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Red Imported Fire Ant Management Considerations for Beekeepers

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The red imported fire ant, *Solenopsis invicta* Buren (Hymenoptera: Formicidae), can menace bees and beekeepers (see *Honey bee diseases and pests: a practical guide*). Worker ants can invade bee hives and feed on pollen, bee pupae, and developing bee larvae (protein), occasionally destroying weakened hives. They also sting repeatedly and in high numbers when their colonies or food sources are disturbed or threatened, putting beekeepers at risk of attack while maintaining their hives.

Red imported fire ants infest the eastern two-thirds of Texas (see *Geographic Distribution of Fire Ants*). They can move to new, noninfested areas on such articles as nursery stock, sod, hay, and bee hives. Counties in infested areas are under quarantine by the United States Department of Agriculture (USDA) and moving imported fire ants out of these areas is prohibited. In Texas, the Texas Department of Agriculture (TDA) enforces quarantine regulations (see *Imported Fire Ant Quarantine Map* and *Information for Texas Residents*).

To prevent losses from red imported fire ants, beekeepers should

- Monitor areas where bee hives are to be located and also after they are on site (see *Survey-Based Management of Red Imported Fire Ants*).
- Correctly identify the ants at the hive location (see *Texas Pest Ant Identification: An Illustrated Key to Common Pest Ants and Fire Ant Species*).
- Avoid attracting foraging worker ants to hives by leaving dead brood and other material near bee hives (see *What do fire ants eat?*).
- Prevent the spread of imported fire ants by inspecting hives and eliminating fire ants *before* moving the bees to new locations.
- Be careful not to apply insecticides directly to bees if using insecticides near bee hives.

The United States Department of Agriculture Plant Protection and Quarantine (APHIS-PPQ) has guidelines for monitoring and treating honey bee equipment for compliance to Imported Fire Ant Quarantine regulations (see *Beekeepers 2006: Don't Transport Imported Fire Ants*).





Chemical Control Options

1. (Optional) Treat heavily infested areas around hives using the Two-Step Method (see *Fire Ant Control: The Two-Step Method and Other Approaches*). Use products registered for the site where bee hives are located. For Step 1, broadcast a conventional bait-formulated product such as those containing abamectin, hydramethylnon, fenoxycarb, metaflumazone, pyriproxifen, or s-methoprene once or twice a year over an area of about ½- to 1-acre around the hives (see *Broadcast Baits for Fire Ant Control*).

   Then, for Step 2, treat individual mounds to quickly eliminate only those nuisance ant mounds posing an immediate hazard. Take this step at any time, but usually beginning 2 to 7 days after broadcasting bait. Individual ant mound treatments are formulated as granules, liquids, dusts, fumigants, and bait (see *How to Select, Apply, and Develop Insecticides for Imported Fire Ant Control*).

2. (Optional). To treat the outer surface of the pallets or stand that elevates the hives, apply a nonvolatile, long-residual contact insecticide. Specialty paint-on or paint-additive formulations can produce a chemical barrier on treated surfaces. You can also apply a registered contact granular or liquid contact insecticide to the ground around the hives and beneath pallets or plastic ground covers. Preferably, treat before moving the bee hives to the location. To prevent bees from contacting treated surfaces, apply insecticides late in the evening or early in the morning when bees are not active. Read product labels and use insecticides and formulations least toxic to bees.

Citations

Weeks, Jr., R. D., J. G. Thomas, C. L. Barr, and B. M. Drees. 2001. "Evaluation of Potential Imported Fire Ant Quarantine Treatments for Commercial Honey Bee Operations" in *Red Imported Fire Ant Management Applied Research and Result Demonstration Reports 1997–2001.* Texas Agricultural Extension Service, College Station, TX. Pages 39–42. Posted at bug.tamu.edu/fireant/research/projects/pdf/1997-200resdemos.pdf.

Weeks, Jr., R. D., and B. M. Drees. 2002. "Barrier Treatments for Red Imported Fire Ants, *Solenopsis Invicta,"* in *Southwestern Entomologist* 27(1):111–113. Posted at sswe.tamu.edu/articles/PDF/SWE_V27_N2_P185-189.pdf.

Acknowledgments

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References

Honey bee diseases and pests: a practical guide
ftp://ftp.fao.org/docrep/fao/012/a0849e/a0849e00.pdf

Geographic Distribution of Fire Ants
www.extension.org/pages/9725/geographic-distribution-of-fire-ants

Imported Fire Ant Quarantine Map
www.extension.org/sites/default/files/w/e/e9/Tx_rifa_quarantine_2009.pdf

Information for Texas Residents
www.extension.org/pages/14901/information-for-texas-residents

Survey-Based Management of Red Imported Fire Ants
u.tamu.edu/ento-007

Texas Pest Ant Identification: An Illustrated Key to Common Pest Ants and Fire Ant Species
u.tamu.edu/ento-001

What do fire ants eat?
www.extension.org/pages/60922/what-do-fire-ants-eat

Beekeepers 2006: Don't Transport Imported Fire Ants
books.google.com/books/about/Don_t_Transport_Imported_Fire_Ants.html?id=MAQUAAAAYAAJ

Fire Ant Control: The Two-Step Method and Other Approaches
www.agrilifebookstore.org/product-p/ento-034.htm

Broadcast Baits for Fire Ant Control
www.agrilifebookstore.org/product-p/e-628.htm

How to Select, Apply, and Develop Insecticides for Imported Fire Ant Control
u.tamu.edu/ento-030

Managing Red Imported Fire Ants in Urban Areas
www.extension.org/pages/11004/managing-imported-fire-ants-in-urban-areas-printable-version

For more information regarding fire ant management, see Extension publications Managing Red Imported Fire Ants in Urban Areas, Broadcast Baits for Fire Ant Control, **or** Fire Ant Control: The Two-Step Method and Other Approaches **posted on http://AgriLifeBookstore.org.**

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