Lethal Roost Toxicants for Control of Starlings and Blackbirds

by David L. Otis[1/]

Roosting congregations of starlings (Sturnus vulgaris) and several blackbird species (Icteridae) cause several millions of dollars in losses to agricultural crops throughout the United States. In addition, they are responsible for a variety of nuisance problems, human and livestock diseases, and human safety hazards. Dozens of tools have been developed for alleviating these problems, some of which are nonlethal techniques aimed at either roost dispersal or site specific protection of the problem site. Lethal baiting techniques for use at staging areas or at the problem site have also been developed. However, the most controversial solution involves the use of lethal techniques for killing the birds at the roost site. The seriousness of the controversy is fueled by several factors that are unique within the set of problems associated with wildlife damage management. First, there is the public's familiarity and appreciation of birds in general. They are ubiquitous and more often associated with urban environments than, say coyotes or field rodents. In addition, pest birds are not usually secretive or nocturnal like many other vertebrate pest species and therefore maintain a high profile in the public's mind. Moreover, when roost control is conducted, individuals killed within a short one or two day period can number in the hundreds of thousands, which is many times greater than numbers associated with lethal control of problem species of mammals.

Research into lethal roost toxicants has been conducted for decades. In 1961, the Denver Wildlife Research Laboratory of the USFWS conducted laboratory tests with Fenthion. This work was followed by small scale field tests the next year in Idaho, South Dakota, and Oregon. An additional field test was conducted in Oregon in 1964, but work with Fenthion was then basically discontinued. In 1970 and 1971, Denver investigated the efficacy of DRC-1347, also known as CPT, by aerially treating bird roosts in Texas sugarcane habitat. Several years later, additional laboratory work was conducted with CPT and DRC-2698, a related compound known as CAT. Arkansas bird roosts were treated with CAT in field tests conducted in 1979 and 1980. None of these efforts led to establishment of a program objective to develop a roost toxicant for registration, and in 1983, a USFWS position document established a policy of halting any further work.

Concurrent with the work in Denver was the development of the surfactant PA-14 by the Patuxent Wildlife Research Center of the USFWS. Research began in the early 1960's and culminated in a Federal registration in 1974. In 1975-76, controversy developed over proposed use of PA-14 in Kentucky and Tennessee, and both the U.S. Army and the USFWS developed Environmental Impact Statements that addressed the use of PA-14.

Comments by various interest groups on the draft EIS for PA-14 illustrate the wide variety of reaction to such a wildlife management tool. Below are several examples:

- EPA: '...most problems associated with blackbirds can be resolved more permanently by alteration of habitat or other less destructive measures.'
- Florida Game and Fish Commission: 'concerned with humaneness'
- Kentucky: limitation of 50M birds killed 'will not provide for any significant relief to Kentuckians

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suffering the economic and health problems associated with wintering pest birds.'

- Audubon: '...the Control program [associated with PA-14] proposed by the Service is wrong, is unlikely to solve the long-run problem, and is far too costly in ecological damages and resource destruction.'
- Society for Animal Rights: '...does not assess the ability of Tergitol to alleviate the alleged problem caused by blackbird and starling roosts in the long or short term... proposed action - killing millions of birds - is an inhumane and simplistic response to a situation that requires extensive research to define the problem before any solution can be proposed.'
- Fund for Animals: '...if the true dangers of PA-14 were made known to the public, the outcry would crush any efforts to use the agent.'
- Gordon Orians, University of Wisconsin: '...generally scholarly and serious attempt to address the problem.'

Thus, many interest groups will be opposed to such a concept based on animal rights and environmental concerns. The impacted public, i.e., those directly experiencing problems caused by bird roosts, is less likely to be concerned with the cost of developing a toxicant or with a modest amount of environmental hazard. Probably the vast majority of the public is ambivalent - concerned as taxpayers about the cost of such a program and the integrity of the environment, but also appreciative of the need for effective wildlife damage management. The Kellert study (1979) on public attitudes toward various wildlife issues reported that the majority of the general public believed some type of action toward resolving wildlife damage problems was warranted, although only about one-half of these people were in favor of lethal methods.

Development of a lethal roost toxicant is currently a very high priority objective in the Federal ADC Program. What kind of strategy should be employed by this or any such research program for steering a logical course through the social, political and biological environments involved? Considerable effort may be devoted to discussion and analysis of the concerns and values of interested groups. However, the basic function of research is to provide relevant, scientifically valid information. In this instance, necessary information falls into two broad categories. First, of course, is the need to generate data to satisfy EPA registration requirements. To this end, the ADC Program will apply for a Federal EUP to test the potential avicide CPT in a few sites in the Southeast during the winter and in the sunflower region of the Dakotas in the fall. A major objective of this effort is to develop methodology that can be used to accurately estimate parameters of interest in field studies involving slow acting toxicants, i.e., efficacy, residue, and non-target hazard.

The second category of information is necessary due to anticipated requirements of National Environmental Policy Act and related authorities. Questions will arise regarding the potential impact that the use of such a tool will have on regional or even continental populations of target and non-target species. We need to place ourselves in a position to answer with scientifically valid arguments.

Similarly, we need to be prepared to present analyses of the cost/benefit of such a technique, i.e., whether the cost of developing, using, and maintaining a toxicant will exceed the anticipated reductions in agricultural losses and reductions of human health and safety problems.

There is no doubt that development of a lethal roost toxicant is a controversial issue, and that the debate over this issue will involve political and social arguments as well as scientific ones. However, professional managers and scientists need to fight the battle equipped with relevant and defendable data. If we default, and the debate is conducted in other arenas, we and the public will not be adequately served.