



Red Imported Fire Ant (*Solenopsis invicta*)

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The red imported fire ant (RIFA) is a serious pest of agricultural, urban, and native environments in areas that it has invaded. The ant is native to South America. This species is **not present in Hawaii** but is related to the fire ant, *Solenopsis geminata*, which is present in Hawaii. RIFA, however, is a much more aggressive species.

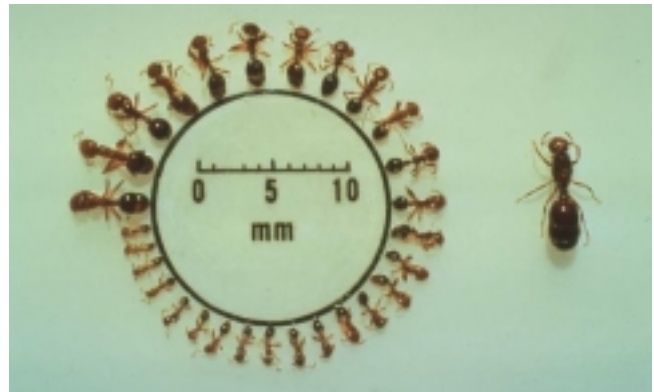


Distribution in the United States

RIFA was accidentally introduced into Alabama in the 1930s and has since spread throughout the southern USA. It now occurs in Alabama, Arkansas, California, Florida, Georgia, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Puerto Rico. There have been spot infestations in Arizona but these have been eradicated. RIFA will continue to spread on the Mainland. Its distribution appears to be limited by temperature and moisture: it does not tolerate freezing well, and it does poorly in areas that receive less than 10 inches of rain per year.

Hawaii Distribution

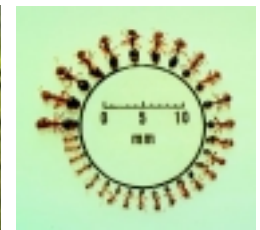
At present, RIFA is not found in Hawaii. However, conditions in Hawaii are definitely conducive to its survival. The State Department of Agriculture regards it as a high priority to prevent RIFA from establishing in Hawaii.



Workers and queen



RIFA mounds in pasture



Actual size

Life Cycle and Biology

The life cycle of RIFA is similar to many other pest ants. The colonies can contain 10 to 100 or more queens. Queens lay up to 800 eggs/day. The eggs hatch into larvae in about 7 to 10 days, which develop over a 6 to 10 day period before pupating. The adult emerges from the pupa in 9 to 15 days. Soil from the excavations of nests is mounded at the nest entrance. The ants will form mounds in any soil and habitat but prefer sunny, open areas such as pastures, fields, parks, and golf courses. Mound densities in pastureland average about 250 mounds or more per acre. Each mound (colony) will contain from 80,000 to 500,000 worker ants.

Human Health Risks

RIFA are very aggressive toward anything that disturbs

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their mound. They can sting repeatedly. Typically, the ant grasps the skin with its jaws and inserts its stinger into the flesh, injecting venom from the poison sac. Pivoting its head, it can inflict an average of seven to eight stings in a circular pattern. Symptoms of each sting are a burning and itching that lasts about one hour. A small



Typical sting symptoms.

blister will form in a few hours followed by a white pustule in a day or two. Scratching the stings can lead to infection and scarring. Reaction to the sting ranges from localized swelling with pustule formation to severe, life-threatening anaphylactic shock.

Individuals who have a severe reaction to the venom may suffer chest pains, nausea, swelling of the face and/or throat, sweating, loss of breath, or slurred speech. Diabetics and others with circulatory disorders, including varicose veins and phlebitis, are at risk for complications. In 1988, 32 human deaths were attributed to RIFA in the United States.

Agricultural Impacts

Domesticated animals attacked by RIFA are susceptible to anaphylactic shock, and their sensitivity can change with age and amount of exposure. Young animals, if they are unable to escape, may be blinded or killed.

Ants feed on germinating seeds and can destroy buds and developing fruit, thus causing serious damage to crops. They also cause extensive damage to seedlings and saplings by girdling stems and branches. Mounds

built in clay soils become hard as rock and damage farm machinery.

Urban and Recreational Environmental Impacts

RIFA is a serious problem in urban and recreational environments. The presence of fire ants will deter people from outdoor recreational activities. Playgrounds, athletic fields, parks, and golf courses are either heavily treated with pesticides to control fire ants, or they are not used.

RIFA often form nests near buildings and forage into the buildings for food and water. They will occasionally nest in electrical equipment such as air conditioners, traffic signal boxes, and other devices causing shorts.

Fire ants have a major impact on ground nesting species, such as birds, rodents, and insects. The decimation of insects will reduce the food supply of native wildlife and negatively impact the pollination of native plants.

What to Look for and Who to Contact

RIFA looks very similar to the fire ant already present in Hawaii. The two species can be accurately differentiated only by an expert but there are some characteristics which may help others.

<i>Solenopsis invicta</i>	<i>Solenopsis geminata</i>
builds mounds	never builds mounds but may form small dirt piles
very aggressive - can expect many stings	less aggressive - can expect a few stings
sting causes small blister followed by white pustule	sting causes small red swelling
found in any environment including dry coastal areas	generally restricted to dry coastal areas
no large headed workers	some workers with large, bilobed heads

If you suspect that you have seen a red imported fire ant, or if you wish to have more information, contact the Hawaii Department of Agriculture at 586-0844 or 973-9560 on Oahu.