

IMPORTED ANTS IN THE SOUTHEAST

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ABSTRACT. Two species of imported fire ants were introduced into the U.S. at Mobile, Alabama. The black imported fire ant, *Solenopsis richteri* Forel, was introduced around the early 1900's while the red imported fire ant, *Solenopsis invicta* Buren entered in the late 1930' or early 1940's. The red imported fire ant is the most widespread of the two and presents the greatest problem. From Mobile, these fire ants have spread naturally by such means as mating flights, and floating of colonies on rivers and streams after floods. Most importantly, the ant has spread artificially by the aid of man during shipments of nursery stock containing queens and small colonies. Currently, it infests more than 275 million acres (111 million hectares) in 11 southern states and Puerto Rico.

This ant has had a substantial impact in the U.S. on humans, agriculture, wildlife and other organisms in the environment. The most serious problem caused by this ant is its stinging of humans which in some cases, has caused serious injuries and even death of hypersensitive individuals. They continue to spread and the increasing incidence of the polygyne (multiple queen) form poses additional problems not only to humans and agricultural crops, but also to wildlife, and the biodiversity of habitats.

Chemicals are the most widely used and, for the present time, most effective control method available against fire ants. They can be applied in several ways but generally 2 approaches are used: (1) contact insecticide treatments with drenches, sprays, dusts, granules, aerosols, and fumigants, and (2) toxic baits. Both contact insecticide treatments and baits have advantages and disadvantages with the specific situation determining which to use. Contact insecticide treatments are advantageous in that they act quickly (a few hours or days), the chemical is applied directly on the mound, and they only affect the fire ant. The disadvantages are that the queens often escape treatment so complete elimination of the colony does not occur and they are more labor intensive. The advantages of broadcast bait treatments are that they are more economical because they are less labor intensive, larger areas can be treated quickly, and small unseen colonies are also eliminated. The disadvantages are that the baits are relatively slow-acting (requiring several weeks), treatments can be greatly effected by weather conditions, and baits can harm nontarget ant species.

The development of newer, safer and more environmentally compatible methods of control, such as biological control, is a high priority in fire ant research. Research in basic biology, ecology, and population dynamics of this exotic pest is mandatory if we hope to be able to implement a holistic approach for control.