

Imported Fire Ant-Free Hay Certification in Mississippi



The red imported fire ant, *Solenopsis invicta*, is considered a serious problem for many reasons, including its ability

to spread rapidly, its painful sting and aggressive behavior, and its damage to some agricultural crops and livestock. Native to Brazil, fire ants have spread from Alabama across the southern United States and into isolated areas of California and New Mexico. This spread has resulted in quarantines of some products, such as soil, plants, and hay, to help stop the spread of these invasive organisms.

Although we are not certain how much farther north and west they will spread, the indication is that they will not be able to survive outside in areas with long, cold winters. These nonnative pests often seek shelter in hay bales, which are then transported to other areas where new colonies can become established.

When moving Mississippi hay to drought areas, certification that it is free of red imported fire ants is critical. Even if the hay has been stored properly, if it has not been certified, it could be turned back from the states where it is being delivered.

Hay from **inside** a quarantined area can be shipped anywhere else **inside** that quarantined area. The issue is in shipping from quarantined areas to nonquarantined areas. Any hay from a quarantined area going to a nonquarantined area must be certified before it can be shipped (**Figure 1**). To be certified, hay must be fire ant-free and must have been stored properly (not on the ground).

Hay suppliers contacted by prospective buyers in Texas, Arkansas, Tennessee, North Carolina, and Oklahoma can determine if the buyer is located in a quarantine zone by requesting the zip code and entering it in the following link provided by USDA: http://www.aphis.usda.gov/plant_health/plant_pest_infofireants/zipcode.shtml.

Regulations

The Mississippi Bureau of Plant Industry conducts the certification of fire ant-free hay. Inspectors are available in each district. Refer to **Figure 2** to determine which district your county is in, and **Table 2** for contact information for the inspector in your area. In order for the hay to be certified as free of fire ants and to meet the requirements of the imported fire ant quarantine, the following conditions must be met:

1. Baled hay and baled straw that is stored in direct contact with the ground will not qualify for certification and is ineligible for movement. If square bales are stacked in layers, the bottom layer is not eligible for certification. The rest of the hay in the stack may be eligible.
2. Immediately after baling, store baled hay on concrete, pallets, plastic of sufficient thickness to prevent tearing, or other suitable material to elevate the bales off the ground. This discourages ant colonies from moving into hay bales. It is advisable to treat a band around the perimeter of the storage area to further discourage ant colonies from moving into hay.
3. Clean and remove soil from trucks and trailers before loading.
4. Before shipment, a Bureau of Plant Industry inspector must place an attractant (such as peanut butter or a piece of sausage) on the hay bales for an hour. If no fire ants are observed after 1 hour, the inspector will be able to certify the bales as free of fire ants. This is best done when the temperature is between 65 and 90°F.
5. The inspector will issue a certificate stating the hay is fire ant-free. A certificate will need to be issued on each load. The certificate must accompany that load to the destination and be provided to the recipient.

Management Practices to Help Reduce Imported Fire Ant Colonies in Hay

It is important to control approximately 90 percent of imported fire ant (IFA) colonies in the general vicinity of hay or straw bales. There are several ways to manage fire ants in hay production systems:

1. Monitor the area where the hay bales are located for any fire ants, and continue monitoring while the bales remain on-site.
2. Fire ant bait can be broadcast in and around the hay storage area to reduce ant populations.
 - a. USDA has approved treatments for most regulated insecticides that kill fire ants and prevent new ant infestations. Contact insecticides applied either to the soil area under hay bales or to a strip surrounding the bales are effective barrier treatments.
 - b. Special care should be taken when using insecticides in close proximity to hay bales so that the bales do not become contaminated.
 - c. For general sanitation of an area, apply the bait as a broadcast treatment according to label recommendations once or twice a year in an area extending out ½ to 1 acre from where the hay will be stored. Treatments should be completed at least **1 month** before moving hay into the storage area. Conventional bait formulas containing hydramethylnon, fenoxycarb, indoxycarb, pyriproxifen, or s-methoprene are registered with the U.S. Environmental Protection Agency (EPA).
 - i. It is recommended to apply contact insecticides directly on mounds 3–7 days after any bait treatment. Always follow label recommendations. Contact herbicides come in three different formulations: granules, liquids, and dusts. The active ingredients of these contact insecticides include chlorpyrifos, diazinon, carbaryl, permethrin, and others.
 - ii. For soil treatments, research shows that using full label rates of liquid permethrin as a follow-up to broadcast bait applications is effective for up to 5 weeks. However, permethrin should be used with caution because it is toxic to livestock if applied directly to the hay that they will eat. Always use an untreated support pallet, tire, or landscape cloth to avoid directly exposing hay to chemicals.
 - d. When using a barrier treatment, use strip applications to create a barrier around the hay bales. This barrier should be approximately 1 yard around hay bales. Do not allow insecticide to drift onto or come into contact with hay bales. If using an area application approach, apply the barrier contact insecticide to that location before placing the hay bales there. Wait 24 to 48 hours before placing bales in a treated area. Elevate the hay bales several inches from the ground by placing them on tires or pallets to discourage ant colonies from moving into the bales.
3. **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.

For more information, please contact your local county Extension office or the Mississippi Bureau of Plant Industry at (662) 325-3390.

Other Sources

http://www.sms.si.edu/irlspec/solenopsis_invicta.htm

<http://fireant.tamu.edu/>

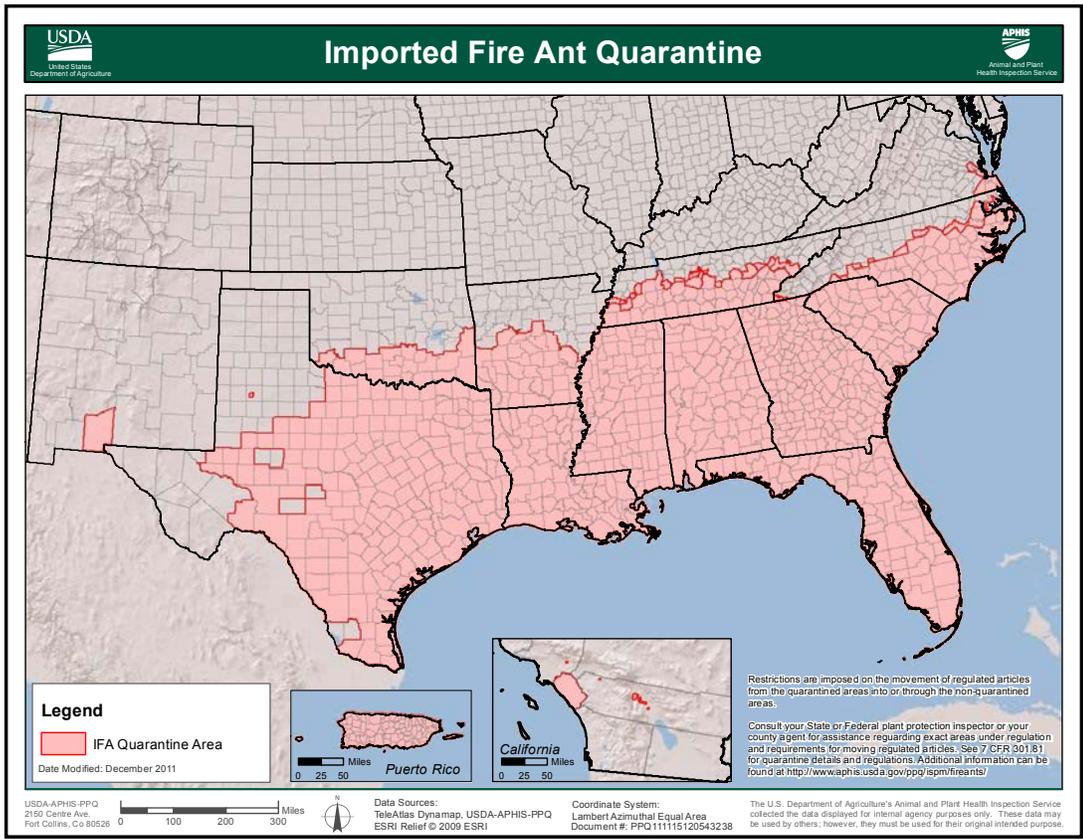


Figure 1. Imported fire ant quarantine map for the southern United States.
Source: Animal and Plant Health Inspection Service, United States Department of Agriculture.

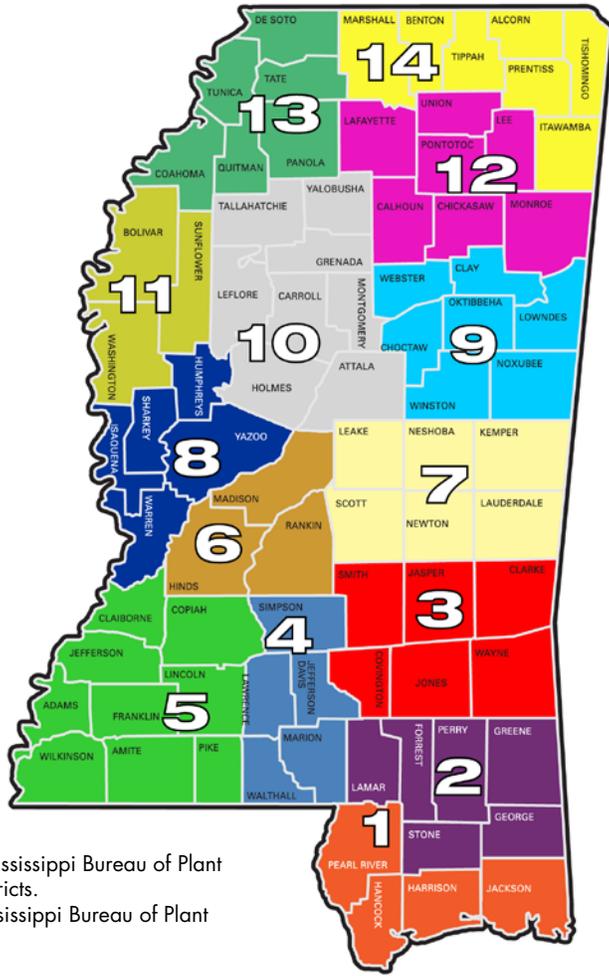


Figure 2. Mississippi Bureau of Plant Industry districts.
Source: Mississippi Bureau of Plant Industry.

Table 1. Mississippi Bureau of Plant Industry inspector contact information by district.

IMPORTED FIRE ANT Glynn Hankins / Glynn@mdac.ms.gov 2876 Hwy 12 W / Starkville, MS 39759 Telephone: 662-418-2105 / (C) 662-418-2105	
DISTRICT 1: Tim Lockley Tim@mdac.ms.gov 2310 Broadmoor Place / Gulfport, MS 39501 Telephone: 228-863-7426 / (C) 228-669-9826	DISTRICT 8: Michael Ledlow MichaelL1@mdac.ms.gov P.O. Box 100 / Bentonia, MS 39040 Telephone: 662-755-8529 / (C) 662-571-7899
DISTRICT 2: Charles Wilson Charles@mdac.ms.gov 270 Monroe Road / Hattiesburg, MS 39401 Telephone: 601-544-3866 / (C) 601-606-8922	DISTRICT 9: Robert Oakley RobertO@mdac.ms.gov P.O. Box 5207 / Mississippi State, MS 39762 Telephone: 662-325-8134 / (C) 662-418-5334
DISTRICT 3: Dr. Larry Thead Thead@mdac.ms.gov 151 Joe Miller Lane / Collins, MS 39428 Telephone: 601-722-6091 / (C) 601-319-1555	DISTRICT 10: Jim Flautt JimF@mdac.ms.gov 290 CR 216 / Greenwood, MS 38930 Telephone: 662-453-3198 / (C) 662-299-1626
DISTRICT 4: Mike Bayles MikeB1@mdac.ms.gov P.O. Box 245 / Prentiss, MS 39474 Telephone: 601-792-2237 / (C) 601-382-2208	DISTRICT 11: Keith Ferguson KeithF@mdac.ms.gov P.O. Box 132 / Stoneville, MS 38776 Telephone: 662-686-3294 / (C) 662-820-3411
DISTRICT 5: Guy Bufford Guy@mdac.ms.gov P.O. Box 452 / Brookhaven, MS 39602 Telephone: 601-82-6613 / (C) 601-754-4913	DISTRICT 12: Mark Kelley Mark@mdac.ms.gov P.O. Box 2301 / Tupelo, MS 38803-2301 Telephone: 662-844-1177 / (C) 662-871-9965
DISTRICT 6: Jim McDonald JimM@mdac.ms.gov 1540 Farr Road / Edwards, MS 39066 Telephone: 601-857-0222 / (C) 601-941-1284	DISTRICT 13: Jeremy Moore Jeremy@mdac.ms.gov 3589 Hwy 51 / Pope, MS 38658 Telephone: 662-902-7958 / (C) 662-902-7958
Kyle Lewis / Kyle@mdac.ms.gov 2127 S Ridge Road/ Byram, MS 39272 Telephone: 601-520-8860 / (C) 601-720-6624	Lee Rico Batesville, MS 38606 Telephone: (C) 662-578-1445
DISTRICT 7: Bruce Jackson Bruce@mdac.ms.gov P.O. Box 695 / Decatur, MS 39327 Telephone: 601-683-3446 / (C) 601-938-8881	DISTRICT 14: Randy Boyle Randy@mdac.ms.gov 791 Dulaney Road / Fulton, MS 38843 Telephone: 662-418-0464 / (C) 662-418-0464

Source: Mississippi Bureau of Plant Industry. Verified August 21, 2012.
<http://www.mdac.state.ms.us/departments/bpi/bpi-general-information-map.htm>

Publication 2733 (POD-09-15)

By Rocky Lemus, PhD, Associate Extension/Research Professor, Plant and Soil Sciences.



Copyright 2018 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi State University Extension Service.

Produced by Agricultural Communications.

Mississippi State University is an equal opportunity institution. Discrimination in university employment, programs, or activities based on race, color, ethnicity, sex, pregnancy, religion, national origin, disability, age, sexual orientation, genetic information, status as a U.S. veteran, or any other status protected by applicable law is prohibited. Questions about equal opportunity programs or compliance should be directed to the Office of Compliance and Integrity, 56 Morgan Avenue, P.O. 6044, Mississippi State, MS 39762, (662) 325-5839.

Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. GARY B. JACKSON, Director