

~ Insects ~

Soybean Aphid Insecticide Tests - Preliminary Results

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Bryan Jensen, our IPM Coordinator, and Scott Myers, a Ph.D. student in my lab, initiated an insecticide screening trial on 26 July. The beans were R1 and planted in 30 inch rows during early June. We accomplished the 4-day post spray samples on 30 July and I want to share their preliminary data. Remember, these are preliminary data and we have not run any statistical analysis.

As any of you who have scouted soybean aphid are aware, counting aphids is laborious. We have been experimenting with a rating system in the Midwest this year, and Bryan and Scott used it to sample the spray plots. These are whole-plant scans and there are 7 categories: 0 aphids, 1-10, 11- 25, 26 - 50, 51 - 100, 101 - 200, and 200+ aphids/plant. We take sample 20 plants in each plot, and samplers quickly scan upper and lower surfaces of leaves, stems, petioles and pods. In the check plots most of the plants ended up in the 101- 200 and 200+ categories. I used a "relative effectiveness" rating system to give a quick idea of the relative performance of the insecticides. In this system 1 = 0 aphids/plant, 2 = 1-10 aphids, 3 = 11- 25 aphids, 4 = 26 - 50 aphids , 5 = 51 - 100 aphids, 6 = 100 - 200 aphids, and 7 = 200 + aphids/ plant. I multiplied the number of plants that fell into a particular category by the rating for that category (i.e. if you had all 20 plants with 200+ aphids/ plant the score would be 7 X 20 = 140/20 plants = an average effectiveness rating of 7 for that plot (hopefully, this would be the untreated check in this case). This is similar to the system we use for root ratings in corn rootworm research. Remember, these are preliminary data that we have yet to analyze; I offer it here only because people have been asking for the results. However, based on these data and numerous performance complaints from people around the state. I am suggesting that dimethoate not be used; there were data from last year to suggest that is was as good as anything else available. It has not been acceptable in most cases this year.

Dimethoate has been popular because of its low cost. Poor control of aphid with any insecticide can lead to even larger buildup in aphid numbers because of destruction of beneficial insects.

In the table below, plants in the untreated check averaged over 100 aphids per plant (most on the new trifoliolate leaves), and the lowest populations found in the treated plots had from 0 -10 aphids per plant 4 days after spraying.

Soybean Aphid Control - Preliminary Results Relative Effectiveness Rating - 4 days post-spray

Product	Pounds Active/Acre	Average Rating
Lorsban 4E ¹	0.50	1.98
Lorsban 4E ¹	1.00	1.52
Furadan 4F ²	0.25	2.75
Furadan 4F ²	0.125	2.25
Penncap M 2FM ²	0.25	3.21

Penncap M 2FM ²	0.50	2.03
Untreated		5.15
Warrior T ²	0.030	1.98
Asana XL ¹	0.030	3.36
Asana XL ¹	0.040	3.41
Dimethoate ¹ 4E	0.25	3.41
Dimethoate ¹ 4E	0.50	3.01

¹ Labeled for use on soybean, but soybean aphid is not listed on the label.

² Labeled for use on soybean and for soybean aphid control.