

Wood Glen's community wide management of red imported fire ants, Round Rock, TX

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In 2005, residents of WoodGlen in Round Rock, TX approached Texas AgriLife Extension Service to assist them in organizing a community wide fire ant management program for their neighborhood. The neighborhood consists of 525 homes spread over 224 acres along with common areas for a swimming pool, tennis courts and playground equipment along with numerous green belt areas that house walking trails.

In 2002, Riggs et al showed that community wide fire ant management programs can help reduce red imported fire ant (fire ant) populations and reduce pesticide costs for community residents. By forming community wide programs for neighborhoods, fire ant reinfestation can be reduced or delayed.

Materials and Methods

Sixteen areas throughout the treated neighborhood were monitored for fire ant mounds and activity and data was collected. One area outside the treatment area was selected and monitored for fire ants to serve as an untreated control. In each selected area, the lid of a 9 dram clear styrene tube containing a hotdog slice was left exposed for at least 45 minutes. After 45 minutes, the hotdog slices were inspected for foraging ants. If ants were present on the hotdog piece, the bait cup lid was capped with the bait cup and marked with the date and location. Bait cups were frozen, ants were identified and exact numbers recorded at a later time. Each location was monitored for active fire ant mounds and suspected nest or mound sites. Each were disturbed with a stick and counted as active if many (50+) worker ants were observed to emerge.

Extinguish[®] Plus (0.365% hydramethylnon, 0.25% s-methoprene; (Central Life Sciences) which is broadcast at a rate of 1.5 pounds per acre was utilized for the neighborhood baiting program since its initiation in 2005. In 2008, common areas, green belts and front yards were baited spring and fall by a pest control company that was hired by the homeowner's association.

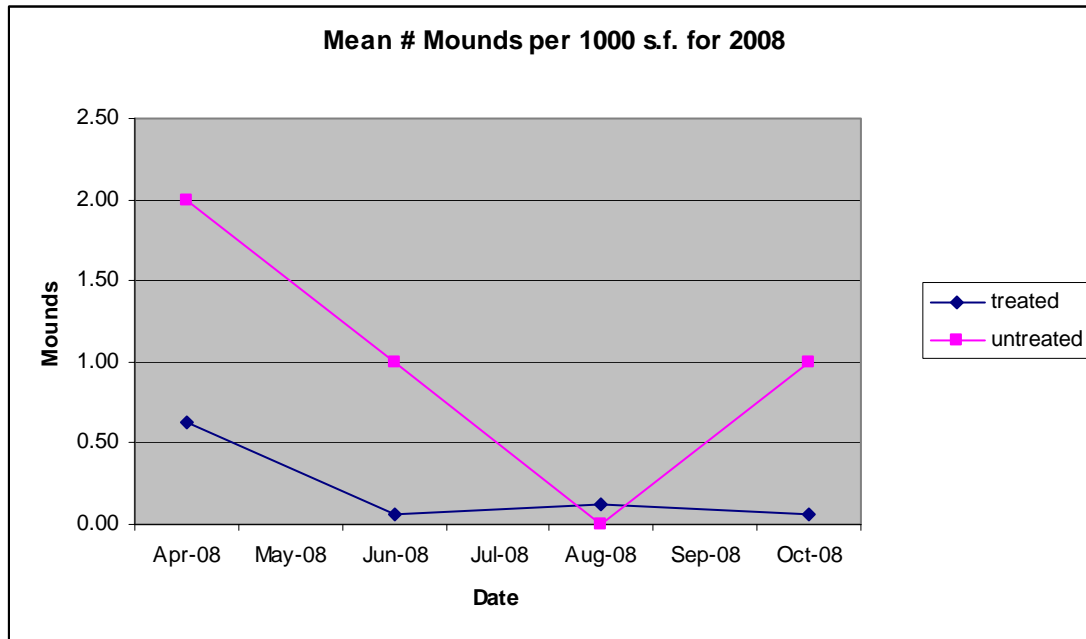
On May 3, 2008, a booth was set up in the common area of the neighborhood to provide information about fire ants and the community wide management efforts to anyone who chose to participate. After completing a short satisfaction survey (Appendix A), residents were provided with premeasured bait in a hand spreader. Residents supplied the approximate square footage of their backyard and the appropriate amount of bait was measured out into their spreader. Fall backyard bait handout occurred on September 6, 2008.

Monitored areas varied in size. The square footage of the areas was recorded and mound numbers adjusted to mounds per 1000 square feet so a true comparison could be made.

Results & Discussion

Both untreated and treated areas showed a decrease in mean number of mounds per square feet, most likely due to the lack of rain in 2008. The treated area showed a lower number of mounds at the initial check in April with mean mounds remaining low while the number of mounds in the control area increased for the October monitoring (Fig 1). The mound numbers in the monitored areas remain low as in previous years of the study, maintaining fire ants at a level that is satisfactory to residents of WoodGlen.

Figure 1. Mean number of mounds of red imported fire ants per 1000 square feet found in selected areas of WoodGlen, Round Rock, TX during 2008 community wide fire ant management project.



A study by Porter and Savignano (1990) found that when fire ants moved into an area, the native ant populations decreased. By utilizing community wide fire ant management, the numbers of native ants can be increased when fire ants are suppressed.

The ant diversity in the WoodGlen neighborhood increased as fire ants have been suppressed by community wide fire ant management (Brown et al. 2007). This year showed a continuation of native ants entering monitoring areas (Fig 2). Native ant species were located in more monitored areas than fire ants (Fig 3).

Figure 2. Number of ant genera other than red imported fire ants found in selected areas of WoodGlen, Round Rock, TX during 2008 community wide fire ant management project.

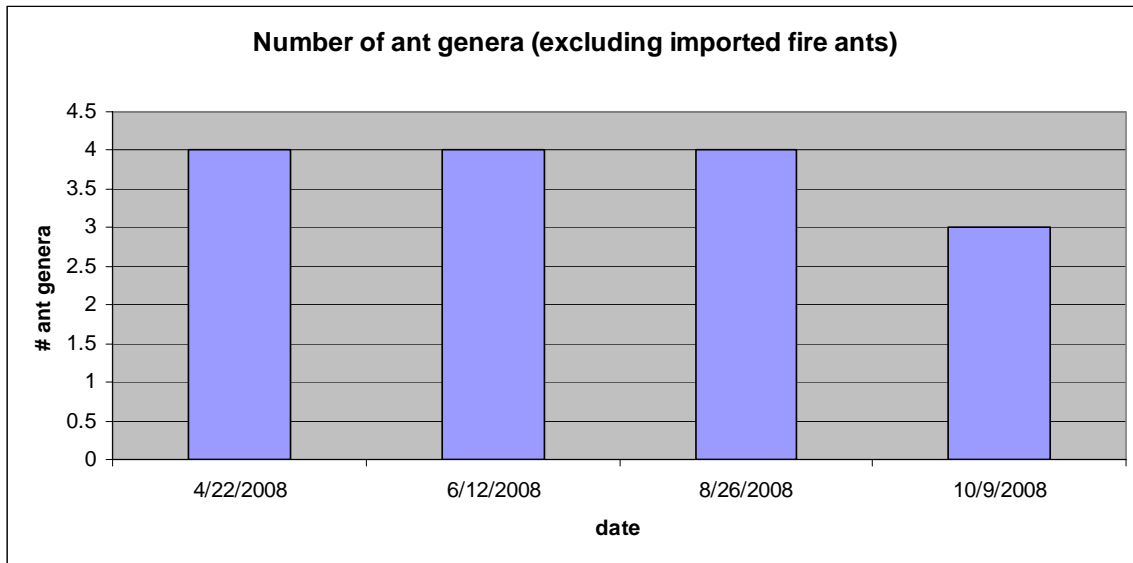
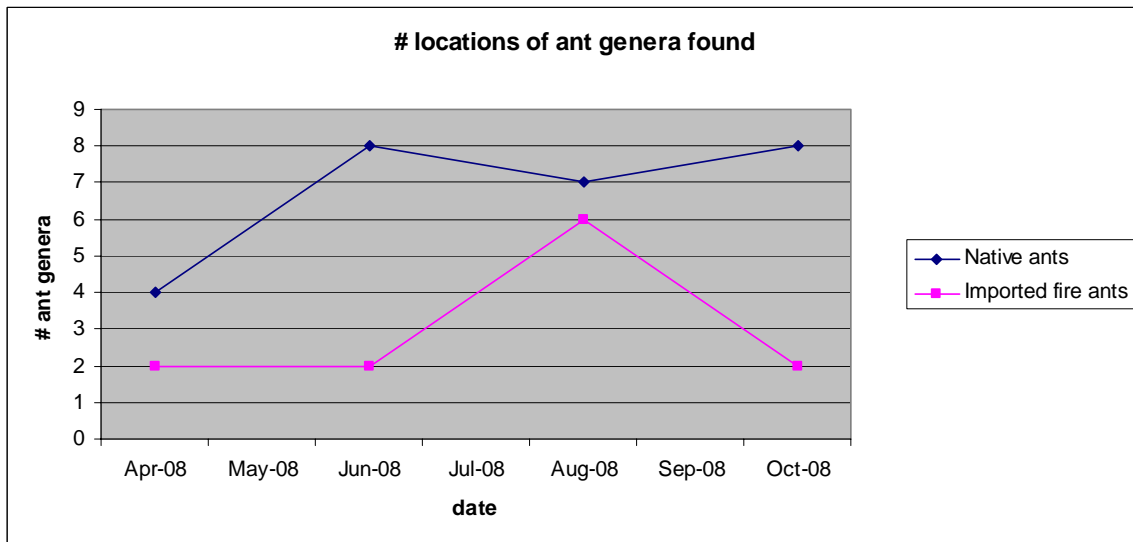


Figure 3. Number of locations where various genera of ants were found in selected areas of WoodGlen, Round Rock, TX during 2008 community wide fire ant management project.



Community wide fire ant management programs are a wonderful tool for neighborhoods to utilize to reduce populations of fire ants. Not only can these types of programs reduce populations of the pest species, but can also increase native ant populations. Neighborhoods only need to have willing volunteers to formulate a plan and carry it out to reap the rewards of reduced populations of fire ants.

The spring satisfaction survey was completed by 105 residents (20%) and showed a mean participation in the baiting program of 4.27 times out of 8 possible times. The

survey also showed that before the fire ant management program was instituted in the neighborhood, many of residents were treating individual mounds- 44 (42%), followed by broadcasting bait- 23 (22%), using a combination of broadcast baiting and treating individual mounds- 18 (17%), contracting a pest control professional- 7 (6%), utilizing other methods- 6 (6%), doing nothing- 4 (4%) and broadcasting contact insecticide- 3 (3%). Before implementation of the community wide effort, residents spent a mean of \$32.84 on fire ant management each year while after the community wide program the mean fell to \$11.38. The majority of residents thought that the Homeowner's association allocating money and effort toward community wide fire ant management was cost effective- 103 (98%). When asked what impact the fire ant effort has had on their family and property, most respondents, 86 (82%) felt there was a very positive effect, 17 (16%) a somewhat positive effect, 1 (1%) a neutral effect.

Acknowledgements

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Literature Cited

Brown, Wizzie Batiaan M. Drees and Paul Nester. 2007. Community Wide Management of Red Imported Fire Ants at WoodGlen, Round Rock, TX. Integrated Pest Management Urban IPM Program Handbook 2007. Texas AgriLife Extension Service, College Station, TX 65-67. <http://fireant.tamu.edu>

Porter, Sanford D. and Dolores A. Savignano. 1990. Invasion of Polygyne Fire Ants Decimates Native Ants and Disrupts Arthropod Community. *Ecology*. 71(6):2095-2106.

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 A: 2008 Wood Glen, Round Rock, TX: Satisfaction Survey on Effectiveness of the Community-Wide Fire Ant Management Effort Implemented in March 2005

Your input is very valuable to Texas AgriLife Extension Service. Please take a brief moment of your time to help us make our programs more effective for you. Please place an X before the letter next to your answer.

1) How many times have you participated in the community-wide fire ant management effort (program has been carried out 8 times including spring 2008)? **4.272**

2) Before the community-wide fire ant management effort, what were you doing to try to control red imported fire ants?

 44 a. treating only individual mounds with the product of your choice

 23 b. broadcasting a bait product (i.e. Amdro or others) across the entire yard

 3 c. broadcasting a "contact insecticide" (i.e Over N Out or others) across the entire yard

 18 d. both a and b

 7 e. contracting a pest control professional

 6 f. other _____

 4 g. nothing

3) Before the implementation of the community-wide fire ant management effort, approximately how much were you spending on fire ant control each year?

\$ 32.84

4) After implementation of the community-wide fire ant management effort, how much do you spend on fire ant control each year?

\$ 11.38

5) Do you feel that the dollars and effort spent by your Community Association implementing this community-wide management effort is cost effective?

 103 a. yes

 2 b. no

6) What sort of impact do you believe that this fire ant management effort promoted by the Texas AgriLife Extension Service has had n you, your family and your property?

 86 a. very positive

 17 b. somewhat positive

 1 c. neutral

 0 d. no impact

7) We would appreciate any other comments on the Wood Glen Community-Wide Fire Ant Management Effort 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).

Great program, please continue

No fire ants since

Very cost effective

More aware of getting rid of fire ants now

Community wide baiting is the way to go