

IMPACT



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Idaho Cooperative Extension System Successfully Coordinates Grasshopper Control Programs in Idaho

The Situation

The 2002-year gave us increasing grasshopper numbers in several Idaho locations. Grasshopper counts made in the fall of 2002 by federal surveys indicated potential problems the following year in Lincoln, Oneida, Cassia and Butte counties. During the 2002 summer, producers had experienced some loss and the Idaho State Department of Agriculture had made poison bait available. This bait, distributed through county extension offices, gave extension educators a first hand experience on how bad the problem was and who were impacted. The bait distribution proved a head start opportunity in coordinating large-scale programs for grasshopper control the following year.

Historic programs in grasshopper control have centered on rangeland using a non-selective insecticide. Due to environmental concerns on federal ranges this approach could not be considered. Instead the use of a very selective insecticide that is a growth hormone that prevents the formation of a grasshopper or mormon cricket's exoskeleton was the preferred chemical choice. The problem was the product "Dimilin" was only registered for use on range and pastureland. Because of the past dry falls, grasshoppers had layed most of their eggs around irrigated cropland that bordered range or dry pastureland. Within these impacted lands alfalfa, wheat and barley were the most common crops. This presented a major problem for the state, how to get access to these crops with this chemical.

Past programs in grasshopper control had been conducted after all the grasshoppers had hatched and some of the earlier hatches already started to migrate. This had resulted in considerable rangeland damage but only moderate damage in cropland. The new situation, with grasshoppers hatching in or near cropland, had the potential for extreme cropland damage. This year some small grain fields had 30 feet into the field perimeter eaten each day. In past years, estimations of 50% and greater losses were common to grain crops. With the new chemical being slower acting and its ability to only kill immature grasshoppers, timing of the spraying was critical. Depending on the rangeland, pastureland or crop grown, the potential loss varied greatly. Estimates range from all of the first cutting alfalfa to all of the malting barley in those heavily infested areas. The generally accepted threshold for economic control is 8 grasshoppers per square yard. Counts ranged from 4 to over 100 per square yard just before spraying was done.

Lincoln County, had the greatest area impacted and estimated that they would have lost \$6 million in crop production had no control been conducted. Within the four counties that conducted large-scale programs estimate potential losses were in the \$10 million range. An even bigger concern, among planners and local residents, was what would happen if grasshoppers were not controlled. This year grasshopper problems were concentrated in "hotspots." If these areas were left untreated, grasshopper numbers

would have expanded and the area impacted could have been 10 times as big next year. The state and federal goal to keep total populations under control was one of the driving forces. They paid attention to their past experience.

Our Response

Extension has always provided coordination efforts in grasshopper control. Each of the Extension Educators responded by setting up local landowner committees to get the blocks of land put together. The size ranged from 1200 acres and 6 landowners to 33,000 acres and over 100 landowners. Idaho's Extension Director provided some extra personal support for Lincoln County, one of the hardest hit areas. Working with Gooding County Educator, he was responsible for setting up 4 committees that ultimately treated over 50,000 acres representing over 400 landowners. All the county extension educators organized their spray programs independently but stayed in constant contact with each other to coordinate timing and availability of contractors. At the same time Extensions role expanded to provide support to the state's effort to get Dimilin registered.

The greatest challenge was to deliver the registration for the chemical. Extension role was to support the Idaho State Department of Agriculture, Pesticide Registration Division efforts. This division is highly dependent on industry support for the registration of specific chemicals. For the registration of Dimilin on alfalfa they had to rely on the Idaho Hay Growers. It was up to IHG to provide the ISDA with the documentation needed to grant any kind of registration. Extension responded by providing data and information as requested on item such as acres potentially impacted dollar value of crops and numbers of farms likely to be involved. The IHG worked throughout the winter and spring getting the application prepared for ISDA to submit to EPA. In the end an emergency use permit was given for the use of Dimilin on alfalfa that was good until EPA rules on a Section 18 exemption (a Section 18 exemption allows the use of registered products on crops not covered in the original label if conditions of safety, effectiveness and residue are acceptable). In the case of wheat and barley, the Idaho Grain Producers

submitted a request for an emergency use when they learned that the state of Washington had given a Section 18 permit. Within four days they had put together enough information to make the request to the state of Idaho, which issued the permit for a two-week application window. This occurred less than 24 hours before treatment was scheduled. This was extremely tight timing, but demonstrates what can be done when all agencies and organization response to peoples needs with a program that has a great chance of being successful.

During the legislative session, UI extension was asked to provide some information to lawmakers to support funding of a state program for cost sharing for grasshopper control. Legislative leaders responded by continuing the program on what was expected to be a major problem in some areas. Based on past experience and research in Wyoming, they made a sound decision to keep funding in a very tight budget year.

One of the major goals was to convince producers that the programs outlined in the Wyoming control work were effective. In these programs only one-half the land area is treated (stripping) and uses lower doses of chemical. Landowners agreed to this concept, but informing them that the chemical would take 7 to 10 days to work was a harder sell. However based on the research in Wyoming and projects in Idaho and Utah, convinced nearly everyone that it was worth a try, especially with the low per acre cost associated with the technique. The Wyoming technique call RAAT's for Reduced Area, Application Technique has proven successful. The chemical application rate chosen in Idaho was one ounce of Dimilin, with seven ounces of crop oil and thirteen ounces of water per acre. Chemical and application cost ranged from \$3.46 to \$6.00 per treated acre. Since only one-half the area is treated the weighted cost per protected acre was \$2.09. With the state paying one half the cost both the state and landowner were getting a very economical control program. As a comparison the cost of bait which, for the product alone, is over \$5.00 per acre.

One huge change from previous grasshopper control programs was the support of beekeepers. They to-

tally support the use of this chemical because it has no affect on bees. Registration research had conducted trials using Dimilin at 48 times the rate we used with no affect on honeybees.

Program Outcomes

This is one of those programs you hope you never have to do, but historically it happens somewhere in Idaho every 7 to 12 years. Extension involvement was to organize nine committees to collect funds and organize complete blocks of land to control grasshopper. These committees contracted with aerial applicators to do the spraying, pay the bills and handle any problems that arose.

County	Number of Landowners	Acres Protected Using "Dimilin" for Grasshoppers
Butte	48	26,348
Cassia	26	8,676
Lincoln	437	50,862
Oneida	76	19,845
Oneida (Mormon Crickets)	44	1,100
Total	631	106,831

The savings in crop loss exceeded \$9 million. What it saves in the coming years is speculative. These types of programs have always been an extension effort because of our unique role in communities and the number of people we typically work with.

For More Information

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