



Texas Imported Fire Ant Research and Management Project

Final Progress Report - October 2001

Protection of Quail Nests From Mammals to Increase Chick Recruitment in Habitat Occupied by the Red Imported Fire Ant

Principal investigator(s):

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Funding amount/2 Years: \$80,000

Major accomplishments to date (Sept. 1, 1999 through August 31, 2001)

- Devised and successfully used an exclosure technique to protect quail nests
- Evaluated effectiveness of Amdro and Extinguish in quail habitat

Goals achieved:

- Demonstrated that nest exclosure effectively protects nests against vertebrate predation
- Five manuscripts published or in press
- Graduate and undergraduate students trained

Relevance to the Texas Imported Fire Ant Research and Management Project:

A major goal of the Texas Imported Fire Ant Research and Management Plan is to develop methods to reduce RIFA impact on wildlife. Current methods available to reduce RIFA density in wildlife habitat, such as insecticide treatments, are not economically or environmentally desirable for most landowners. In some instances landowners may be able to mitigate the impacts of RIFA on wildlife populations by altering ecological processes rather than removing ants. For instance, landowners may be able to increase northern bobwhite populations subjected to RIFA predation by decreasing loss of nests to mammalian predators. An increase in nest success should mitigate predation by RIFA and increase chick recruitment into the population. Predator exclusion or removal may provide managers an economically feasible alternative to the \$20/ha broadcast insecticide application for red imported fire ant control.

Publication submitted/published; presentations/posters presented at national technical meetings/conferences:

Publications:

- Dabbert, C. B. and J. M. Mueller. 1999. Northern bobwhite and red imported fire ants: What evidence do we have? *Preserving Texas' Quail Heritage into the 21st Century*, p. 117-123.
- Forbes, A. R., J. M. Mueller, R. B. Mitchell, C. B. Dabbert, and D. B. Wester. 2000. Accuracy of red imported fire ant mound density estimates. *Southwestern Entomologist* 25:109-112.
- Mueller, J. M., C. B. Dabbert, and A. R. Forbes. 2001. Negative effects of imported fire ants on deer: the "increased movement" hypothesis. *Texas Journal of Science* 52:1-3.
- Forbes, A. R., C. B. Dabbert, R. B. Mitchell, and J. M. Mueller. 2001. Red imported fire ant *Solenopsis invicta* (Hymenoptera: Formicidae) response to prescribed burning and disking. *Quail V National Symposium* (in press)
- Dabbert, C. B., R. B. Mitchell, J. M. Mueller, A. R. Forbes, and J. H. Treadway. 2001. Northern bobwhite and red imported fire ant interactions in the Texas Coastal Plains. *Southwestern Entomologist* (in press)

Presentations:

- Treadway, J. H., C. B. Dabbert, and R. B. Mitchell. Nest Exclosures: A technique to protect northern bobwhite nests from predators during experimentation. Texas Chapter of The Wildlife Society, College Station, Texas, 2001.
- Dabbert, C. B., and R. B. Mitchell. The Impact of imported fire ants, other predators and fire ant controls on Texas quail populations. Annual Imported Fire Ant Research Conference, The Gunter Hotel, San Antonio, Texas, February 28, 2001.
- Dabbert, C. B. Northern bobwhite population ecology: Fire ants. Quail Unlimited National Convention and Wildlife Expo, The Hyatt Regency, Dallas, Texas, 2001.
- Treadway, J. H., C. B. Dabbert, and R. B. Mitchell. Can exclusion of vertebrate predators increase northern bobwhite chick recruitment in habitat occupied by the red imported fire ant? 8th Annual Conference of The Wildlife Society, Reno, Nevada, 2001.