



# FIELD CROP NOTES

SISKIYOU COUNTY  
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## *SUMMER 2005*

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regarding our programs  
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*To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned.*

### **Armyworm Invasion**

Armyworm has invaded many Siskiyou County fields! This pest has also been a problem in other fields throughout the intermountain area as well. Many of you may not be familiar with this potentially devastating pest. It is rarely a problem in the intermountain area because our climatic conditions are generally not conducive to its development. However, in those years and those fields where it is present, damage can be remarkable—almost frightening.

Alfalfa growers are familiar with alfalfa weevils and the damage they cause. Armyworm is generally not as widespread, but in fields with high populations the damage can be far worse than that caused by the alfalfa weevil. Damage to grasses appears more severe than alfalfa. They can mow down a field in a few days. Some fields are so heavily infested that at first glance they may even appear dead. There is no green foliage and the field looks severely drought stressed—even when it has been well irrigated. Within the last few weeks armyworm has been found in alfalfa, alfalfa/orchardgrass, irrigated pasture, annual forage grasses, and corn.



The armyworm is pale green when young; as they mature they become greenish brown to black with a yellowish stripe along each side. When mature they can be up to 2 inches in length.

It appears we have two species of armyworms that are causing damage, the western yellowstriped armyworm and the armyworm (also called true armyworm). I believe the true armyworm is doing more damage to the pastures and grass fields. Control recommendations for both species are similar.

The caterpillars are up to 2 inches long and vary in color. Generally they are pale green to tan when small and almost black when large. The western yellowstriped armyworm have a yellowish stripe along each side.

Armyworm may go undetected if fields are not carefully inspected. Armyworms are difficult to find during the day when they typically drop to the soil and burry themselves under plant debris or under the soil surface to escape hot daytime temperatures. Scratch the soil around the base or crown of plants and inspect carefully.



Armyworms congregate under the windrow after cutting. These worms were found under the windrow in a grass hay field.

The question everyone wants answered is “**when is treatment necessary?**” The answer is often difficult. An economic threshold has been developed for standing alfalfa using a standard sweep net (the same net used for alfalfa weevil). Take a 180 degree sweep in

several parts of the field and count the number of worms. The worms are attacked by a parasitic wasp so it is important to know how many have been parasitized. Pull the worms apart and if a light green parasite larvae pops out, the worm has been parasitized. (*Although pulling worms apart to check for parasitism sounds like a fun job, it is not an effective control measure.*) Treatment is recommended when there are **15 non parasitized worms per sweep**.

Cutting can be an effective control measure in alfalfa. The worms will typically congregate under the windrow where it is cooler. However, most of the worms will not survive after cutting. However, caution is warranted. Monitor alfalfa regrowth carefully and inspect it for feeding damage. If the alfalfa is too short to use a sweep net, assess the amount of feeding damage to determine whether treatment is necessary. Some states have a treatment threshold of 5–7 worms per square foot. Monitor the field in the evening or early morning to look for worms.

There is no economic threshold for pasture or alfalfa grass mixtures in California. The 5–7 threshold used in other states may be a useful guideline or just carefully assess the damage to determine whether treatment is necessary. Cutting may not be as effective in grass fields or alfalfa/grass mixtures; there is typically more foliage for cover and to feed on in a field with grass than straight alfalfa. Monitor regrowth carefully for signs of armyworm feeding. Armyworms can march from one field to another, especially after cutting, so be sure to monitor adjacent fields.

Hopefully, the armyworm is on its way out. The larger sized armyworms (greater than 1.25 inches) will drop to the soil where they will pupate and turn into moths. There are probably only 2 to 3 generations per year in the intermountain area. It is not likely that the next generation will cause a problem because it will be too late in the season but it is important to continue monitoring fields carefully.

## **Roundup Ready Alfalfa Approved:** *Limited supplies available for fall plantings*

The regulatory approvals needed for the sale and use of Roundup Ready alfalfa in the United States was granted in mid June. Most growers have heard of Roundup Ready alfalfa (RR alfalfa). For those that may not be familiar with it, RR alfalfa is genetically altered so that the nonselective herbicide Roundup can be sprayed right over the top of the crop without injuring the alfalfa. Four other RR crops have already been commercialized in the US: corn, cotton, soybeans, and canola. Roundup Ready alfalfa will likely be the first genetically modified crop produced on a large scale in Siskiyou County. California just recently approved the herbicide Roundup WeatherMAX for over the top use on Roundup Ready alfalfa. This means that the stage is set for the commercial release of RR alfalfa this fall.

University farm advisors and specialists have conducted research with RR alfalfa since 2001 to determine the advantages and disadvantages of the new technology compared with conventional weed control practices in the different alfalfa production regions of the state. The Roundup Ready system was found to be very effective—more advantageous in seedling alfalfa than established alfalfa. Roundup applied at the proper alfalfa growth stage provided better than 95 percent control of nearly all weeds in seedling alfalfa at all test sites throughout the state, including the intermountain area. In the intermountain trials Roundup was more effective for weed control in seedling alfalfa than the conventional standards with less alfalfa injury. Perfect weed control was accomplished in established alfalfa using Roundup or a conventional standard (Velpar plus Gramoxone).

The primary advantages of the Roundup Ready system for alfalfa growers in the intermountain area:

- **Broad spectrum weed control.** Roundup controls more weeds (annuals and perennials) than any other single herbicide.

Quackgrass and dandelion control will now be feasible.

- **Lower herbicide costs.** The cost of Roundup is less than that of conventional standards, especially those used in seedling alfalfa.
- **Ease-of-use.** There is a broader application window with Roundup than conventional herbicides in seedling alfalfa and the chances of injury are nearly eliminated. You don't have to be a weed control expert to get excellent results.

During presentations on Roundup Ready alfalfa, the question that always arises is: **What's it going to cost?** After years of anticipation, the answer to that question is now known. The technology fee will be a one-time payment of around \$3 per pound of alfalfa seed. Seed companies may charge slightly more for the seed since production costs are somewhat higher (increased isolation requirements for seed fields, regulatory requirements, etc.) Therefore, the total cost for RR alfalfa seed is expected to be around \$5.75 to \$6.75 a pound. All RR alfalfa varieties will have a purple coating for identification purposes.

### **Should a grower in Siskiyou County plant Roundup Ready alfalfa?**

In my opinion several factors must be considered when making the decision.

**Current weed control practices.** What is the weed pressure (density and species), and are those weeds adequately controlled with conventional herbicides? How effective has your current herbicide program been, and are there weeds you currently cannot control? Have the weeds you cannot control been bad enough to reduce the price of your hay?

**Cost comparison.** At a typical 20 pound per acre seeding rate, the increased seed cost for

RR alfalfa equates to \$60 to \$70 per acre (\$3.00 to \$3.50 more per pound for RR seed multiplied by 20 lbs. per acre). A typical alfalfa stand life in the intermountain area is 5 to 7 years. The difference between Roundup and conventional herbicides in the year of seeding is probably around \$20 to \$28 per acre. The difference between standard herbicide programs in established alfalfa and Roundup is probably around \$10 to \$22 per acre depending on your weed control program. This obviously depends on the rates you use of the conventional herbicide and the Roundup rate. Using these values (these are only "ballpark figures" and you should use your own figures based on your herbicide programs and anticipated Roundup cost) and assuming a stand life of 6 years, the herbicide savings from using the RR system would be \$70 to \$138 per acre over the life of the stand. Therefore, growers really need to take a close look at their current weed control costs and the effectiveness of their current program to determine if the weed control savings and any improvement in quality would be enough to cover the increased seed costs (\$60 to \$70 per acre for a 20 pound seeding rate).

**Market.** Will your customers accept genetically engineered alfalfa? Most domestic alfalfa buyers probably will. However, if you sell some of your hay to the export market you may not want to plant RR alfalfa at this time. FGI (the breeding company that develops RR alfalfa varieties) and Monsanto have secured import approvals for Mexico, and are

anticipating import approvals for Canada and Japan in the fall of 2005. Even if the approvals are granted, some importers may insist upon non GMO alfalfa (non RR alfalfa). Some exporters are already requiring as part of the contract that their growers certify that they will not use genetically modified alfalfa.

**View on Genetically Modified crops.** What is your personal view on genetically modified crops? The majority of organic growers are philosophically opposed to genetically modified crops while most conventional growers are less concerned.

These factors should be carefully evaluated to determine if this new technology is right for your farm.

There will be limited seed of RR alfalfa varieties available for late summer seedings this year. If you're interested contact your seed dealer to see if they will have any RR varieties available for seeding in 2005. Availability of RR varieties will be much greater by next spring.

This new technology is very exciting but it is not right for everyone. Hopefully, the information in this article will help growers with their decision. In addition, I currently have an alfalfa variety trial in Tulelake comparing the performance of RR varieties with conventional varieties.

# Regulatory Compliance Education Project

## **AG REGULATIONS: LEARN TO MANAGE THEM INSTEAD OF LETTING THEM MANAGE YOU**

Producers in California face more regulations from more agencies than any other farmers in the nation. Changing rules and new regulations from multiple sources have become so complex that many producers can no longer keep track of all of them much less create a systematic compliance plan that addresses them. These regulations amplify the impact of normal production, marketing, and financial risk.

California Secretary of Agriculture AG Kawamura, will introduce a workshop on September 8 that will help producers manage the burden of regulations by introducing a new tool that assists producers to create a unified plan for dealing with them. The new Excel™- based tool called AgComplyIT on CD will be distributed free to producers attending the workshop. It will identify the state and federal production regulations that may apply to a particular enterprise and help growers create a plan to comply. After the introduction agency representatives at the local sites will join growers in a facilitated discussion.

<p><b>Who</b></p> <p>California Department of Food and Agriculture and County Agricultural Commissioners / Small Business Development Center network / USDA Risk Management Agency/ and FACTS, an agriculture education company. State and federal agencies that administer regulations that impact agriculture will cooperate.</p>	<p><b>What</b></p> <p>Twenty, two-hour long workshops hosted by Agriculture Commissioners and the Small Business Development Center network held throughout the state to introduce a new tool that helps producers develop a coherent plan to comply with the regulations that affect their agricultural operations. Attendees will receive a free CD containing the Excel™ based tool called AgComplyIT and a resource guide with information and links to many regulatory agencies.</p>
<p><b>When</b></p> <p>September 8, 2005 4:00 to 6:00 pm.</p>	<p><b>Where</b></p> <p>Siskiyou County Cooperative Extension Office. If you have questions contact Jodi Aceves at: (530) 841-4025</p>
<p><b>Why</b></p> <p>Growers say that regulation risk is one of the greatest they face. This tool won't remove the risk, but it will help them to:</p> <ul style="list-style-type: none"> <li>• Organize the information</li> <li>• Identify what state and federal regulations probably apply to an agricultural production enterprise</li> <li>• Get information about those regulations</li> <li>• Meet and talk to some of the local people who administer today's most pressing regulations</li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>CALIFORNIA COMMUNITY COLLEGES <b>ECONOMIC &amp; WORKFORCE DEVELOPMENT PROGRAM</b></p> </div> <div style="text-align: center;">  <p><b>RMA</b></p> </div> </div> <p style="text-align: center; margin-top: 10px;">The California Small Business Development Centers</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">  <p><b>cdfa</b></p> </div> <div style="text-align: center;"> <p>CALIFORNIA DEPARTMENT OF FOOD &amp; AGRICULTURE</p> </div> </div>

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