

## **2003 IPM Mini-Grant Proposal**

**Title: Monitoring Insect Populations in Uintah and Duchesne Counties**

**Project Leaders:** Boyd Kitchen and Troy Cooper

### **Situation Statement**

Populations of several species of insects can cause significant damage to crops and rangelands in the Uintah Basin. Mormon crickets, grasshoppers, army cutworms and alfalfa weevil have caused significant economic damage in Uintah and Duchesne Counties in recent years. However, these insects do not reach economic thresholds every year. Detection of insects and determination of population densities during the early stages of an infestation is critical to effective control measures while minimizing unneeded insecticide applications.

Scouting for potentially damaging insects during the spring has been successful in reducing the damage caused by the insects listed above. However, because resources are limited and agents efforts are spread thin, agents do not have sufficient time to locate and evaluate insect populations. In 2002, grasshopper populations were high in some areas of both counties, but by the time the problem was identified by producers the grasshoppers were past the stage to be effectively controlled.

### **Objectives**

This proposal will target 4 species of insects: Mormon crickets, grasshoppers, army cutworms and alfalfa weevils. Other insects may be included as the need arises and opportunity develops.

1. Educate producers and farm service people on the biology of the target insects and enlist their support in scouting and tracking populations.
2. Use a USU student to scout for insects early to identify and evaluate insect populations in Duchesne and Uintah Counties.
3. Validate thresholds.
4. Share results of the program with Extension throughout Utah.

### **Procedures**

We will hold one or two meetings in late winter or early spring to teach producers and farm service people the biology of the insects and when and how to scout. The emphasis will be on stages of growth, where to look for immature insects, economic thresholds, and control measures. We will invite Extension specialists to participate in these meetings. If one meeting is held it will be in Roosevelt. If two can be scheduled, one will be in Vernal and the other in Duchesne County. We will also offer pesticide applicator CEUs at the meetings. Attendees will be asked to report insect populations in

the field. Attendees will also help identify those areas where the target insects damaged crops in 2002. This will serve as our first level of population monitoring.

The second level of population monitoring will use a USU undergraduate student who has received training in the target species and in determining stages of growth and population densities. We will ask Extension Entomology Specialists to help us identify and train the student. This student will travel to the Uintah Basin and spend two days scouting for insects at three different times: late March, late April, and late May-early June. Grant monies will pay for travel/ lodging/meals and supplies. The student will use a GPS receiver so that locations of insect infestations can be accurately identified and communicated. Grant monies will be used to purchase an inexpensive GPS receiver. Scouting efforts will be focused in the areas where these insects have caused economic damage in recent years.

We will issue advisories through radio spots and newspaper articles when insect populations reach economic thresholds. Follow-up surveys will be made in the fall to verify whether control was attempted and the extent of insect damage. General conclusions can then be drawn as to whether the thresholds worked well in this program.

Finally, we will share what we did and the results with other agents in Utah at Ag agents meetings.

### **Budget**

Item	Amount Requested
Mileage: 3 trips to the Uintah Basin from Logan and 200 miles per trip while in the Basin.	2,100 miles X 0.25= \$525
Lodging in the Basin during trips, 2 nights each trip. Actual costs.	6 nights X \$50 = \$300
Meals: 6 days, per diem	6 days X \$28 = \$168
Supplies: GPS receiver (like Garmin Etrex) and other Misc. supplies	\$300
<b>Total Request</b>	<b>\$1,293</b>