



# Texas Imported Fire Ant Research and Management Project

*Final Progress Report - October 2001*

---

## Survey, Quarantine, and Regulatory Activities

### Principal Investigator:

Awinash P. Bhatkar, *Ph.D.*  
Coordinator for Plant Quality Programs  
Texas Department of Agriculture  
P.O. Box 12847, Austin, Texas 78711  
Phone: (512) 463-5025, Fax: (512) 463-8225  
E-mail: abhatkar@agr.state.tx.us

**Funding:** Annual amount \$45,355

**Project:** Survey, Quarantine, and Regulatory Activities

**Major accomplishments to date:** September 1, 1999 through August 31, 2001

### Detection Surveys

- Detection surveys were performed by the cooperators at the Texas Tech University (TTU) and University of Texas at Austin (UT) along the leading edge of the known distribution of the IFA.
- TTU surveyed Archer, Brewster, Clay, El Paso, Howard, Lubbock, Shackelford and Throckmorton counties, and UT cooperators surveyed Callahan, Coleman, Menard, Mills, Reagan, Runnels and Sutton counties, as proposed. In addition, UT surveyed Concho, Crane, Crockett, Irion, Jim Hogg, Starr, Upton, Ward and Zapata counties.
- Sporadic IFA infestations were detected in Lubbock, Brewster, Howard and Shackelford counties.
- IFA infestations were limited to city limits of Lubbock in Lubbock County, Marathon in Brewster County, and Albany in Shackelford County. Limited infestations were found at Chisos Basin Campsite in Big Bend National Park and Big Spring Lake in Howard County.
- The IFA infestation at the Chamizal National Monument in El Paso County found during FY 2000 was not found during FY 2001.
- IFA infestations persisted in Mills County in spite of control efforts.

### Delimiting Surveys

- TDA Regional Offices in Lubbock, El Paso, Dallas, and San Antonio interacted with the cooperators at TTU and UT to determine the extent of the new infestations and to undertake one-time treatment of new infestations.
- Sporadic but limited infestations were observed in Archer, Brewster, Clay, Callahan, Coleman, Concho, El Paso, Lubbock, Menard, Runnels and Sutton counties.
- The commissioners of these counties were informed to undertake and continue IFA treatment to avoid a quarantine action.

### **Specimen Identification**

- IFA specimens were verified by Don Christopher, USDA-APHIS-PPQ Domestic Identifier, Plant Inspection Station, P.O. Box 20114, 900 East Airline Highway, Service Road A, Kenner, La 70063 [*Phone number: (504) 464-8863, Fax number: (504) 465-0968*].
- David McCoy, Plant Inspection Station, 100 Los Indios Blvd., P.O. Drawer 393, Los Indios, TX 78567-0393 [Phone: (956) 399-2085 and FAX: (956) 399-4001] provided alternate identifying services.

### **Regulatory Action**

The action in Mills County was not sufficient to contain or suppress the IFA infestations. The infestations persisted and expanded to other areas. Therefore, Mills County was quarantined on March 2, 2001.

### **Quarantine Compliance**

- During this reporting period, 256 facilities operated under the TDA-USDA Cooperative Compliance Agreement. Twenty-four facilities were cancelled and 23 were facilities were renewed.
- TDA inspectors performed 294 compliance inspections at class 2, 3, and 4 nurseries.
- Compliance agreements were updated for out of business locations or those with changed locations or ownership.

### **Residue Analysis**

- Twenty-four sediment samples were collected from catchment ponds and water bodies surrounding the nurseries and sent to USDA-APHIS Environmental Monitoring Laboratory at Gulfport, Mississippi for risk analysis.
- One hundred soil samples were collected from the nurseries under quarantine compliance and sent to TDA's Pesticide Laboratory at College Station for residue analysis. Of the sampled nurseries, 54 used approved quarantine treatments using bifenthrin, chlorpyrifos, tefluthrin or diazinon. The rest had treatment residues below the detection limits or used alternate treatment chemicals. Many of these nurseries did not export stock to IFA-free areas.
- Addition of a gas chromatograph/mass spectrometer, sample analyzer and computer equipment will facilitate the residue sample processing, data processing and public presentations.

### **Honey Bee Equipment Certification Program**

- TDA's Honeybee equipment certification and treatment procedures received favorable reviews by the regulatory personnel from California, Arizona, Arkansas, Mississippi, and Oklahoma.
- Panel discussions between the beekeepers, USDA-APHIS, and other states, held during the IFA Conference at San Antonio during FY 2001 stipulated compliance agreement and bee equipment certification to facilitate export.
- Inspectors were trained for hands-on inspection of the beehives in Devine in cooperation with the State Apiary Inspection Service.
- In-state and out-of-state beekeepers were informed about Texas bee equipment certification requirements for shipping bees to IFA-free areas through cooperation with the Texas Beekeepers Association and Apiary Inspection Service.
- Beekeepers that routinely treated their holding areas and kept records were certified for exporting beehives to IFA-free areas. Eleven beekeepers submitted their compliance agreements, and 28 bee equipment inspections were conducted.

### **Nursery Inspections**

- TDA inspectors performed routine inspections at 11,429 nurseries to verify if the facilities were not shipping or receiving quarantined articles in violation of the state and federal quarantines during FY 1999-2001.
- Class 2, 3, and 4 nurseries are inspected annually, to determine if they are shipping nursery products outside the red imported fire ant quarantine area. A class 2 nursery has a growing area of 10 acres or less, a class 3 nursery has a growing area in excess of 10 acres to 20 acres, and a class 4 nursery has a growing area greater than 20 acres.

### **Road Station Inspections**

- TDA operated year-round road stations in cooperation with the Texas Department of Public Safety, to inspect vehicles and to detect or prevent the spread of harmful insect pests and plant diseases, including the red imported fire ant.
- Sixty inspection hours were spent monitoring 7,522 vehicles in FY 1999; 225 inspection hours were spent monitoring 34,049 vehicles in FY 2000; and 365 inspection hours were spent monitoring 48,132 vehicles in FY 2001.

### **Methods Development Research**

- Regulatory research was promoted in the following areas to facilitate commodity export:
- Evaluation of potential IFA treatments for migratory honey bee colonies: Cooperators Texas Beekeepers Association (J. Thomas), Texas Cooperative Extension (R. Weeks), and TTU (P. Deslippe)
- Evaluation of potential treatments for the shipment hay bales: Cooperators, Texas Cooperative Extension (M. Heimer, R. Weeks), and UT-El Paso (W. MacKay).

### **Public Awareness Meetings**

Presentations were made at the annual Texas Beekeepers Association, Nursery and Landscape Expos, Greenhouse Growers Association, bedding plant grower, hay grower, turf grower and producer groups meetings on IFA quarantines, compliance agreement and certification procedures.

IFA quarantine information and maps were distributed at these meetings and stock shows. IFA quarantine map was updated and posted for public access at the TDA's Website, [http://www.agr.state.tx.us/producer\\_info/regulatory/reg\\_fire\\_ant.htm](http://www.agr.state.tx.us/producer_info/regulatory/reg_fire_ant.htm).

### **Publication and other activities**

- The proposed rule to quarantine Mills County was published on December 29, 2000 in the Texas Register [TxReg 25 (52): 12863-13066]. The notice of public hearing was also published in the Texas Register on January 19, 2001 [TxReg 26 (3): 727-856]. The final adoption of Mills County quarantine was published on March 2, 2001 [TxReg 26: 1833].
- A presentation was given on TDA's regulatory activities and research considerations at the 2001 IFA Conference in San Antonio on March 28, 2001. A report will be published in the conference proceedings.
- Panel discussions were held with the participants from USDA-APHIS, departments of Agriculture from California, Arizona, Arkansas, Oklahoma, Texas Beekeepers Association and California Almond Growers Association for facilitating the shipment bees for pollination to IFA-free areas.

### **Goals Achieved**

- TDA conducted annual surveys in 15 counties along leading edge of the distribution of IFA, in cooperation with Texas Tech and University of Texas researchers.
- IFA quarantine program assured compliance with the IFA quarantine by conducting road station inspections of commercial vehicles and inspections of nursery facilities under

- compliance agreement.
- Quarantine maps were distributed to growers, producers, cooperating agencies and the general public. Quarantined map is updated and made available at the TDA Homepage, <http://www.agr.state.tx.us>.
  - Whenever a survey indicated that IFA infestation occurred in a non-quarantine county, TDA treated the incipient infestation, and encouraged communities to control infestations to avoid a further regulatory action.
  - Quarantine action was taken on a county where IFA infestations continued to spread in spite treatment efforts, such as Mills County.
  - Compliance agreement and bee equipment certification procedures are implemented for beekeepers to facilitate the shipment of beehives to IFA-free areas.
  - Treatment of bee yards with chlorpyrifos and double palletizing beehives to avoid a direct contact with soil were tested as methods for eliminating IFA infestation in beehives with success by Texas Beekeepers Association and TCE researchers.
  - Treatment of storage areas and pastures with hydramethylnon, and ammoniation of hay bales were tested as methods to minimize IFA infestation in hay bales by TCE and UT El Paso researchers.
  - TDA conducted quarantine surveys in counties along the leading edge of IFA distribution through cooperation with Texas Tech and University of Texas researchers.
  - Based on the survey results of FY 2000, Mills County was quarantined due to the continued spread of IFA.
  - The department enforced compliance with the IFA quarantines by conducting road station inspections of commercial vehicles, inspections of nursery facilities and residue analysis of soil samples under quarantine compliance agreements.
  - An updated quarantine map was made available for distribution to hay producers, nurserymen, cattlemen, turf growers and the general public at the TDA Homepage, [http://www.agr.state.tx.us/producer\\_info/regulatory/reg\\_fire\\_ant.htm](http://www.agr.state.tx.us/producer_info/regulatory/reg_fire_ant.htm).
  - Compliance agreement and bee equipment certification procedures were discussed with importing state regulators, and were made available to beekeepers in Texas to facilitate the export beehives to IFA-free areas.
  - Methods development research for the shipment of beehives and hay bales showed encouraging results.

### **Relevance to the Texas Imported Fire Ant Research Ant Management Project**

The red imported fire ant (IFA), *Solenopsis invicta* impacts almost every aspect of agriculture. As an integral part of the Texas Imported Fire Ant Research and Management Plan, TDA plays a central role in preventing the artificial spread of this devastating pest into non-infested areas through regulatory and quarantine actions. TDA is currently involved in a number of regulatory activities to help control the spread of IFA, such as, facilitating surveys, establishing and enforcing quarantine requirements, certifying products and locations free of IFA infestation, and analysis of nursery soil samples for treatment compliance. TDA has implemented compliance agreements for the movement of honeybee equipment and other quarantine articles. Mills County was quarantined due to the increasing spread of IFA that could not be contained or suppressed.