

Dr-1674

NON-AGRICULTURAL LAND  
Imported fire ant: *Solenopsis invicta* Buren

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AERIAL APPLICATIONS OF EL-468 (ELI LILLY AND COMPANY) BAITS FOR CONTROL OF RED IMPORTED FIRE ANTS, 1981: Aerial application of baits containing EL-468 against natural infestations of the red imported fire ant were conducted in Georgia during April, 1981. The treatments were made on improved bermuda grass pasture that had been allowed to go fallow for 3-4 years. The chemical was formulated in soybean oil and applied on a carrier of pregel defatted corn grits. The concentration of EL-468 was 0.75% in the total bait. The applications were made using a Transland slim-line spreader (Model 20241) mounted on a Cessna Ag-Truck aircraft flying at 50 ft altitude and 120 mph with a swath width of 50 ft. The EL-468 bait was applied at 2 rates; 1.25 and 2.5 lbs/A. Amdro® (0.88% concentration) applied at a rate of 1 lb/A was used as a standard.

A total of 223 acres was divided into 4 plots as follows: 67 acres treated with EL-468 at 1.25 lbs/A, 60 acres treated with EL-468 at 2.5 lbs/A, 65 acres treated with Amdro standard at 1.0 lb/A and 31 acres left untreated and used as the check. Each plot contained 20 or more 0.5-acre circles which were used as evaluation (count areas) sites. The population index method of determining control was used in which we evaluated the colonies according to the number of worker ants and the presence or absence of worker brood (larvae and pupae) and assigned each colony to a class from 1 through 10. Colonies in classes 1-5 did not contain worker brood while those in classes 6-10 contained worker brood. The differences within class 1-5 and

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6-10 were related to the size of the colony. The interaction of population density and colony classes was then used to establish a population index (Harlan et al; 1981. Southwestern Entomol. 6: 150-157).

The results of the tests indicated that the best control after 19 wks (90%) was obtained with the Amdro standard. There was no significant difference ( $P=0.05$ ) in control between the high and low rates of EL-468 after 19 wks; however, after 6 and 12 wks, the highest rate (0.25 oz ai/acre) of EL-468 gave better control than the low rate (0.17 oz ai/acre).

Treatment*	Plot size (acres)	Granular application rate (lbs/acre)		Toxicant/acre (oz)	Total no. of active mounds	Pretreatment Population index	Percent reduction in population index after indicated weeks		
		Expected	Actual				6	12	19
EL-468	67	1.25	1.38	0.17	291	2829	72	81	65
EL-468	60	2.5	2.13	0.25	313	2813	89	95	69
Amdro	65	1.0	1.0	0.14	268	2604	97	**	90
Untreated check	31				205	1940	2	4	9

\* Soybean oil concentration on the carrier was 30%.

\*\* Unable to evaluate this plot at 12 wk posttreatment due to high grass cover.