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Sanjay Basnet
University of Nebraska-Lincoln, sbasnet2@unl.edu

Dina Richman
University of Nebraska-Lincoln, dina.richman@fmc.com

Ralph B. Narain
University of Nebraska-Lincoln, usralphn@aol.com

Shripat T. Kamble
University of Nebraska-Lincoln, skamble1@unl.edu

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Efficacy of Transport Mikron Against Nuisance Ants When Applied Around Structures, 2015

Sanjay Basnet,[1] Dina Richman, Ralph B. Narain, and Shripat T. Kamble

Department of Entomology, University of Nebraska, Lincoln, NE 68583-0816, Phone: (402) 472-8632, Fax: (402) 472-4687 (sbasnet2@unl.edu; Dina.richman@fmc.com; usralphn@aol.com; skamble1@unl.edu) and [1]Corresponding author, email: sbasnet2@unl.edu

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acrobat ant | *Crematogaster spp.*

false honey ant | *Prenolepis impairs*

odorous house ant | *Tapinoma sessile*

pavement ant | *Tetramorium caespitum*

thief ant | *Solenopsis molesta*

Ants are nuisance pests around the homes and other structures. Insecticide baits and sprays are commonly used for controlling ants. The research was conducted to determine efficacy of Transport Mikron and Temprid SC against these nuisance ants. The trial was conducted around two buildings on East Campus, University of Nebraska-Lincoln, Lincoln, NE. A total of 20 experimental plots were established with 3 ft buffer zone between **individual** plots. The dimension of each experimental plot consists of 20 ft length × 10 ft width + 3 ft high on foundation wall (260 ft^2). Each treatment was replicated four times yielding 1040 ft^2. Four plots were randomly assigned to one of the five treatments. The experimental design was a completely randomized design (CRD). Pretreatment ant population was monitored by placing four ant bait-tube traps made of cylindrical plastic tube (17 × 100 mm (VWR, Chicago, IL)) in each experimental unit on 20 Aug. Peanut butter (0.5 inch diam) on paper was used as a bait in each. Foraging nuisance ant populations were **pooled across species, counted, and** used as a baseline for calculating the percent reduction in ant populations resulting from treatments. All insecticide treatments were applied using a 1-gallon B&G Compressed Air Sprayer (Jackson, GA) on 25 Aug. Ants were monitored at 1, 7, 14, and 31 days after insecticide treatment (DAT) using the same techniques used for pretreatment assessment. The percent reduction trends were evaluated using pre- and post-treatment nuisance ant population counts. Data **were** analyzed as repeated measures ANOVA ($P < 0.05$) using PROC GLIMMIX (SAS 9.4. SAS institute, NC). Means were analyzed/sorted by time with significant differences being collection interval specific.

All treatments significantly reduce ant population as compared to untreated through 31 DAT. The highest rate of Transport Mikron reduced ant population consistently through 31 DAT. No significant differences were observed among different rates of Transport Mikron throughout the study. No significant difference was observed between the Temprid SC and Transport Mikron (three rates) at 1 DAT, however, there were significant differences at 7 DAT and 31 DAT (Table 1).

Table 1

Product/formulation	Rate (oz/gal/1000 ft^2)	Percent reduction in ant population			
		1 DAT (8/26/2015)	7 DAT (9/1/2015)	14 DAT (9/8/2015)	31 DAT (9/25/2015)
Transport Mikron (high) DL	1.25	99.62 ± 0.38 a*	97.06 ± 1.88 a	99.81 ± 0.19 a	98.68 ± 1.32 a
Transport Mikron (medium) DL	0.63	99.61 ± 0.39 a	95.61 ± 2.44 a	90.73 ± 7.12 ab	78.94 ± 14.61 a
Transport Mikron (low) DL	0.42	99.57 ± 0.43 a	96.71 ± 2.06 a	88.24 ± 8.93 ab	91 ± 4.27 a
Temprid SC DL	0.27	96.86 ± 2.68 a	75.55 ± 6.87 b	69.37 ± 16.7 b	34.79 ± 28.11 b
Untreated	NA	12 ± 7.05 b	0 ± 0 c	13.9 ± 8.57 c	2.89 ± 2.89 c

*Means within columns followed by same letter are not statistically different