IPM Mini-Grant Proposal
2004

Project Title: Evaluation of Preventative Alfalfa Weevil Control

Project Leaders:
James Barnhill and Michael Pace in cooperation with Diane Alston and Edward Evans.

Situation:
A number of farmers have incorporated the practice of including an alfalfa weevil insecticide with their dormant period herbicide application. This application takes place in late February or early March. The primary insecticide used is Furadan (*carbofuran*). Visual observations and sweep counts have shown that this preventative treatment can be very effective in controlling alfalfa weevil infestations before they have the opportunity to damage the crop.

Objective:
1) Determine whether the preventative alfalfal weevil treatment provides an economic advantage over the conventional method of treating with malathion on an as needed basis.

2) Determine the impact of preventative alfalfa weevil control on non-target insect and mite populations.

Procedures:
The study would run for two years, if funding is available. Trials will be established in Weber and Box Elder counties each year. The trial will be established in fields that are six acres or larger and have an alfalfa stand that is two to four years old. Half the trial will be given the preventative treatment and the other half the conventional treatment. Each treatment block would then be divided into a minimum of three, one acre replications.

***** Treatments
1) Preventative Treatment (application of Furadan in early March)
2) Conventional Treatment (application of Malathion after 1st cut if needed)

* Monitoring
Treatment replications will be monitored for alfalfa weevil and other significant insect and mite populations beginning the first of May and ending the last of August. Monitoring will be weekly May through June and every other week July through August.

Each monitoring session will consist of counting the significant insects found in five sub-samples from each acre replication. The sub-samples will be collected by taking five or ten 180^{o} sweeps with a 15 inch sweep net.

* Yield Evaluation
Three, one square meter area plots will be harvested and dry weights determined to estimate the yield of each replication. These yield estimates will be made just before each cutting.

The project leaders will find alfalfa fields to be used for the trial and assist with treatment applications and yield evaluations. A summer intern will be hired to complete the monitoring of insect and mite populations.

An economic analysis of the expenses and receipts will be completed to compare the efficiencies of the two treatments.

A bulletin highlighting the results and conclusions of the trial will be published and distributed to each county in Utah. Results will also be presented at grower meetings.

Budget for 2004:

Pesticides			
	Furadan 4F	32 ounces/acre @ $0.67/ounce = $22/acre $22/acre X 10 acres =	$220
	Malathion 57EC	40 ounces/acre @ $0.18/ounce = $7.20/acre $7.20/acre X 10 acres =	$72
	Application expense	$7/acre X 20 acres =	$210
Travel			
	Project leaders	800 miles @ .25/mile =	$200
	Summer Intern	150 miles/monitoring @ .25/mile X 12 monitoring trips =	$450
Wages			
	Summer Intern	8 hrs/monitoring @ $8/hr X 12 monitorings =	$768
Equipment			
	Sweep nets	3 sweep nets @ $25/net =	$75
	Hand lense	3 hand lenses @ $30/lense =	$60
	Hand shearers	2 hand shearers @ $20 =	$50
	Tubular scale	1 tubular scale @ $70 =	$70
Total Expense			**$2,175**