

Lakecliffe Drive Community-Wide Fire Ant Management Program Harker Heights, Texas

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In the spring of 2001, a program was launched by Texas Cooperative Extension's Fire Ant Project to train local personnel in the management of red imported fire ants (*Solenopsis invicta* Buren). A group of experienced Master Gardeners from Bell County, in central Texas, volunteered to be pilot group. They were brought to the main campus of Texas A&M University where they received a full day of presentations and hands-on training on fire ant biology, ant identification, fire ant control and the community-wide fire ant management concept. These Master Gardeners returned to their communities where they have made numerous presentations, given media interviews and conducted result demonstrations.

The largest project involved the organization and education of residents of an entire neighborhood street. The goal was to not only treat all the yards over a period of a few days, but to educate the residents in proper fire ant control to maintain fire ant suppression over the long term. The target of the project were residences on both sides of Lakecliffe Drive in the city of Harker Heights, Texas. The street borders Stillhouse Hollow Reservoir, a major flood control and drinking water source for the area. Because of the region's rocky soil, pesticide runoff into the lake was a concern.

Objective: Have Master Gardener Fire Ant Specialists organize a neighborhood to treat for fire ants in a coordinated effort and document the results.

Materials and Methods

Organization of the neighborhood began in September, 2001 after a hot, dry summer. The Master Gardeners distributed leaflets to the homes along the upper section of Lakecliffe Drive. To encourage participation, enough Amdro[®] Fire Ant Bait (0.73% hydramethylnon) to treat the neighborhood was donated by Excel Marketing (San Ramon, CA). Twenty-five pounds of Distance[®] Fire Ant Bait (0.5% pyriproxifen) was donated by Valent USA Corp. (Walnut Creek, CA) and was used around a water treatment facility in the neighborhood.

Master Gardeners posted signs and contacted homeowners to explain the program and sign-up residences for treatment. The publicity and word-of-mouth spread so that, eventually, interest was expressed by residents along the entire street. Treatment was scheduled for Saturday, October 6, 2001, but predicted rain and low temperatures for that date made an earlier application necessary. Signs were posted along Lakecliffe Drive announcing that the treatments would be moved to Wednesday, October 3. This move not only notified the residents already signed up, but generated a greater participation rate.

On the evening of October 3, a group of Master Gardener Specialists assembled at the home of Connie Waters. Pairs of Master Gardeners were assigned blocks of homes to visit and given data sheets for the residents to fill out. Residents were asked to count the number of fire ant mounds in their own yards. When they returned the forms, they were given an appropriate amount of Amdro instructions and a spreader, if needed, to apply it. Some yards, particularly those of

people who were not physically capable, were evaluated and treated by the Master Gardeners themselves. Winter and a dry spring delayed post-treatment counts until May, 2002. Most yards were evaluated by a team of Master Gardeners over the period May 28 - June 3.

Results and Discussion

A total of 58 out of 75 properties were included in the community-wide effort, a participation rate of 77.3%, plus the water treatment facility located in the subdivision. Results of the treatment varied greatly versus beginning ant mound numbers. Control of 100% was found on 9 of the treated properties (14.3% of total). Another 23.2% had control rates of over 75% compared to pre-count numbers and another 32.1% saw mound reductions from 50-74%. Combined, properties with greater than a 50% control rate totaled 69%. However, 8 properties actually showed an increase in mound numbers and 10 properties had control ranging from zero to less than 50%.

Several factors likely contributed to these results. Pre-counts were taken during a dry period when the ants were not building mounds well. The result was probably artificially low pre-treatment numbers. Furthermore, residents were required to count mounds in their own yards and submit the numbers in order to get bait. Again, it is very likely that a substantial number of mounds were missed by inexperienced and/or less-than-enthusiastic participants. Post-counts were conducted by trained Master Gardener Specialists who were more experienced and thorough mound counters. The post-count was also taken nearly 7 months after treatment, a period during which considerable re-invasion could have occurred. Therefore, initial control was likely better than that shown by the numbers.

A significant number of properties had poor control or even increases in mound numbers. Field notes indicate that many properties with poor control bordered vacant lots, non-participating residences and/or non-treated areas outside the subdivision boundaries (owned by U.S. Corps of Engineers as part of Stillhouse Hollow Reservoir). Re-invasion of these properties supports the idea that treatment of larger contiguous areas should slow reinfestation.

Perhaps more important than the actual treatment and ant control, was the experience gained from the organizational effort. Over the course of the initial phase, 73 residences were contacted and were given informational brochures. A second phase involved contacting interested residents and having them fill out participation forms. Between these two phases, a total of a total of 48 man hours were logged by the Master Gardeners. The third phase was the actual treatment day. Seven people were involved for a total of 42 man hours over two days. Preparation of surveys, data forms, etc. occupied Ms. Waters for approximately 25 hours over the course of several weeks. Therefore, a total of 115 man-hours were spent just to get the treatments completed. This equates to one individual working full-time for almost three full weeks on what could be considered a rather small neighborhood.

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