



United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Program Aid
No. 1670

Beekeepers: Don't Transport Imported Fire Ants



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This publication reports research involving pesticides. All uses of pesticides must be registered by appropriate State and/or Federal agencies before they can be recommended.

CAUTION: Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife—if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.

Issued October 1999

Illustration credits: Anne-Marie Callcott, of APHIS' Plant Protection and Quarantine laboratory in Gulfport, MS, prepared the fire ant distribution map. Homer Collins, also with the Gulfport lab, took the cover shot and the images in figures 4 and 5. Milton Henderson, of the Mississippi Department of Agriculture and Commerce, shot the photos used in figures 2 and 3. The image on page 8 is an APHIS file photo.

Content support: The Texas Imported Fire Ant Research and Management Plan and the California Department of Food and Agriculture provided information for this publication.

Imported fire ants (*Solenopsis invicta* Buren, *S. richteri* Forel, and their hybrid) have become established across the South and in parts of California and other Western States (fig. 1). These pests pose serious threats to people, small animals, crops, and agricultural equipment. In the State of Texas alone, it is estimated that imported fire ants cause about \$300 million worth of damage every year.

Imported fire ants can be moved to new, noninfested areas by hitchhiking on interstate commodities. For example, the current infestation in California's Central Valley was traced to shipments of beehives transported to almond groves.

To prevent such artificial movement, the U.S. Department of Agriculture (USDA) regulates the movement of articles that present a risk of spreading the imported fire ant to areas not currently infested. Regulated articles include soil, baled hay and baled straw stored in direct contact with the ground, plants and sod with roots and soil attached that are stored outdoors and are for sale, used soil-moving equipment, and any other article or means of conveyance determined to pose a risk. Beehives fall into the latter category.

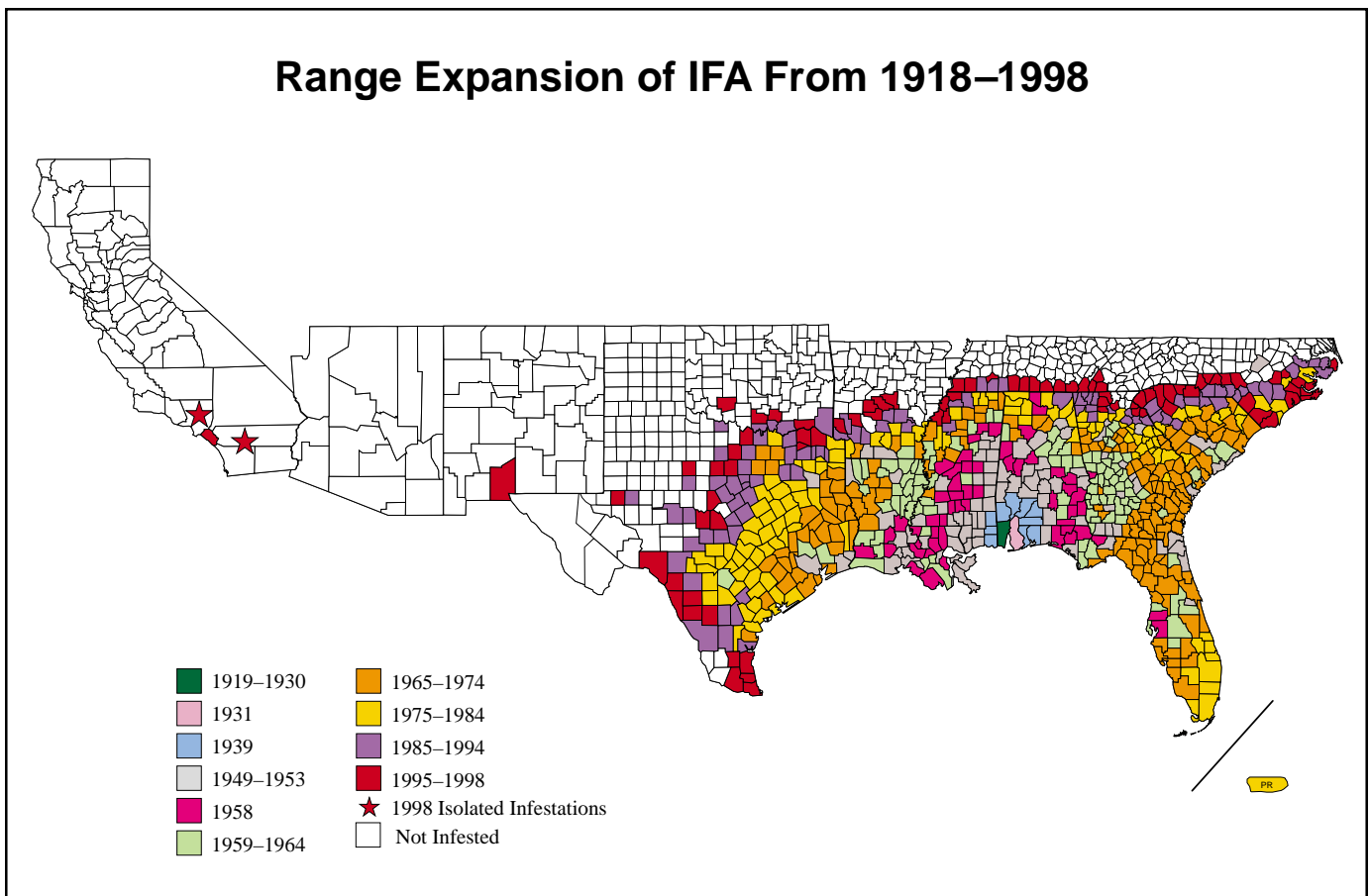


Figure 1—Range of expansion of imported fire ant from 1918 through 1998.

Worker ants from imported fire ant colonies can invade beehives and feed on developing bee larvae and pupae, occasionally destroying weakened colonies. Fire ants often nest adjacent to hives or in wooden pallets on which hives are stored (figs. 2 and 3). When their colonies or food sources are threatened, fire ants will also sting people and animals repeatedly. Beekeepers can be attacked during hive maintenance operations.



Figures 2 and 3—Fire ants frequently nest against hives or in wooden pallets on which hives are placed.



Avoid Transporting Ants

Keep your colonies healthy and vigorous, and avoid transporting imported fire ants by adopting the following techniques:

- Monitor areas where beehives are to be located and continue monitoring throughout the period that hives remain onsite.
- Correctly identify ants that are present. If you need assistance identifying ants, contact your State apiary inspector. (Contact numbers are listed at the end of this brochure.)
- Foraging worker ants are attracted to dead brood and other material near beehives. Discard these materials away from hives.
- To discourage ant colonies from moving into beehives, elevate the hives (or pallets) several inches on bricks or stones.
- Help prevent the spread of imported fire ants by inspecting hives and eliminating imported fire ants *before* moving bees to new locations.
- Use high-pressure hoses to wash away fire ant nests from bottom boards, wooden pallets, and similar shipping materials. Do this prior to loading the beehives onto trucks for transport to noninfested areas.

Insecticides

Because bees can be poisoned, insecticides used close to beehives must be applied with care. Many beekeepers use a two-step treatment regimen to deal with fire ants. First, they treat heavily infested areas around hives using products registered for the site where hives are located. The chemical controls used in step 1 are conventional bait formulas containing hydramethylnon, fenoxycarb, pyriproxifen, or s-methoprene as the active ingredient. This material should be broadcast-applied according to the label instructions once or twice a year over an area of about 1/2 to 1 acre around hives (fig. 4). Step 1 controls fire ants in the general vicinity of hives. In step 2, contact insecticides are applied to individual mounds to quickly eliminate specific mounds that pose an immediate hazard. These contact insecticides are formulated as granules, liquids, or dusts. Active ingredients include chlorpyrifos, diazinon, carbaryl, or other similar agents (fig. 5).



Figure 4—Fire ant bait can be broadcast in and around bee yards to reduce the fire ant population.

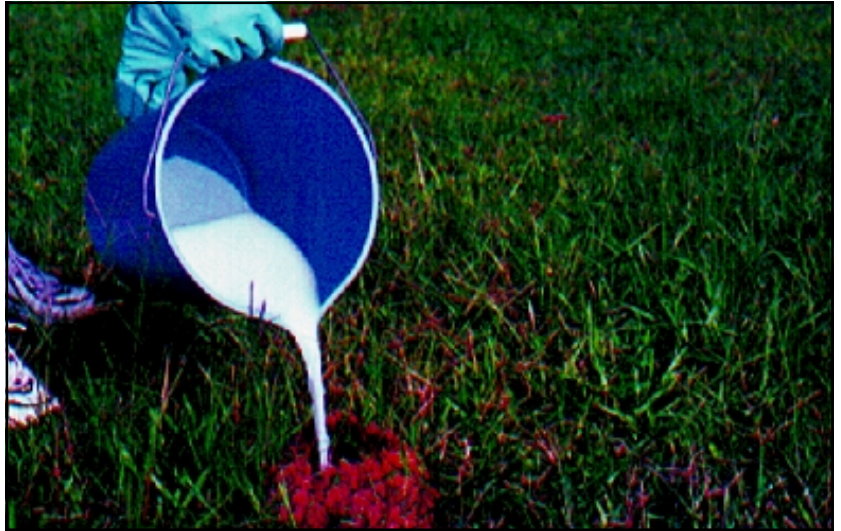


Figure 5—Spot treatment of individual fire ant mounds can be made with liquid drenches, dry granules, or powdered insecticides. Follow the insecticide label carefully.

State Inspections

State inspectors typically check bee shipments at their final destination. California's inspection protocol is described here because it is similar to protocols in other States. California officials are particularly concerned about imported fire ant infestations because the ants arrived only recently and pose a very serious threat to that State's biggest industry, agriculture.

1. All bee shipments (100 percent) originating in imported fire ant-infested States are inspected. Inspections occur during daylight hours. Beehives must be inspected and released (if no imported fire ants are found) prior to final placement in the field.
2. Bee shipments originating in States not known to be infested with imported fire ants are inspected at a rate deemed necessary. The inspection rate may be determined by factors such as the origin of the shipment and prior history and experiences with the beekeeper and bee broker.
3. Ideally, inspections are performed as the bee colonies are being unloaded. The following inspection procedures are utilized.
 - The top and all four vertical exterior sides of each hive body are visually scanned for ants.
 - Special attention is paid to dirt clods associated with the shipment. Dirt clods are broken open to reveal any ants within.
 - If the bee colonies are transported on pallets, the interior space between the pallet slats is examined for dirt clods and debris.
 - Bee colonies on individual bottom boards are carefully examined for rotted portions that might harbor ants.
4. Shipments infested with live imported fire ant workers are rejected, and the shipment or infested colonies are treated onsite. All infested bee shipments are reported to the appropriate California Department of Food and Agriculture Pest Exclusion District Office as soon as possible.

Additional Information

For more information on imported fire ants and Federal restrictions imposed on the movement of regulated articles, contact one of the following:

- Your county's agricultural extension agent, listed in the county government section of your telephone directory under Cooperative Extension Service.
- Your State's regulatory officials, usually listed under department of agriculture, plant protection, or regulatory division in the State government section of your telephone directory.
- Your apicultural extension specialist or State apiary inspector.
- A Federal regulatory official, listed in the Federal Government section of your telephone directory under U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine. If you have access to the World Wide Web, point your browser to www.aphis.usda.gov/ppq and use the "Comments" link to send a request for information.



State Apiary Inspectors

| | |
|----------------------|---------------------|
| Alabama | (334) 240-7225 |
| Alaska | (907) 745-7200 |
| Arizona | (602) 542-0972 |
| Arkansas | (501) 225-1598 |
| California | (916) 653-1440 |
| Colorado | (303) 239-4142 |
| Connecticut | (203) 789-7236 |
| Delaware | (302) 739-4811 |
| Florida | (352) 372-3505 |
| Georgia | (912) 386-3464 |
| Hawaii | (808) 973-9528 |
| Idaho | (208) 332-8620 |
| Illinois | (217) 782-4944 |
| Indiana | (317) 232-4120 |
| Iowa | (515) 281-5736 |
| Kansas | (785) 296-2263 |
| Kentucky | (502) 564-4870 |
| Louisiana | (504) 925-7772 |
| Maine | (207) 287-3891 |
| Maryland | (410) 841-5920 |
| Massachusetts | (617) 727-3020 |
| Michigan | (616) 428-2575 |
| Minnesota | (651) 296-0591 |
| Mississippi | (601) 325-3390 |
| Missouri | (573) 751-5505 |
| Montana | (406) 444-3790 |
| Nebraska | (402) 471-2394 |
| Nevada | (702) 688-1180 |
| New Hampshire | (603) 271-3692 |
| New Jersey | (609) 292-5440 |
| New Mexico | (505) 646-3207 |
| New York | (518) 457-2087 |
| North Carolina | (919) 233-8214 |
| North Dakota | (701) 328-4997 |
| Ohio | (614) 728-6373 |
| Oklahoma | (405) 521-3864 |
| Oregon | (503) 986-4620 |
| Pennsylvania | (717) 772-5225 |
| Rhode Island | (401) 222-2781 |
| South Carolina | (843) 821-3234 |
| South Dakota | (605) 773-3796 |
| Tennessee | (423) 594-6098 |
| Texas | (409) 845-9713/9714 |
| Utah | (801) 538-7184 |
| Vermont | (802) 828-2431 |
| Virginia | (804) 786-3515 |
| Washington | (509) 576-3041 |
| West Virginia | (304) 558-2212 |
| Wisconsin | (608) 224-4575 |
| Wyoming | (307) 777-6574 |

