Alfalfa Yield and Quality

Alfalfa is a dominant crop throughout the intermountain area of Northern California, representing a significant percent of the acreage in every agricultural high mountain valley. In Tulelake, alfalfa acreage has climbed to nearly four times what it was in the 1960s.

Alfalfa is an attractive crop choice in the intermountain region because of the relatively stable market, recent high prices, cash flow advantages (sales made throughout most of the year) and high yield per cutting. The climate in northern California is very well suited for producing high quality hay desired by the California dairy industry.

Research at Intermountain REC has determined how much yield increases each day and forage quality decreases which helps intermountain alfalfa producers with their harvest management decisions, including staggering cuttings to maximize yield and quality.

Preliminary data suggest that the use of genetic engineering to develop low-lignin varieties of alfalfa may result in a greater and faster improvement in forage quality than what is capable using conventional plant breeding methods.
Insecticide Seed Treatments Provide Onion Growers With a New Control Option for Maggots

Onion maggot and seedcorn maggot are important pests of spring-sown onions in California. Larvae of both species feed on young onion plants often resulting in plant death. Crop loss can reach 90% from maggot damage when maggot populations are high, and growers often apply an insecticide at planting to prevent maggot damage. Insecticides and insecticide application methods were evaluated at IREC from 2011–2013 to identify alternatives to chlorpyrifos (an organophosphate) for resistance management and improved control since the local USFWS is phasing out chlorpyrifos use on Tulelake NWR lease lands where several growers currently farm onions. Onion plant population, vigor, and yield were measured to assess insecticide efficacy. Seed treatments with spinosad or clothianidin + imidacloprid emerged as the best alternatives to chlorpyrifos for minimizing onion mortality from maggot. Seed treatment versus treating soil in the furrow at planting with liquid has the advantage of less pesticide per acre due to more precise insecticide placement and better efficacy at controlling maggots. Spinosad seed treatment is an especially attractive alternative in that it offers lower environmental risk, is available to both conventional and organic growers, and was recently registered in California.

Research conducted by Rob Wilson

Outreach, Extension and Education

IREC Centennial Celebration

IREC staff, visiting researchers, and Siskiyou and Modoc County Cooperative Extension Offices joined together to celebrate the UC Cooperative Extension Centennial on Wednesday, August 13, 2014. The centennial celebration was combined with IREC’s annual field day to highlight past and present research at IREC and UCCE programs in Siskiyou and Modoc Counties. Field Day attendees toured the Center and learned about research on agronomic crops including onions, alfalfa, wheat, oats, potatoes and peppermint along with water issues in the Klamath Basin.

To find out more about research and other activities at IREC, please visit http://irec.ucanr.edu