October 1981

PANEL DISCUSSION: INTEGRATED PEST MANAGEMENT—A VIABLE APPROACH TO WILDLIFE DAMAGE CONTROL?

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DISCUSSION

Mr. Gold: Are there any questions for the panelists?

Question: I'm very interested in the disease situation with commensal rodents. In Canada, as in the United States, trichinosis is always a problem in the hog industry. Have you identified trichinosis as a major problem down here?

Mr. Timm: No, we have not. Bill Ahlschwede of our Department of Animal Science in the back can speak to that. I don't believe trichinosis is a major problem in Nebraska and has not been for some years. Is that correct Bill?

Mr. Ahlschwede: Yes.

Mr. Timm: We have some salmonella problems, bacteria salmonella, and perhaps a couple other diseases like swine dysentary that we don't know the level at which they are transmitted. As far as trichinosis, it's no major problem in Nebraska at this time.

Question: It seems like, at least in the predator control line, we've been doing what you advocate for a long time. What do we gain by calling it Integrated Pest Management?

Mr. Gold: Funding. In some seriousness, there are dollars allocated to each of the states at the present time, and by requirement there is a competition. For example, this year in Nebraska we are holding a competition for those Integrated Pest Management monies, and Bob Timm is involved in those competitions to fund his program. When you say that you have been involved in Integrated Pest Management for a number of years I would have to ask, are you really involved in the interdisciplinary side of things—are you involved in the modeling, do you really have good handles on the economic thresholds? I have to agree with Rex that it's more difficult to implement IPM with certain of the pests and we have a long ways to go.

Mr. Marsh: In the same regard, I think Nebraska University is not unusual as far as financial support is concerned. I'm of the opinion that you can call it anything you wish as long as research funds become available.

Question: I know in California the connotation IPM to a lot of people means no pesticides and that's one of the reasons we've had some real research support, at least from our state, to give us money because they think it's going to reduce the amount of pesticides. Is that something you are seeing here in the Midwest?

Mr. Timm: In the case of rodent problems, I'm not sure it would lead to that necessarily, though it might. For instance, if producers were aware of the potential damage in some situations and would do control very early, they would have to use less rodenticide than would be the case if they waited until they had huge numbers of rodents present. In the case of many pork production operations,
they're not doing anything right now, and for them to correct the problems that now exist would require the use of more pesticide materials than they are now using. So, it's a variable situation. I think for different species it would be a different situation as well. We really need to take a better look at thresholds. Are the thresholds very low? Are they at different levels? Are seasonal changes of great importance for particular species? I think there is not an easy answer to this. We, in Nebraska, recognize, as Roger mentioned, that chemical control is an integral part of IPM. It's not something that we can do without. We have to use chemical control in many situations where it's the best or most appropriate control, but we have to use it in a way that is safe and effective.

Mr. Gold: Rex, do you have a comment?

Mr. Marsh: I think chemical control often may be environmentally and economically the safest way to go. I've seen some habitat manipulation in vertebrate pest control which was environmentally far less sound than the judicious use of chemical control. I think one thing we often forget, at least in talking to the entomologists at our university, is that we often control the individual animal. We control, for example, a single ground squirrel, or a few pocket gophers. The chemical used is directed at that specific animal. It's not like treating an entire alfalfa field with an insecticide at a given pounds per acre. Whether there's a small population of aphid or a large population of aphid, the amount of chemical is constant. In our case the amount of chemical is not constant. It's, in some cases, directly related to the population of animals, and therefore often we would be better off controlling an infestation of a single animal per acre. Economically and environmentally this might be the best way to go.

Mr. Gold: Let me add a comment, as I attempted to cover in the overview of IPM; initially the non-use of chemicals was not part of the definition of IPM. It's really been as some of the environmentalists have become involved that this has been included in the definition. That's the reason I actually quoted from the latest U.S.D.A. definition and the Work Plan saying that it was the intent of Congress that we reduce the amount of pesticide. I would have to say that even the entomologists, of which I am one, who work with real problems recognize the importance of having pesticides available which can be used effectively and efficiently. I hope that it doesn't ever come to that point that we lose pesticides. I think that is a major point of misunderstanding with the definition of Integrated Pest Management. One of the things we also run into is that we do all of our monitoring, and then we go in and use a pesticide anyway. Some of the people that we deal with as cooperators say, well why didn't you do that first? We have to be in the position of being able to justify what we are doing. We're trying to learn more about those economic levels and pest levels and so forth. That's the concept that we have to begin to talk to people about.

Question: Can someone there comment on their view of integrated vertebrate pest management for birds, where you have sometimes large flocks,
Mr. Marsh: There are definitely differences. With certain bird problems your control options are much more limited and so your strategy is also more limited--that, coupled with the laws and regulations which often are involved with bird problems. So, yes, the problems are totally different and that's why in vertebrate pest control it's often misleading to generalize. In my presentation this morning I did generalize to make my point. To generalize frequently is unreal, because we deal more with the exceptions to the rule rather than the rule on some of these vertebrate pest problems. Some of these bird problems are difficult to resolve and how we would approach them, on an IPM level, as defined by Roger this morning, needs further development.

Question: It seems to me that there is kind of a general feeling that commensal rodents kind of go with farms. I'm curious how well your control recommendations have been received by the swine producers?

Mr. Timm: For some individual producers I think we are making a significant difference. For many others rodent control is not the highest priority in the things they have to do. It's also a problem of the amount of time they have available and what they perceive to be the most pressing need. Maybe feeding the hogs or breeding the sows is more important than trapping mice or poisoning rats at that particular time. In many cases I think they have very good intentions. Producers who have received our newsletter over a period of 12 months have responded to how it has helped them; many of them have said, "Yes, that was really good information, I wish I had time to use it". I think we are at least raising their awareness. It's their decision how they want to take it from there. We can't tell them what to do in their operation, but they need to know the facts as far as the damage and the control that's available.

Mr. Gold: Let me comment just a little bit further on that. I have worked fairly closely with Bob with some of his work, particularly with one producer who has a fairly new confinement area, his name is Jim Clark. Jim just made the comment in passing one day as we were doing an evaluation with him of Bob's work. He said, "I had no idea that we could be free of commensal rodents". It has really opened his eyes up to what Bob's work was able to accomplish.

Mr. George Laidlaw (Canada): One of the problems that we are interested in is the cost/benefit aspects. You can't show the farmer or the rancher or whoever you are dealing with that if you've got commensal rodents or you've got coyotes, or whatever, this is what it costs you over time. When, say, in an orchard situation you can prove to them that by losing a tree it's going to cost them $10,000 to replace that tree due to lost production, that's what's going to hit home. Instead of the attitude that the information is very interesting but we're more interested in the number of sows, or
whatever—it's going to make them realize that they lose so much production in food, so much production due to disease, etc. That's when they're going to start going back and do the control, not wait until they have other priorities.

Mr. Timm: I think that's absolutely right, particularly in the case of commensal rodents. Ron Case's work here in Nebraska gives a very good indication of yield loss from pocket gophers. We can tell farmers how much yield they are going to lose if they have a certain number of acres infested with pocket gophers, within a fairly accurate range. For commensal rodents, we have many variables we can't identify. What we are going to try to do is to pin down just a few of those. We intend to quantify perhaps just food consumption and structural damage; these together can be compared to the cost of doing control. In many cases where I've worked on farms with rodent problems just the structural damage alone was ten, twenty or more times the cost of doing the control work. I think if we identify just a few of the factors, perhaps just the ones that are easiest to get a handle on, we can provide that information to the producers. We are still in the process of trying to obtain data, and we've had a hard time getting this information from farmers. Many of them don't know what they've lost in terms of dollars and cents because they haven't remodeled the building and haven't paid the bill for mouse or rat damage. But a few that have done so have provided some good information to us.

Mr. James Miller (Washington, D.C.): Just a comment to add to something Rex said. I go back to working in rice in the Grand Prairie of Arkansas and we used chemical control as well as mechanical control and other control. We had an option of habitat elimination on that Grand Prairie. About the only habitat we could eliminate to eliminate muskrats would also eliminate habitat for Bobwhite quail and dozens of other things. I think we run into these kinds of situations quite often.

Mr. Terry Salmon (California): I would like to make a comment on the interdisciplinary approach. We have observed in California where the entomologists, in this case, had determined that by leaving certain weed species either within the crop in cases of a vineyard or adjacent to the crop in the case of alfalfa, they could harbor predatory insects that would prey on certain pest populations. They were actually proposing that, or proposing cover crops as a solution to their insect problems. We know as vertebrate ecologists that what they have done is potentially created a vertebrate problem. That's where I think we really need to work together to keep those things from happening. They had no idea of the potential problem that they were creating with the vertebrates.

Mr. Gold: That's just an excellent point and it's one that can't be made too often. In Bob's work, as he indicated, he's working with some ag engineers and economists, with the livestock people and so forth, and that's just really imperative that you don't leave out some very important facet or dimension of your overall program. So we're strong advocates of that even as entomologists.
Question: Rex, you mentioned just lightly about introduced disease as a control method. With the cycling of the jackrabbit population in the West we get questions along this line. Has there been much done with this, enough to get any idea of the success and failure record?

Mr. Marsh: Are you referring to myxomatosis? Myxomatosis exists naturally in the United States. Apparently, it has little effect on the jackrabbits. It exists primarily in our cottontail population in the West. We do not see large die-offs, so apparently they're reasonably resistant to it. We have great fears though since myxomatosis has been suggested for getting rid of the European rabbit on Santa Barbara Island, off the coast of California. It's not very far to the mainland. The introduction of myxomatosis could wipe out the domestic rabbit industry on the mainland almost overnight. So there are some problems with the disease. I don't see myxomatosis as useful to us in the United States for controlling native species because it occurs naturally. There are other problems, too. In England for example, they've outlawed the use of myxomatosis from the standpoint of humaneness. This may be difficult to understand until you've seen how a rabbit looks before it dies of myxomatosis. So there are some problems with biological control of vertebrates. We are often asked why don't we use more biological control. The reason is that potential hazards may overshadow its value. Salmonellosis, for example, was used in the United States years ago for rat control until human deaths occurred, and then a law was passed to prohibit its use. It's still used in some Eastern European countries, however,

Mr. Gold: In the interest of time, we must bring this discussion to a close. Thank you for your attention and questions.