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Repellent Seed Treatments for Blackbird Management in Rice

Michael L. Avery[1], David G. Decker[1], John S. Humphrey[1], and M. O. Way[2]
[1]USDA/APHIS Animal Damage Control
[2]Texas Agricultural Experiment Station
Gainesville, Florida[1] and Beaumont, Texas[2]

Blackbird damage to newly seeded rice costs growers millions of dollars annually. Recently, we tested two new compounds that show promise as eventual bird repellent seed treatments. Imidacloprid is a systemic insecticide developed by Miles Inc. for a variety of uses including seed treatment for rice. We tested imidacloprid-treated rice seed against red-winged blackbirds (*Agelaius phoeniceus*) in a series of cage trials. Imidacloprid, applied at the projected rate for insecticidal use, reduced blackbird consumption of treated seed by 78-84%. Birds that ate treated seed were not deterred by taste, but learned to avoid it after experiencing temporary postingestional distress. Methyl anthranilate (MA) is used as an additive in many human foods and cosmetics, yet its taste is very irritating to birds. In caged feeding trials with red-winged blackbirds, we found that MA applications of 1.0% and 2.5% (by weight) reduced treated rice consumption by 48% and 66%, respectively, relative to controls. In a limited, 12-day small-plot field evaluation, blackbird consumption of untreated rice averaged 73% compared with 34% for MA-treated rice. Both imidacloprid and methyl anthranilate appear to have potential value in blackbird damage management programs, but additional development and testing are needed.