

PROPOSAL FOR FY2004 GRANTS PROGRAM

Texas Agricultural Experiment Station (TAES) Imported Fire Ant Program

Title of project: Applied Imported Fire Ant Research Program, 2004
(Sept. 1, 2003 - Aug. 31, 2004)

Lead principal investigator and contact information: Bastiaan M. Drees,
Department of Entomology, Texas A&M University, College Station, TX
77843-2475; 979/845-5878; b-drees@tamu.edu

Signature(s) of lead principal investigator(s):



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Abstract: Texas Cooperative Extension (TCE) is the outreach component of the Texas A&M University System. The purpose of these educational programs, developed and implemented by the Texas Agricultural Experiment Station (TAES), is to transfer and implement current and new imported fire ant management technology, demonstrate and evaluate new methods of control, and promote research and regulatory results.

Background information. The red imported fire ant cost Texas \$1.2 billion annually, roughly \$600 million in the five major metroplex counties. About 50% of this cost is for the purchase of insecticides for attempted control. Encouraging/enabling Texas residents to implement current technology can eliminate the imported fire ant as a pest of major economic and health significance. All available educational and promotional methods are being used to transfer current and new technology, including publications, public meetings, demonstrations and electronic delivery of technical information.

Applied research and educational components of the Texas Imported Fire Ant Research & Management Project (1997-2003) (Drees & Frisbie 2002) have provided significant technical advances to address the goal of eliminating the fire ant as a pest of major health and economic significance. These advances include the development, introduction and marketing of a number of new fire ant insecticides and products (e.g., Extinguish® containing methoprene, Distance® containing pyriproxyfen, Justice® containing spinisad, Citrex® and Safer® Fire Ant Killer containing d-limonene, Over 'N Out® and Chipco® Choice containing fipronil, and "hopper blend" 24©) and supplemental labels for application of Amdro®Pro or Siege®Pro containing hydramethylnon plus Extinguish®). For the most part, these projects have been conducted with outside funding support from manufacturers. EPA registration and market availability of these products has allowed for the development and promotion of fire ant management approaches such as an "organic" Two-Step program (Fire Ant Plan Fact Sheet FAPFS039). Demonstrations of Integrated Pest Management (IPM) programs based on cost-effective, environmentally-

sound and justified use of currently available approaches have documented the potential for controlling these ants at reduced cost and using less pesticide applied to the environment (FAPFS042, Drees and Gold 2003, Riggs et al. 2002) .

Hypothesis/Objectives/Proposed Work/Methods and Materials.

Efforts to conduct product assessments in the laboratory and in field trials to document performance (efficacy) will continue (see FAPFS003, "Animal and plant health protection product evaluation" for procedures) using methods including but not limited to those described by Barr (2002), Drees (1994, 2002), Drees et al. (1992a, 1992b, 1992c, 1991), Drees and Vinson 1990, Martin et al. (1998), Weeks and Drees (2002),. Although private funds will help support these efforts, support from this program will supplement and stabilize these activities by providing funding to support, in part, for technical assistance. Other components of an applied research program can be added as funding support or time allows. These efforts could include: 1) development of a management guide for cattle production systems; 2) development of Esteem® (pyriproxyfen) as a skip-swath treatment for pasture and range land; 3) whole-ranch IPM planning guide; 4) web-based fire ant problem solver; 5) development of utility housing treatments (e.g., permethrin-impregnated nylon parts); and/or, 6) development of aerial bait application conversion designs/kits for crop duster hoppers. Additional applied research opportunities or needs may arise that are currently unforeseen.

Expected outcome/Products/Management Tools or Approaches. TCE outreach education and product assessment activities are expected to improve the ability for individuals or groups to better manage imported fire ant pest problems using the least-toxic and most cost-effective methods available. Development and demonstration of new products or approaches will result in improvement of currently-available methods of imported fire ant control.

Applied research efforts will, undoubtedly, result in product performance data that will help enable additional products to be registered and marketed to improve IPM program alternatives for imported fire ant management. Development and promotion of improved IPM fire ant program approaches and/or methods will result in the implementation more cost-effective and environmentally-sound tactics than are currently available and used.

Time line (for work to be done and anticipated technology transfer/implementation). Outreach education and applied research are ongoing activities. Implementation of new technology is a gradual process. Current efforts may result in new registrations during FY2004, including Y-Tex GardStar 40%EC (permethrin) for application to support pallets or ground underneath bee equipment to prevent fire ant infestation while transporting honey bee colonies. EcoExempt IC (oil of wintergreen) and Entrust (spinosad) will possibly gain use instructions for use as a ant mound drench. During 2004, efficacy data will be generated to support the application of Esteem (pyriproxyfen) bait to pastureland as a broadcast, hopper blend and skip-swath application. Permethrin-impregnated nylon parts will be assessed for Nix of America as ant repellent parts for use to protect utility equipment from ant infestation. Results will be distributed to TCE faculty and staff using appropriate methods. Existing publications will be revised as necessary and as funding allows.

Relevance to the TAES Fire Ant Program. TCE is positioned to provide a delivery mechanism for fire ant management technology and promote research and regulatory programs funded by the Texas Agricultural Experiment Station (TAES).

Imported fire ants are a key insect pest in urban areas. Solutions to this and other urban pests are now available and will undoubtedly be improved in future years. Implementation of current technology can save Texas millions of dollars and reduce pesticide use by improving control of these pests.

Citations

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Budget (FY2004):

Personnel	\$10,000
Travel	3,000
Equipment and supplies (including printing)	7,000
TOTAL	\$20,000

Outside/Leveraged Related Funding: Will continue out-side funded collaborative projects with the USDA-ARS area-wide fire ant management demonstration (Drees & Barr, roughly \$150,000/year) and product evaluations with outside funding from insecticide manufacturers. TCE faculty/staff and appropriate research and regulatory personnel will be asked to be active collaborators in these activities as appropriate.