



University of California Cooperative Extension

21st Century Agronomics

A Newsletter for Madera and Merced Counties

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Spring Pest Management in Alfalfa

As spring is approaching fast, it might be a good idea to start monitoring established alfalfa-hay fields for some key pests commonly observed during this period in the San Joaquin valley. Some of the major pest problems may include weevils, stem nematodes, and fiddleneck.

Weevils - Adult weevils are dark gray and about 0.20 inch long. Larvae are brown-headed, pale green body with a thin white line down the center of the back and can reach about 0.25 inches when fully grown. Damage is most commonly



caused by the larval stages feeding on terminal buds and leaflets before the first cutting. It is recommended monitoring by sweep in a weekly-basis once weevil larvae begin to appear in late winter or early spring. More frequent monitoring (every 2 to 4 days) should take place as thresholds (20 or more larvae per sweep) are approached. Research is underway to reevaluate threshold levels. Control tactics include early harvest and chemical control. Early harvest not only reduces larvae populations, but also it minimizes the killing of predators and parasites of other pests, such as aphids because of pesticides use. But, before making the decision on early harvest, always consider stand vigor and economic practicality.

Chemical control alternatives include Steward EC, Imidan 70W,

Warrior, Baythroid 2E, Renounce 20WP, Furadan 4F, Lorsban 4EC, and Malathion 8E. For more information about weevil's biology, monitoring, management, and control visit the UC-IPM website at <http://www.ipm.ucdavis.edu>.

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, Division of Agriculture and Natural Resources,
University of California, Madera County, and U.S. Department of Agriculture Cooperating

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Stem nematode - It is a major concern in California. Stem nematode is a microscopic parasitic roundworm that lives in soil and plant. It feeds on cell contents in stems and crowns of the alfalfa. Nematodes move just a few inches per year on their own, but they are easily spread long distances by wind, farm equipment, irrigation water, nursery stock, seed, and debris in seed and hay. Infestations are typically unevenly distributed in fields. Symptoms of infestation include enlarged and discolored stems, swollen nodes, and short internodes. Stem nematode management includes:



- Resistant varieties – Proper nematodes species identification present in the field is crucial because resistant alfalfa varieties are resistant to specific species and not all pest nematodes of alfalfa.
- Prevention – Avoid moving contaminated farm machinery or livestock from a field infested with nematodes or disease to a clean field.
- Cultural practices – Rotation with non-host crops such as sorghum, small grains, beans, and corn on a 2- to 4-year basis should reduce alfalfa stem nematode populations. Consider harvesting disease- and nematode-free fields before infested fields.
- Chemical control – No nematicides are registered for use against the alfalfa stem nematode.

For more information about the biology, sampling, and management strategies, please contact your local farm advisor or visit the UC-IPM website at <http://www.ipm.ucdavis.edu>.

Fiddleneck – It is a winter annual plant with hairy lance shaped leaves.

Flowers are bright-orange and arranged on one side of the flower stalk, which curls resembling the neck of a fiddle. Fiddleneck is toxic to animals because it contains a pyrrolizidine alkaloid that causes necrosis of the liver. Seeds are the most toxic part of the plant. Symptoms of fiddleneck toxicity include weakness, lack of coordination, photo sensitization, and jaundice with a yellowish color of the mucous membranes. Death can and does occur in horses. Normally, fiddleneck infestations are more prevalent in alfalfa field with weak stands. Fiddleneck infestations are usually associated with other winter annuals, such as london rocket, shepherds purse, annual bluegrass, and chickweed. Fiddleneck infestations are less of a problem in early fall plantings (September and October) than winter or spring. Late winter and spring plantings usually grow slower due to cold and freezing winter temperatures making the stand much less competitive with winter weeds, especially fiddleneck. Although, cultural practices such as light cultivation, grazing (sheeping), and flaming, can potentially reduce fiddleneck populations, herbicides are usually required for a complete control. Preemergence herbicides can be applied alone or in combination with a postemergence herbicide during the dormant season. Buctril, Gramoxone, Pursuit, Roundup, Raptor, and Velpar are all available for control of winter annual weeds including fiddleneck.



Susceptibility of Fiddleneck in Established Alfalfa to Herbicide Control

	Herbicides											
	2.4D	CL E	DIU	EP T	GLY ₁	HE X	IM A	ME T	NO R	PAR _*	SE T	TRI ₂
Fiddleneck	N	N	C	P	C	C	P	C	P	P	N	C

24D = 2,4-DB* (Butyrac)

IMA = imazethapyr (Pursuit) (highest rate)

CLE = clethodim (Prism)

MET = metribuzin (Sencor)

DIU = diuron (Karmex, Direx)

NOR = norflurazon (Zorial)

EPT = EPTC (Eptam)

PAR² = paraquat* (Gramoxone Max)

GLY¹ = glyphosate (Roundup WeatherMax)

SET = sethoxydim (Poast)

HEX = hexazinone (Velpar)

TRI = trifluralin¹ (Treflan, Trilin)

C = control

P = partial control

N = no control

* Permit required from county agricultural commissioner for purchase or use.

¹ For use in Roundup-ready alfalfa only.

² Not usually applied at times suitable for controlling winter weeds.

Sincerely,



For special assistance regarding our programs, please contact us.

Tulio B. Macedo
Agronomic Crops and Weed Control Farm Advisor

COMING EVENTS

WORKER PESTICIDE SAFETY TRAINING - Thursday, March 12, 2009 - Madera District Fairgrounds Woman's World. English Session 7:30 a.m. - 12:15 p.m., Spanish Session 12:30 p.m. - 4:30 p.m. Please RSVP to (559) 675-7879. Two hours of continuing education have been requested.

WANT TO GO PAPERLESS? The 21st Century Agronomics newsletter is available on the Internet at <http://cemadera.ucdavis.edu>. Go to NEWSLETTERS, 21st CENTURY AGRONOMICS. All issues are posted. If you subscribe online, you will receive an email letting you know it has been posted - no more waiting for the mail. **CHECK IT OUT!**

PLEASE NOTE: All Newsletter updates were sent out on February 20th (pink form). If you do not return the update form you will be dropped from the mailing list. Update forms can be faxed, mailed or dropped off at the office.