Hairy Chinch Bug Insecticide Test

Chinch bug control in turfgrass, 1988: A home lawn in Okemos, Michigan heavily infested with chinch bugs was chosen for the test evaluation site. The Kentucky bluegrass-fine fescue lawn was watered frequently and fertilized adequately. Thatch-thickness averaged less than 1/4 in. Granular insecticides were applied to 4.0 ft^2 plots with a 1.0 ft buffer with a hand held shaker. Liquid applications were made with an R&D CO_2 sprayer at 40 lbs psi with an LF2 80° nozzle. Sevin and Sevimol plots were irrigated with 3/4" water prior to treatment. All insecticide treatments were applied on 7/29/88, one day after chinch bug precounts. All granular treatments were irrigated (3/4") immediately following application. The number of chinch bugs per plot was determined again 4 days post-treatment (8/2/88) by searching through grass and thatch for 3 min in each plot. The temperature was 90°F and the sky sunny at application time. A 1/4" of rain fell later that evening.

Chinch bug numbers in all treatments declined during the 5-day test period. This population decline is consistent with observations of chinch bug populations in early August of other years. Chinch bugs in control plots declined by 47.5% during the test period. As in previous years, the synthetic pyrethroid products caused the greatest chinch bug population reduction. Five of the top seven treatments were synthetic pyrethroids. Although the number of chinch bugs per plot was determined, it is not known if the synthetic pyrethroids are expressing a repellency action that could cause chinch bug movement out of those plots and into adjacent buffer zones or other plots.

Although there was no significant difference among treatments according to Duncans multiple range testing, the best two treatments would be significantly different from the control treatment at $P = 0.1$.

Conclusions

- Synthetic pyrethroids provided best population reduction in small plots (Tempo 2 C, Danitol 2.4 EC, Tempo 1 ME, Mavrik 2 EC.
- Orthene 75 (high rate), Mocap 10 G, Triumph 4 E also reduced chinch bug populations.
- Do synthetic pyrethroids cause chinch bugs to move out of treated plots?
- Oftanol 2 II, Triumph 4E, Diazinon EC, Mavrik 2 EC and high rates of Orthene 75 SP recommended for chinch bugs.

Chinchbug Control at
a Home Lawn in Okemos, MI
1988

Treatment	Rate (lbs ai/A)	Mean[1] initial chinch bug per plot	Mean number of chinch bugs per plot post-treatment	Mean percent reduction in population
Tempo 2C	0.14	44.3	6.8	89.5 a[2]
Danitol 2.4 EC	0.8	31.8	5.0	76.7 a
Tempo 1 ME	0.14	31.8	12.0	71.5 a
Orthene 75 SP	1.0	42.3	18.0	68.7 a
Mocap 10G	5.0	29.0	8.5	68.5 a
Mavrik 2EC	0.27	34.5	7.0	66.8 a
Danitol 2.4 EC	0.4	23.0	8.0	65.9 a
Triumph 4E	0.5	43.5	14.8	65.0 a
AC 299 486	7.0	40.0	16.8	61.2 a
Sevin 4SC	8.0	35.3	17.3	60.0 a
AC 290 713	7.0	34.5	11.8	58.3 a
Dursban 4E	0.5	43.5	18.8	54.3 a
Sevimol 4SC	8.0	27.8	19.0	48.6 a
Control	---	37.5	13.0	47.5 a
AC 290 230	7.0	37.8	22.8	45.4 a
Dursban 4E	1.	29.5	16.5	44.2 a
Mocap 5G	5.0	39.5	21.5	42.4 a
Orthene 75 SP	0.5	32.8	22.5	41.6 a

[1]Mean of four replications.

[2]Numbers followed by the same letter are not significantly different at P = .05, Duncans multiple range test on arcsin square root of percent population reduction.