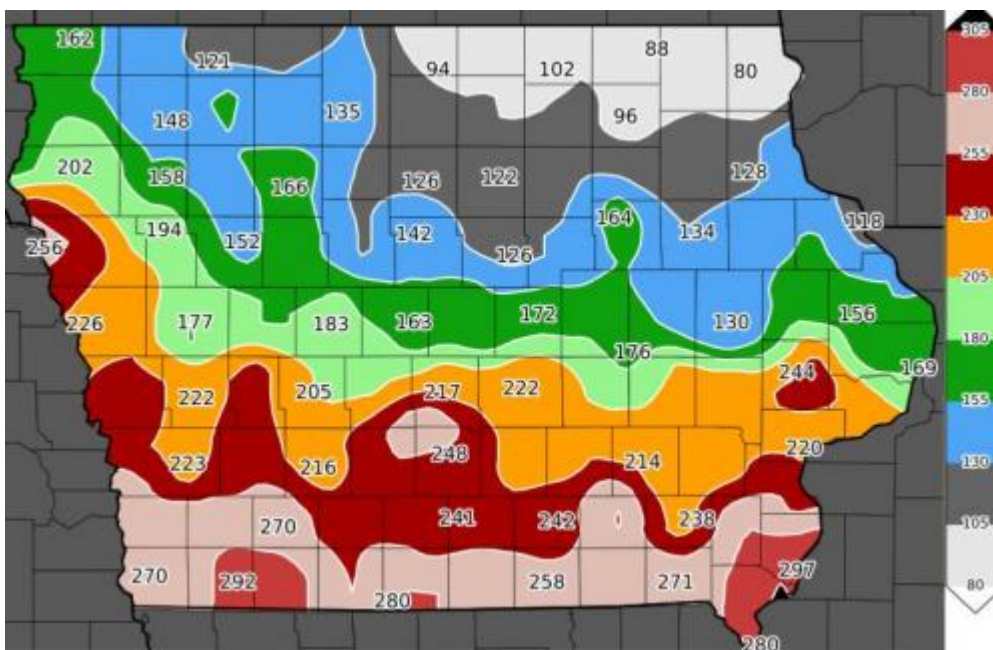


Figure 1. Accumulated growing degree days (base 48°F) in Iowa from January 1 – April 10, 2017. Map

*courtesy of Iowa Environmental Mesonet, ISU
Department of Agronomy.*

Biology. Alfalfa weevil is an important defoliating pest in alfalfa. Heavy infestations can reduce tonnage and forage quality. Adults feed on plants, but typically the larvae cause the majority of plant injury. Female alfalfa weevils can lay 800-4,000 eggs in a lifetime and insert 5-20 at a time into alfalfa stems. Newly hatched larvae can be found feeding on terminal leaves, leaving newly expanded leaves skeletonized. Maturing larvae (Photo 1) gradually move down the plant and begin feeding between leaf veins. Peak larval activity occurs around 575 degree days. Silken pupal cases are attached to leaves in the lower canopy or in leaf litter. The time it takes to reach the adult stage is dependent on temperature, but takes about eight weeks. Adults (Photo 2) eat along the leaf margin, leaving irregular notches. A heavily infested field will look frosted or silver (Photo 3).



Photo 1. Alfalfa weevil larvae have a dark head and pale green body with a white stripe down the back. Fully-grown larvae are about 5/16 inches long. Photo by Clemson Cooperative Extension Slide Series, www.ipmimages.org.



Photo 2. Alfalfa weevil adults have an elongated snout and elbowed antennae. Their wings and body are mottled or brown in color. *Photo by Clemson University, ipmimages.org.*



Photo 3. Heavily-defoliated alfalfa plants appear frosted. *Photo by Whitney Cranshaw, Colorado State University, ipmimages.org.*

Management. After reaching benchmark degree days (200 in southern Iowa and 250 in northern Iowa), use a sweep net to sample for adults and larvae to confirm adult activity. South-facing slopes warm up faster and may be a place to start sampling. After larvae are first collected in sweep nets, collect six alfalfa stems from 5 locations throughout the field. Take each stem and vigorously shake into a bucket to dislodge larvae from the plant. Small larvae can be difficult to separate from the plant and therefore careful plant inspection is also needed. Average the number of larvae per 30 stems and plant height to determine if the economic threshold is approaching (Table 1). Remember, cutting alfalfa is an effective management tool for alfalfa weevil larvae, and an insecticide application may be avoided if harvesting within a few days of reaching the economic threshold. For more information on how to interpret the table, click on a recent [ICM Blog post](#).

Table 1. Economic threshold of alfalfa weevil, based on the average number of larvae in a 30-stem sample (Originally published by [John Tooker, Penn State Extension](#))

		Plants 0-4 inches AND Control costs (\$/acre)				Plants 4-8 inches AND Control costs (\$/acre)				Plants 8-12 inches AND Control costs (\$/acre)			
		\$12	\$14	\$16	\$20	\$12	\$14	\$16	\$20	\$12	\$14	\$16	\$20
		Hay value (\$/ton)	\$120	0.34	0.37	0.38	0.50	0.50	0.53	0.69	0.85	1.42	1.73
	\$140	0.30	0.32	0.35	0.43	0.43	0.45	0.57	0.70	1.21	1.49	1.78	2.08
	\$160	0.27	0.29	0.30	0.38	0.38	0.38	0.49	0.60	1.05	1.31	1.55	1.77
	\$180	0.25	0.26	0.27	0.33	0.33	0.34	0.42	0.52	0.93	1.16	1.37	1.54
	\$200	0.23	0.24	0.25	0.30	0.30	0.30	0.37	0.46	0.84	1.05	1.23	1.36
	\$220	0.21	0.22	0.23	0.27	0.27	0.27	0.33	0.41	0.76	0.96	1.11	1.22
	\$240	0.20	0.20	0.21	0.25	0.25	0.26	0.30	0.37	0.69	0.88	1.01	1.10
	\$260	0.19	0.19	0.20	0.23	0.23	0.24	0.27	0.34	0.64	0.81	0.93	1.00
	\$280	0.18	0.18	0.19	0.21	0.21	0.22	0.25	0.31	0.59	0.76	0.86	0.92
	\$300	0.17	0.17	0.18	0.20	0.20	0.21	0.23	0.29	0.55	0.71	0.80	0.84
	\$320	0.16	0.16	0.17	0.19	0.19	0.20	0.21	0.27	0.51	0.66	0.75	0.78
	\$341	0.15	0.15	0.16	0.17	0.17	0.18	0.19	0.25	0.48	0.63	0.70	0.73
	\$360	0.14	0.14	0.15	0.17	0.17	0.17	0.18	0.23	0.45	0.59	0.66	0.68
	\$380	0.14	0.14	0.15	0.16	0.16	0.16	0.17	0.22	0.43	0.56	0.62	0.64
	\$400	0.13	0.13	0.14	0.15	0.15	0.15	0.16	0.20	0.41	0.53	0.59	0.60

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Tags: pest weevils alfalfa scouting degree days

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Dr. Erin Hodgson started working in the Department of Entomology at Iowa State University in 2009. She is an associate professor with extension and research responsibilities in corn and soybeans. She has a general background in integrated pest management (IPM) for field crops. Dr. Hodgson's curre...