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Alfalfa Weevil Management

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1. **Understand the weevil life cycle and damage it causes.** Adult weevils often lay eggs inside alfalfa stems during warm days in the fall, winter and spring. Alfalfa weevil larvae grow through four stages (instars). The eggs hatch from early to late spring with the first stage crawling to the top of alfalfa stems to feed inside the plant terminals. By the time the third and fourth stages feed on foliage outside the terminal, a large amount of foliage can be consumed.
2. **Scout often starting early in the spring.** Walk alfalfa fields as early as late March for signs of leaf feeding. Most years the feeding gets progressively worse throughout April. The most effective scouting technique is to collect ten alfalfa stems in each of five locations around the field and tap them into a white bucket. Be sure to gently handle the stems so larvae don't fall to the ground before getting them to the bucket. Scissors can be helpful to accomplish this. Determine the average number of larvae per stem. The economic threshold for alfalfa weevils is an average of one or more larvae per stem and 30 percent or more of the plant terminals show feeding damage. If the field's infestation is greater than this, it may be time to start spraying. In cool, wet springs, a fungal pathogen called *Zoophthora phytonomi* can infect and kill weevils. If this occurs, the infected larvae turn from their normal green color to a yellow color and may die off in 2-3 days after infection occurs.

3. **Decide if early harvest is necessary.** Early harvest is an option for management of weevils compared to spraying insecticides. Remember, that it is best for the crop to not harvest earlier than 7-10 days prior to the normal growth stage of 1/10th bloom. This harvest could be done by hay cutting or by grazing. Missouri research has found that 98 percent of the weevils can be reduced with mechanical harvest and 90 percent can be reduced by grazing cattle. If grazing, be cautious of bloat from wet foliage and damage to the crowns from trampling during wet conditions.
4. **Choose labeled insecticides if threshold levels are reached.** See the chart below for registered products in Missouri. It's best to use a lot of water in the spray mix for ground applications, with 20 gallons per acre considered optimum. Pay close attention to the preharvest intervals.

Chemical name	Common name	Rate	Preharvest Interval
Beta-cyfluthrin	*Baythroid XL	1.6 to 2.8 fl oz/acre	7 days
Lambda-cyhalothrin + chlorantraniliprole	*Besiege	6.0 to 10.0 fl oz	1 day forage
Chlorpyrifos + gamma cyhalothrin	*Cobalt Advanced	19 to 38 fl oz/acre	7-14 days
Chlorpyrifos + gamma cyhalothrin	*Cobalt	19 to 38 fl oz/acre	7-14 days
Dimethoate	Dimethoate/Dimate	see specific label	10 days
Phosmet	Imidan 70W	1 to 1 1/3 lb/acre	7 days
Methomyl	*Lannate	0.9 fl oz/acre	7 days
Chlorpyrifos	*Lorsban Advanced	1 to 2 pts/acre	7 - 21 days
Chlorpyrifos	*Lorsban 4E	1 to 2 pts/acre	7 - 21 days
Chlopyrifos	*numerous products	see specific labels	
Zeta-cypermethrin	*Mustang Maxx	2.24 to 4.0 fl oz/acre	3 days
Permethrin	*numerous products	see specific label	7 - 14 days
Gamma-cyhalothrin	*Proaxis	1.92 to 3.2 fl oz/acre	1 day forage; 7 day hay
Zeta-cypermethrin	*Respect EC	2.24 to 4.0 fl oz/acre	3 days
Carbaryl	Sevin 4F	1 qt/acre	7 days
Carbaryl	Sevin XLR Plus	1 qt/acre	7 days
Zeta-cypermethrin + chlorpyrifos	*Stallion	5.0 to 11.75 fl oz	7 days
Indoxacarb	*Steward 1.25 EC	4 to 11.3 fl oz/acre	7 days
Cyfuthrin	*Tombstone	1.6 to 2.8 fl oz/acre	7 days forage/hay
Lambda-cyhalothrin + chlorantraniliprole	*Volian Xpress	6.0 to 9.0 fl oz	1 day forage; 7 day hay
Lambda-cyhalothrin	*Warrior 1 CS	1.92 to 3.2 fl oz/acre	1 day forage
Lambda-cyhalothrin	*Numerous products	see specific labels	1 day forage; 7 days hay

This chart is a general guide. Be sure to read and follow all label directions, precautions and restrictions of the product you purchase.
* Designated a restricted use product.