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## AGRICULTURAL BIRD PROBLEMS IN THE WEST

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## AGRICULTURAL BIRD PROBLEMS IN THE WEST

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First, I'd like to qualify geographically, the area where most of our work is done and problems occur. It is primarily in the Rocky Mountain states and the west coast. While the area of the Denver Wildlife Research Center's responsibility covers the states west of the Mississippi River; the only area on the plains where our personnel have conducted intensive studies outside of Colorado is in South Dakota. The major bird problems in grain crops in the west are primarily caused by blackbirds excepting, of course, waterfowl depredations.

It's difficult to rank the principal crops according to seriousness of losses. I would say however that three stand out, these are milo, corn, and rice. One of the toughest problems is in rice. Blackbirds have a natural affinity for marsh areas and rice. Colusa County in the central valley of California is one of the largest rice producing counties in the country and offered choice sites which were selected for research studies.

Milo, a small cereal grain is commonly grown in Colorado, Arizona, and Southern California where long-standing problems occur in the Imperial Valley.

And then of course is the problem you people here in Ohio are familiar with--corn, and in the west there are problems in both field corn and sweet corn. Our major field corn problem area is in South Dakota associated with some of the large marshes that the blackbirds stop in on migration and the corn damage is heaviest adjacent to these marshes.

We've had very few problems called to our attention in barley, one or two examples in Oregon, and so forth. In wheat, we have heard of very few complaints, one or two have been reported from North Dakota. This doesn't mean that additional crops are not involved or there are not other damage areas in the west but as I've indicated the bulk of the losses appear to be in milo, rice, and corn in the specific area mentioned.

Regarding what is being done, I might mention that it is only in

the last five years that any considerable resources have been available for research work on agricultural bird damage control. Prior to 1961 only one or two men worked on bird damage problems in the west and while a lot of valuable biological information was collected it was difficult to concentrate efforts on any specific problem. Now, however, the Denver Center has a well organized research team with biologists, chemists, physiological and electronic specialists to focus on the major problems.

At present on grain damage problems we are working in three areas, corn damage at Sand Lake, South Dakota; rice in Colusa Co., California; and milo in the Imperial Valley in California.

Now, in starting out to do research on any damage problem, one of the first things we have to do is assess the damage. We have to learn what the damage is so we don't develop a control method that costs more to apply than the losses that are occurring. Another important need for damage assessment is to be able to evaluate control results accurately. One can't always rely on counting birds to determine effect of control. There are cases when application of a control method may be timed with a change of bird behavior due to weather or a shift in populations. It may look like control did a good job when actually the birds moved away. The problem isn't usually quite as "shifty" with animals [mammals] because animals aren't as mobile.

I'm pointing out some of these complications in bird damage control research to illustrate the point that research entails a great deal more than one-shot trials with a toxicant. We need to know a great deal more about the damage problems, how and why the damage occurs, bird behavior, movement, migration and activity, bird physiology and ecology, if we are to come up with sound, safe, selective means of control. And above all, in conducting scientific research we need proof of our results before we can draw conclusions. This is why research may seem long and complicated and slow to produce results that you can apply. I've digressed a bit, getting back to the blackbirds in grain, let's take a look at a specific problem in the Imperial Valley. When you first see the flocks of birds causing damage, it looks like baiting would be a possible solution, or perhaps frightening them out. But we're dealing with a problem of a migratory species spread over perhaps 100,000 acres of milo in a valley of an estimated 500,000 acres. Birds may shift at will and may pass through, with some possibly going into Mexico and being replaced by others from the north during the winter. The damage season is very long because milo is being harvested over a long period, with some fields being planted when the first are harvested. Most of the blackbirds are breeding in sugar beets early in the season and milo later on. Predicting where and when to bait is almost impossible with the information now at hand. One must follow the movements of the birds continuously, and simultaneously watching the development of crops to find a proper time and place to apply control. The

joker in the deck is we've used an assumption: once we find the right opportunity, baiting will work. Well, it didn't take long to find out that the banquet spread of milo fields in the milk or dough stage, and insects flushed out in irrigating alfalfa fields offers overwhelming competition to baiting attempts. Birds will scarcely touch bait on baiting platforms or field borders. Our people have tried every idea they could, gathered from every source. And it isn't as if no one has worked on the problem before. Treated grain has been used in the area for over 30 years through the county agricultural commissioners agents, and the problem is still there. We are not pessimistic, a solution can be found; I merely used this example of blackbirds in milo in the Imperial Valley to illustrate that existing knowledge and control methods are not adequate and hence, research is needed. This is one problem where we have only started and progress is slow. Later on you'll see a film made by our bird project of their work where more progress is being made. So, with that, I'll pass it on to one of the other panel members to describe their grain damage problems.

[Discussion on page 101.]