

“Fighting Texas’ Fire Ants: the Team Approach”
A six year review of the Lago Santa Fe Fire Ant Project

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The red imported fire ant, *Solenopsis invicta* Buren (Hymenoptera: Formicidae) has become an important economic problem in urban Texas, according to a 1998 study conducted by the Department of Agricultural Economics, Texas A&M University. Fire ant related costs in Dallas, Fort Worth, Austin, San Antonio, and Houston, fire ants have serious economic effects for these metro areas of Texas (Lard, Hall, and Salin 2000). Households experienced the largest costs among sectors examined with an average of \$151 per household spent annually. These costs include repairs to property and equipment, first-aid, pesticides, baits, and professional services. A full damage assessment for Texas must include additional sectors, and the estimated costs of \$581 million per year for the selected sectors underscore the impact of this pest. Treatment costs accounted for over 50% of the total cost. In Houston, the average medical treatment cost per household was \$25.46. The duration of injury for children and adults was 6.6 days and 5.6 days, respectively. The fire ant limits outdoor activities and homeowners and agricultural producers incur added costs in managing fire ants.

Managing the red imported fire ant, *Solenopsis invicta* Buren (Hymenoptera: Formicidae) through broadcast applications of fire ant bait products has been demonstrated to dramatically reduce the cost, insecticide use, maintain control of fire ants, and help eliminate problems caused by the fire ant. (Riggs et al. 2002)

The Lago Santa Fe Fire Ant Project is a good example of a successful program where the broadcasting of fire ant baits was utilized in a community-wide setting. Lago Santa Fe is a Private Lake Community, situated 25 miles, South/Southwest of Houston, TX, in Galveston Co. The Community consists of 100 acres with four, ½ mile long X 200 ft wide lakes, with 48, one acre lots that border the lakes and 12 lots that do not border the lakes. This effort was reported in the Proceedings of the Annual Imported Fire Ant Conference in 2003 and 2004. (Nester et al. 2003, 2004)

Synopsis of Lago Santa Fe Fire Ant Project 2002 - 2004

In 2001, Lago Santa Fe was chosen as the site to host the 2002 National Water Ski Championships and the 2002 U.S. Open Water Ski Championships. This meant that in August of 2002, 1000 participants from all over the U.S. and the World, with up to 4,000 spectators would invade this 100 acre area for 7 days. Initial fire ant mound activity evaluations at Lago Santa Fe showed over 160 large (> 12” diameter) active fire ant mounds per acre. The Lago Santa Fe Community realized they needed a coordinated approach to manage these pests. The Texas AgriLife Extension Service decided to work with the residents of Lago Santa Fe and develop an annual repeatable process for the management of the fire ants in this community.

The Lago Santa Fe Fire Ant Project gave The Texas AgriLife Extension Service a chance to “showcase” various ideas, practices, products, and product uses developed by the Texas Imported Fire Ant Research and Management Plan which included:

- 1) Evaluation of the effectiveness of the "hopper blend" treatment of 0.75 lb Amdro[®] Pro + 0.75 lb Extinguish[®] (50:50 hydramethylnon plus s-methoprene ant bait) at 1.5 lb blended product/acre.
- 2) Demonstration of application methods such as the truck-mountable industrial "bait blower"; and the ATV mounted Herd Broadcast Spreader.

- 3) Demonstration of the practicality of the Two-Step Method for Fire Ant Control in a Community-Wide program. Texas AgriLife Extension Service publication L-5496, Fire Ant Control: The Two-Step Method and Other Approaches.
- 4) Demonstration of the practicality of scheduling fire ant bait treatments to reach a goal of maximum control for the athletic events being hosted by the Lago Santa Fe Community, i.e., the 2002 and 2003 National Water Ski Championships, and U.S. Open Water Ski Championships.
- 5) Demonstration of how coordinating the efforts of the entire community resulted in an efficient process for managing fire ants over the Lago Santa Fe property.

Fire Ant mound activity counts showed that after a single spring 2002 hopper blend treatment (April 2002), fire ant activity was reduced 85% in the community of Lago Santa Fe before the scheduled August 2002 water ski events. This community was also chosen to host these same events in the summer of 2003. After an additional fall 2002 and spring 2003 hopper blend treatment, fire ant mound activity was down 95%, before the scheduled August 2003 water ski events.

Lago Santa Fe residents continue their efforts to manage the fire ant with bi-annual applications of a fire ant bait product. Figure 1 shows the added effect of biannual (spring and fall) applications of the fire ant bait hopper blend product in the Lago Santa Fe community from April of 2002 through September of 2004. The percent fire ant mound reduction is based on the initial pre-baiting count taken April 18, 2002 which was 169 active fire ant mounds per acre. Fall counts were taken before the fall application was made. The count taken on September 26, 2002 was after 1 baiting event, 61% reduction. The count taken on September 19, 2003 was after three baiting events, 78% reduction. The count taken on September 17, 2004 was after five baiting events, 93% reduction.

To cover the costs of the fire ant bait used in this community-wide project the Lago Santa Fe Property Owners Association (POA) debits each property owner \$15 for fire ant management every 6 months for a total cost to the community of \$1800 (\$30/year/property X 60 lots)

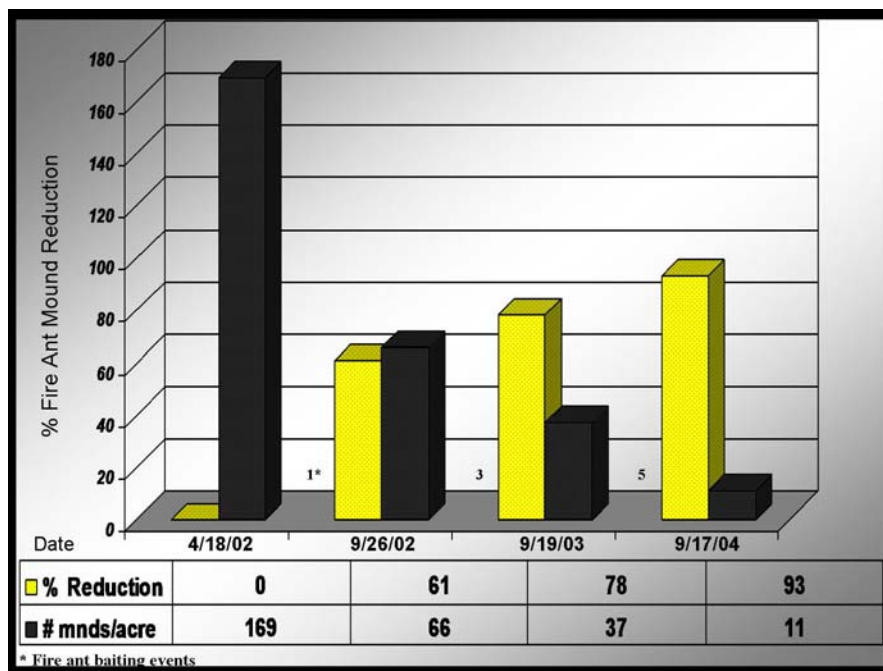


Figure 1: Percent reduction of fire ant mounds after 1, 3 or 5 fire ant baiting events with the fire ant bait "hopper blend" treatment (50:50 hydramethylnon plus s-methoprene ant bait) at 1.5 lb blended product/acre.

Six Year revisit of Lago Santa Fe Fire Ant Project

In 2008 the Lago Santa Fe Fire Ant Project was revisited. Fire ant mound activity counts were taken May 9, 2008 before the spring 2008 fire ant baiting event. Averages of 24 active fire ant mounds per acre were found. Basing the percent active fire ant mound reduction on the average mound count taken in April of 2002, the Lago Santa Fe community is still realizing an 85% reduction in fire ant mound activity (after 13 fire ant baiting events). The residents were surveyed (Appendix I) as to their satisfaction of this project over the past years. Eleven of the residents responded to the survey.

When asked if they had seen fire ant mounds in the quantity or large sizes seen back in 2002, all responded (100%) they have not seen fire ant mounds in the quantity or sizes seen prior to the initiation of the fire ant baiting project.

Before the fire ant baiting project was initiated it was estimated from responses from 6 residents (these residents were present prior to the start of the fire ant baiting project) that the community was spending an average of \$5250 (range from \$25 to \$100/lot) on fire ant control per year. After the fire ant baiting project was initiated eight residents said they spent an average of \$12.5/year (range from \$0 - \$25) for fire ant control. All residents responded that they still may use single mound treatments for fire ant control. This would be expected since that is the second step of the Two-Step method.

Taking the average of \$12.50/year spent by the property owner for single mound treatments and the POA charge of \$30/property, now the yearly community expense is approximately \$2550. Lago Santa Fe property owners have essentially cut their fire ant control costs in half. They have reduced the amount of pesticides applied, and reduced the chance of encountering a fire ant mound in their yards. In fact, they are getting fire ant management throughout the community and not a checkerboard effort when only individual property owners are attempting to manage their fire ant problem.

When quizzed about the money being spent by the POA for the Lago Santa Fe Fire Ant Project the residents (11 responses from 40 property owners, 28%) all responded (100%) they felt the dollars spent was cost effective.

When quizzed about supporting the continuation of the project, all responded (100%) they wanted it to continue.

All (100%) ranked the project from good to excellent and 10 of the residents (91%) felt very positive about this fire ant baiting program supported by the Texas AgriLife Extension Service. One of the residents was somewhat positive.

They all felt (100%) they had learned about fire ant control options from being part of this fire ant baiting project.

Some of the resident's comments to Jay and Lydia Gilbert, Lago Santa Fe project coordinators:

Randy wrote: "For people with young kids this makes our lives a lot better!! We really appreciate the effort and it has made a significant quality difference in being able to enjoy spending time in the grass."

Brenda wrote: "Thank you so very much for your pro-active attack on our fire ant problem! I remember the days of seeing multiple any mounds across our yard and steering the kids away from the grass while playing. Now we walk and run through our yard with very little thought of fire ant bites. We are still cautious, but not nearly on the scale of years past. Thank you from the bottoms of our hearts and the tops of our feet!!"

David wrote: "Jay, as with everyone else, Anna and I say thanks. Every time I dig in the yard I appreciate what you and Lydia have done and continue to do."

Scott wrote: “The bait seems to work really well and I only find a few mounds from time to time that I have to treat with my own granules. They generally seem to pop up just prior to the next baiting session when it’s been several months since the last bait application. I hate fire ants and so does my family, so thanks for helping and to keep them away from us.”

Clay wrote: “Prior to moving to TX / Lago Santa Fe a few years ago, we had never lived anywhere that had a fire ant problem. We’ve only been exposed to the problem and solutions since living here but have heard numerous stories from neighbors as to how bad it was and how it is today. We certainly appreciate all the efforts made by Texas AgriLife Extension Service and Jay and Lydia Gilbert.”

Summary

The Lago Santa Fe Fire ant Project is a continuing success. Responses indicate that residents accept the project, and feel that the dollars spent on it is beneficial. Responses also indicate that even though the residents do have to fight a fire ant mounds during the year, the cost to do so has decreased over what it cost before the project was initiated.

Acknowledgments

The authors would like to thank the residents of Lago Santa Fe for their continued support of the fire ant baiting program, and allowing us to monitor its progress over the years.

Literature Citations

- Lard, Curtis F., Charles Hall, and Victoria Salin. “Economic Impact of the Red Imported Fire Ant on the Homescape, Landscape, and the Urbanscape of Selected Metroplexes of Texas,” final report to Texas Fire Ant Research and Management Plan, Fire Ant Economic Research Rpt. # 99-08, Aug. 1999.
- Nester, P.R., C.P. Bowen, and B.M. Drees. 2003. The Lago Santa Fe fire ant project: an example of community-wide fire ant management in Texas. Proc. Imp. Fire Ant Conf. Pg. 60
- Nester, P.R., C.P. Bowen, and B.M. Drees. 2004. Lago Santa Fe fire ant project, Santa Fe, TX: The never-ending story. Proc. Imp. Fire Ant Conf. Pg. 50
- Riggs, Nathan L., Lisa Lennon, Charles L. Barr, Bastiaan M. Drees, Scott Cummings, and Curtis Lard. 2002. Community-Wide Red Imported Fire Ant Management Programs in Texas. Southwestern Entomologist. Suppl. No. 25:31-41.

Appendix I: Sample survey sent to Lago Santa Fe residents.



2008 Lago Santa Fe, Santa Fe, TX: Six Year Survey on Effectiveness of The Lago Santa Fe Community-Wide Fire Ant Baiting Project implemented in April of 2002

*Your input is very valuable to the Texas AgriLife Extension Service.
It has been 6 years since the Lago Santa Fe Fire Ant Project was initiated.
Please take a brief moment of your time to help us evaluate this program.
Please circle the letter next to your answer.*

- 1) When did you purchase property in Lago Santa Fe?**
 - a. prior to 4/2002
 - b. after 4/2002
 - c. after 4/2003
 - d. after 4/2004

- 2) Were you aware of the average count of 160 fire ant mounds/acre lot, and fire ant mound diameters of 18 to 24 inches in diameter before the implementation of the Lago Santa Fe Fire Community-Wide Fire Ant Baiting Project back in April of 2002?**
 - a. yes
 - b. no

- 3) Referring back to question “2”: Have you noticed fire ant mound numbers in that quantity recently?**
 - a. yes
 - b. no

- 4) Referring back to question “2”: Or mounds that size recently?**
 - c. yes
 - d. no

- 5) Prior to the implementation of the community-wide fire ant baiting project in 4/2002, were fire ants causing problems or concerns on your property?**
 - a. no concern
 - b. some concern
 - c. great concern/problems
 - d. fire ants not present to my knowledge
 - e. did not own property at that time

- 6) Before the community-wide fire ant baiting project, what were you doing to try to control this pest?**
 - a. mound treatments only (this includes baits, dusts, liquids or granules)
 - b. spreading “contact insecticide” (spray or granules) across yard
 - c. both a and b
 - d. contracting a pest control professional
 - e. other _____
 - f. nothing

Please continue to the next page!!!

- 7) If you did try to control your fire ants, before the baiting program how much do you guess you spent/year on their control?**
- a. <\$10
 - b. \$11 - \$25
 - c. \$26 - \$100
 - d. over \$100
 - e. did not own property at that time
- 8) Following the implementation of the community-wide fire ant baiting project, did you still need to spend time and money to improve control even more?**
- a. yes (approximate dollars spent _____)
 - b. no
 - c. not sure
- 9) What treatment(s) are you applying now in addition to the baiting program?**
- a. mound treatments only (this includes baits, dusts, liquids or granules)
 - b. spreading "contact insecticide" (spray or granules, i.e., "Ortho MAX", Spectracide Insecticide Granules) across yard
 - c. both a and b
 - d. contracting a pest control professional
 - e. spreading "residual insecticide" i.e., "Over N Out" across yard
 - f. other _____
 - g. nothing
- 10) Do you feel that the dollars spent by your Property Owners Association implementing this community-wide baiting project is cost effective?**
- a. yes
 - b. no
- 11) Do you support your Property Owners Association continuing this community-wide fire ant baiting project?**
- a. yes
 - b. no
- 12) How would you rate the Lago Santa Fe Community-Wide Fire Ant Baiting Project for the management of the fire ants at Lago Santa Fe?**
- a. poor
 - b. fair
 - c. good
 - d. excellent
- 13) Do you believe that this fire ant baiting program promoted by the Texas AgriLife Extension Service has had a positive impact on you, your family and your property?**
- a. very positive
 - b. somewhat positive
 - c. neutral
 - d. no impact
- 14) Have you learned more about fire ant control options being part of this baiting program?**
- a. yes
 - b. no

Please continue to the next page!!!

15) What elements of the Lago Santa Fe Community-Wide Fire Ant Baiting Project have you been involved in (check all that apply)?

- a. volunteer for treating community property
- b. volunteer to treat absentee landowner property
- c. treat your own property
- d. volunteer to survey (count) fire ant mounds in designated lots
- e. program promotion
- f. worked on the creation of Lago Santa Fe video

16) We would appreciate any other comments on the Lago Santa Fe Community-Wide Fire Ant Baiting Project and how it has affected your outdoor activities since its launch. Please feel free to add any comments below (use back of page if needed).

Please mail, fax, or e:mail to:

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