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ORCHARD BIRD CONTROL

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Seven primary factors. The difficulties associated with the control of birds in an orchard are usually related or confounded by four primary, unknown factors and three which are usually quite well known.

The four unknowns are:

1. The species causing the damage.
2. The total bird population in the area.
3. The alternate food sources available for the birds.
4. The relative economic importance of the crop to the community in which it is produced.

The three known factors which are usually evident:

1. The crop being damaged.
2. The economic importance of the crop to the grower.
3. The prevailing attitudes of the agricultural and non-agricultural resi dents of the community.

These are like the primary flight feathers of a bird—the number of these primaries may vary, not necessarily with species, season, sex or age-but rather basically, with geographic distribution. They are, in any given geographic locality, the Seven Horns of a Dilemma, which confront the fruit grower with a bird problem.

The seven divided. Perhaps the term "multiplied" would be more appropriate, but it does not serve to make poignant the fractures which may occur in each factor to confound a practical solution to the problem of orchard bird control. The development of a practical control is dependent upon the proper evaluation of all factors. A failure in the proper functioning of the primary feathers may be disastrous to the bird; and failure to properly evaluate the factors associated with bird control might well result in disastrous consequences for the grower, the community at large, and an endangered species. However, as we recognize that man may cause an evolutionary development to the detriment of a species, let *us not forget that he is an integral part of that change* and that he can and probably does cause the development of an *endangering species.*

A hypothetical manifestation of species importance. The bird species causing the damage is important. All too frequently it is ignored, discounted, unknown, or excused. An examination and example of the latter instance will

be used in the hypothetical discussion. In many instances when the species is known, the investigator (who may be a grower, an ornithologist, an ecologist, a horticulturist, or some other "ists", as well as just an interested individual) discounts the observation. Yet, it may be a significant evolutionary development being witnessed.

An example, strictly and extremely hypothetical, will serve to demonstrate the complication of what seems to be, on the surface at least, such a simple factor as species identification. Suppose a grower, having difficulty with bird damage in his orchard, observed a bank swallow to feed on an apple-but he discounted it as a damaging species because the bird he had most frequently observed in the orchard was the starling, a species he knew was a culprit and should be "eliminated." No mention was even made that the bank swallow fed on the fruit, because on the "back 40" he had watched seven or eight of them excavate a nest in the banks of his gravel pit, and he was pleased with the novelty of what he saw. Moreover, the bank swallow is an endangered species, and who would want to eliminate it? The reverse to the same hypothetical situation can be continued in the following way. The same grower, while relaxed on his back porch that evening, observed a small flock of starlings alight on his back lawn and start feeding. His immediate reaction was to use the shotgun to disperse them—since they were feeding on the grass seed he had just finished sowing for the fifth time. One of the starlings had found a particularly succulent grub and was not too concerned about the presence of the human with the gun—it had found food to its liking; but the difficulty was, it didn't get to enjoy its last potential meal.

This extremely hypothetical example is not so "out of order" as we might like to believe, since "real situations," almost as extreme, could have been cited. As research investigators it would be hoped that our personal feelings should not taint our recognition of the potential danger inherent in the hypothetical instance just used, as related to the grower. However, regrettably and too often as research investigators, we also discount, ignore, or excuse such events or phenomena.

The other six horns. Suffice it to convey, that the other six horns are complicated by the same perplexing element that the first is, and much in the same way, which would indicate that a conclusion should be shortly forthcoming; it is. Since it may appear that this is more or less a philosophical dissertation, permit the added remark that this is the crux to the whole problem.

We can move a bird out by many devices—including chemicals—and chase it across the road to the neighbors. But, if he doesn't have food for it, it will be back. Under such circumstances that bird should be labeled an "endangering species," and removed from any protective status it enjoys.

The problem is so permeated with various and sundry philosophies that the grower who is having serious trouble is in state of siege. He awaits the crisis. Then his farm can be abandoned—or if he is lucky, he may sell to an urban developer. Currently we have hundreds of excellent fruit producing acreages in Connecticut. It cannot and will not be planted, primarily because of the protected "endangering species."

I'd like to write on the blackboard what I consider the best repellent - WIRE. In this day and age of signs, symbols, and abbreviations WIRE really means "with interest, repellency expedited." The interest that we're interested in here is not necessarily philosophical, but rather monetary. This has been one of the big problems as far as the bird problem in orchards is concerned.

REVIEW: Bird Damage on Blueberries [Super 8 film]

The film demonstrates that the blueberry is "God's gift to man"—i.e., it is a fruit which lends itself to various methods of mechanical harvesting. To be truly "ripe" the fruit should remain on the bush for seven to ten days after it turns blue. Then, the fruit can be shaken from the bush, collected in a catch frame and taken to the packaging shed for processing. Contrary to popular belief, there are fewer red and green berries and less damage occurs to the ripe fruit than with hand picking or harvesting; mechanical harvesting is about five times faster.

The physiological factors associated with the growth, development, and ripening of the blueberry are those which contribute to and complicate our attempts to assess bird damage. How do you evaluate drop damage? As shown in the film, birds quite frequently jar the bush much more severely than the mechanical harvester. Add to that the complications associated with the direct damage which occurs on the fruit, and we have an extremely difficult problem, to say the least. For example, how do you evaluate the exasperation of the hand sorters on the endless belt in the packaging shed when they find it necessary to sort out fruit which is soft, squashed and "leaking its contents" onto adjacent sound berries? How do you evaluate the reduced shelf or market life of those sound berries as a result of micro-organism development on them, due to the "seeping" mess just referred to. *These are real problems* and must be considered as part and parcel of the overall bird damage problem.

The majority of the birds shown and studied as a result of this project were indicated to be fledglings of protected species. The three primary culprits were the Baltimore Oriole and Robin (Federal Migratory Statutes) and the Bluejay (State Statutes). The Starling, another culprit, is not protected. Usually the Orioles and Robins appeared to work the patch shortly after dawn, then intermittently throughout the day. The Bluejay also worked the patch early but somewhat later than the other two, and then by 7:30 or 8:15 a.m. Starlings (in flocks usually) appeared. There was overlap of those species, and others as well, but this adequately describes the sequence of the bird species arrangement in the film also. The influence of Hector the Hawk, the carbide cannon and netting are shown. Under the conditions confronted with in' this situation, none of the three "repellents" were commercially acceptable. Contact Dr. Lloyd Mitterling for loan arrangement.