Economic Component Project Proposal
Summary of Budget for 2003-04

Principal Investigator (PI)
Curtis F. Lard

Institution:
Texas A&M University
Department of Agricultural Economics
Texas Agricultural Experiment Station

Cost Item	Year 1
A. Personnel	
Research Assistant/Graduate Student	4,000
Undergraduate Student Worker	960
Total Salaries and Wages	**4,960**
C. Travel	**1090**
D. Other Direct Costs	
Material and Supplies	800
Publication Costs	2,000
Phone/mail Services	150
Total Direct Costs	**3,240**
E. Computer Equipment, Software and Services	**1,000**
Total Costs	**10,000**

Budget Justification

The principal investigator (PI) has not allocated any of his professional salary to the direct cost of the project. It is estimated that approximately 1/6 of his professional time will be devoted to this project. There will be a 1/2-time research assistant committed to the project. The other personnel involve part time graduate and undergraduate student researchers.

Some travel will be required to coordinate and obtain survey data, visit demonstration sites, consult with professional experts in other cities, and make presentations at called meetings and professional associations.

The other direct costs are based upon the cost of conducting similar studies in recent years. The publication cost item depends upon how many and what type articles and manuscripts are deemed necessary to convey the research findings to the various audiences and end-users. These costs may be paid by the community wide project.

The computer cost category includes the necessary GIS software to facilitate the analysis and proper recording of data.

November 26, 2003

To: Dr. Kevin Heinz
Department Head of Entomology
Texas A & M University

Through: Dr. A. Gene Nelson
Department Head, Agricultural Economics
Texas A & M University

From: Dr. Curtis F. Lard
Professor of Agricultural Economics
Principal Investigator, Texas Fire Ant Economic Research Project

Subject: Economic Impacts of Red Imported Fire Ants that Involve the Community-Wide Projects, Homeowners and Agriculture sectors in Texas

Attached you will find a brief project proposal that primarily focuses on the projected economic analysis of the Imported Fire Ant Management Programs in the urban areas of Texas. In addition, this project will address specific aspects of the agriculture sector. Also, a summary budget is attached which includes the estimated costs for one year of research on this project. These estimates are only for direct costs, which include personnel, fringe benefits, travel, and other expenses.

The primary objective is to continue to help with answers to economic questions concerning the overall Fire Ant Issues in Texas and the U.S.A. We believe that verifiable economic data and analysis are essential to the integrity and assessment of this invasive insect pest problem. The opportunity to submit this proposed research project on the economic aspects of the Fire Ant in Texas is appreciated.

Cc: Dr. John Nichols
Associate Head for Research

Proposal for the Economic Research Component to the Community-Wide Imported Fire Ant Management Programs in Texas Project

Introduction

In 1997, the Texas Imported Fire Ant Project provided support for the establishment of special County Extension Agents in major Texas urban counties. These individuals helped to design, implement and evaluate the impact of community-wide fire ant management "pilot" projects. The concept relies on the active participation of residents of city blocks or subdivisions to develop, implement and evaluate fire ant control programs in areas larger than individual properties. By treating all areas, including common areas and absentee landowner properties, re-infestation could be reduced, resulting in reduced need for insecticide, cost of control, and fire ant problems (Drees et al.). The agricultural sector of Texas also has costs and benefits due to fire ants. Therefore, in order to measure and assess the costs and advantages to the customers (clients), society, and other interested parties; this supplemental research project that addresses the economic issues has been proposed.

Objectives

The main objective is to provide an economic analysis of the urban landscape level community-wide project coupled with agriculture. The specific objectives include:

1. Use neighborhood programs and agricultural producers to make an analyzable case documenting the benefits of the community-wide programs.
2. To obtain sufficient data to document the aspects of the program including
   a. reductions in imported fire ants populations,
   b. economic losses caused by imported fire ants,
   c. reductions in pesticide use for imported fire ant control,
   d. social impacts, such as health effects and reductions in outdoor activities.
3. To model synthesized community-wide neighborhoods and the agricultural sector by geographic areas.
4. To estimate the changes or progress of the modeled communities versus the community-wide management programs.
5. Provide a visual analysis using geographical information systems.
6. To explore the possibility of relationships between the community-wide and the USDA area-wide research project.

Related Research Work

Research work in Texas and other states has shown "detrimental" effects of fire ants on the homescape, landscape and urbanscape. Some of the studies include:

1 Drees, B. M., S. B. Vinson and C. Lard. 2002. The economic impact and management of invasive fire ants in Texas. XIV International Congress of the International Union for the Study of Social Insects (IUSSI), Sapporo, Japan, July 27 - August 3, 2002.

2 Lard, C., D. B. Willis, V. Salin and S. Robison. 2002. Economic assessments of red imported fire ant on Texas' urban and agricultural sectors. Southwestern Entomologist. Supplement No. 25: 123-137.

3 Riggs, N.L., L. Lennon, C Barr, B.M. Drees, S. Cummings, and C. Lard. 2002. Community-wide red imported fire ant management programs in Texas. Southwestern Entomologist. Supplement No. 25: 31-41.

4 Lard, Curtis, David B. Willis, Victoria Salin, and Sara Robison. "Economic Assessments of Red Imported Fire Ants on Texas' Urban and Agricultural Sectors," Symposium paper at 2001 Annual Imported Fire Ant Research Conference, San Antonio, TX, Feb. 28-Mar. 2.

5 Lard, C.F., V. Salin, D. Willis, S. Robison, and K. Schroeder. "The Statewide Economic Impact of Red Imported Fire Ants in Texas," Technical Research Report, Department of Agricultural Economics, Texas A&M University, Aug. 2001.

6 Salin, Victoria. Curtis F. Lard. and Charles Hall. "Economic Impact of Fire Ants on Metroplexes in Texas," Selected paper at 2000 meeting of the Southern Agriculture Economics Association, Lexington, KY, Jan. 30-Feb.2.

Further literature research and contacts with researchers will be made as a part of this planned economic study. Research of this type must be continued in order to properly assess any benefits and costs of programs or practices to manage or control fire ants over time.

Research Methodology

Budgets and measurement tools to assess costs, benefits, and damages will be developed and administered for the appropriate entities: homeowners, producers, IPM fire ant Extension Agents, and others to track the changes in the costs and damages done by fire ants in selected communities or geographical areas. A model of a synthesized community will be simulated in each of the five major metropolitan areas; Dallas, Fort Worth, Houston, Austin, and San Antonio. These assessments will be made in each community demonstration area 1) before the treatments and 2) different times after management practices were implemented. For the agricultural part of the project, use will be made of the agriculture studies such as "The Statewide Economic Impact of Red Imported Fire Ants In Texas." [5 Lard, Salin]

Data collection and accuracy of data are crucial. Measurements of economic factors must be obtained and carefully recorded through out the study. The research will rely on data obtained by the urban and agriculture studies. Researchers will also collect new information to be added from a representative sample of cotton producers in the central Texas area. Some economic modeling will be necessary to evaluate these data and arrive at the net benefits and costs to society. This includes financial tools such as discounted cash flows and present value analysis. Most data that will be used will be retrieved from city, household, school, golf course, and agriculture surveys. Some of the survey data was collected in association with the Texas Agricultural Statistics Service.

Expected Outcome, Techniques, and Approaches

This study should furnish valuable economic impact data to be used in assessing both the damages done by fire ants as well as providing estimates of the benefits from management and control systems. The results of this study will be useful to homeowners, research scientists, consumers, educators, consultants and society in general. These findings will be related to specific findings to the relevant sectors and geographic areas for which data are available. Some specific sectors are households, golf courses, and the agricultural sector.