

Soybean Aphid *Aphis glycines* Population Responses to Bean Leaf Beetle *Certoma trifurcata* Management, 2004

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Introduction

Our objectives for 2004 was to address the compatibility of current soybean pest management programs used in Iowa and refine the preliminary recommendations. Our primary question was how bean leaf beetle *Certoma trifurcata* management may affect soybean aphids.

Materials and Methods

The experimental layout was a completely randomized block design with eight replications of eight treatments. Plots measured 100 ft long by 30 ft wide. Soybeans were planted in 30 in. rows on May 3.

The eight treatments included: 1) untreated control, 2) Cruiser (thiamethoxam), 3) Cruiser and 3.2 oz warrior (lambda-cyhalothrin) applied at overwintering beetle emergence (OW), 4) Cruiser and 3.2 oz Warrior applied at first (1st) generation emergence, 5) 2.5 oz Warrior at OW, 6) 3.2 oz at 1st, 7) 2.5 oz at OW + 3.2 oz Warrior at 1st, 8) 7.7 oz Asana (esfenvalerate) 7.7 oz + 9.6 oz Asana at 1st.

The average number of aphids/plant was calculated each week by counting all the aphids on 10 randomly selected plants from each plot. This average was added to the previous week's average and divided by the number of days

between samples to calculate aphid days. Plots were harvested mechanically with a combine on September 25 for both planting dates.

Results and Discussions

Aphid populations remained low all summer and never exceeded 40 aphids/plant. The aphids that were observed did not arrive until mid-August (two months later than in 2003). Later arrival of aphids in 2004 may have limited residual activity of early insecticide treatments.

The number of aphid days accumulated between several treatments was significantly different (Figure 1). There were no yield differences between treatments in 2004 (Figure 2). This suggests that populations below the initial 250 aphids/plant threshold are not damaging to yields.

Acknowledgments

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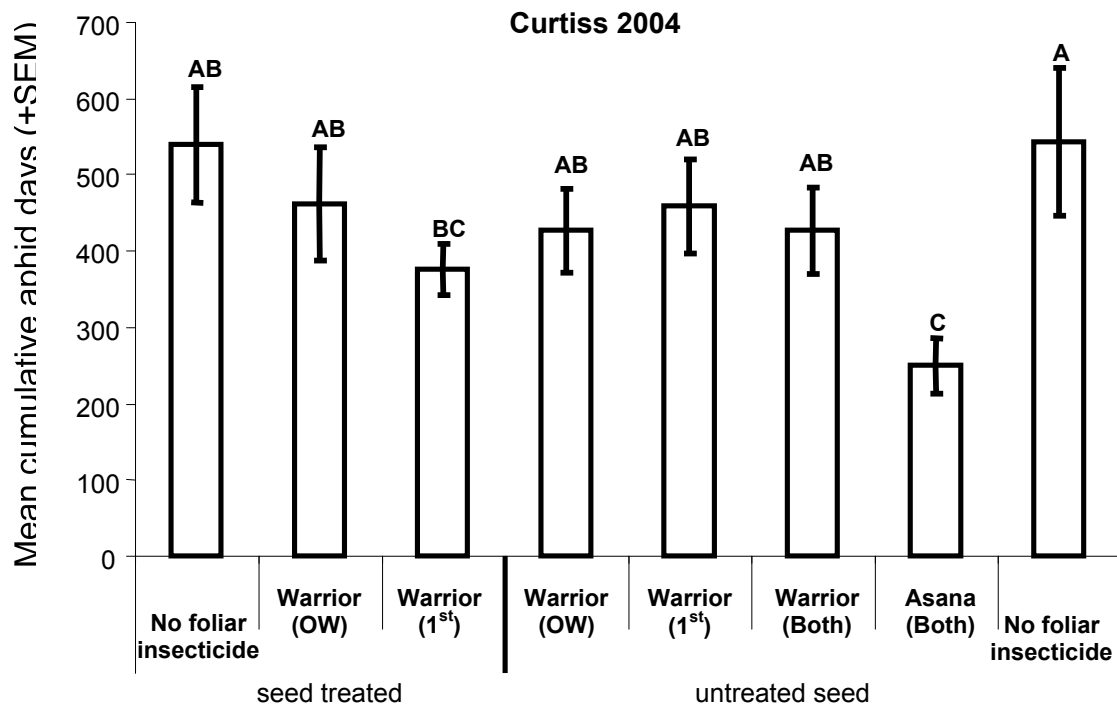


Figure 1. The effect of bean leaf beetle insecticide treatments on soybean aphid populations. Means labeled with a unique letter were significantly different (P=0.05).

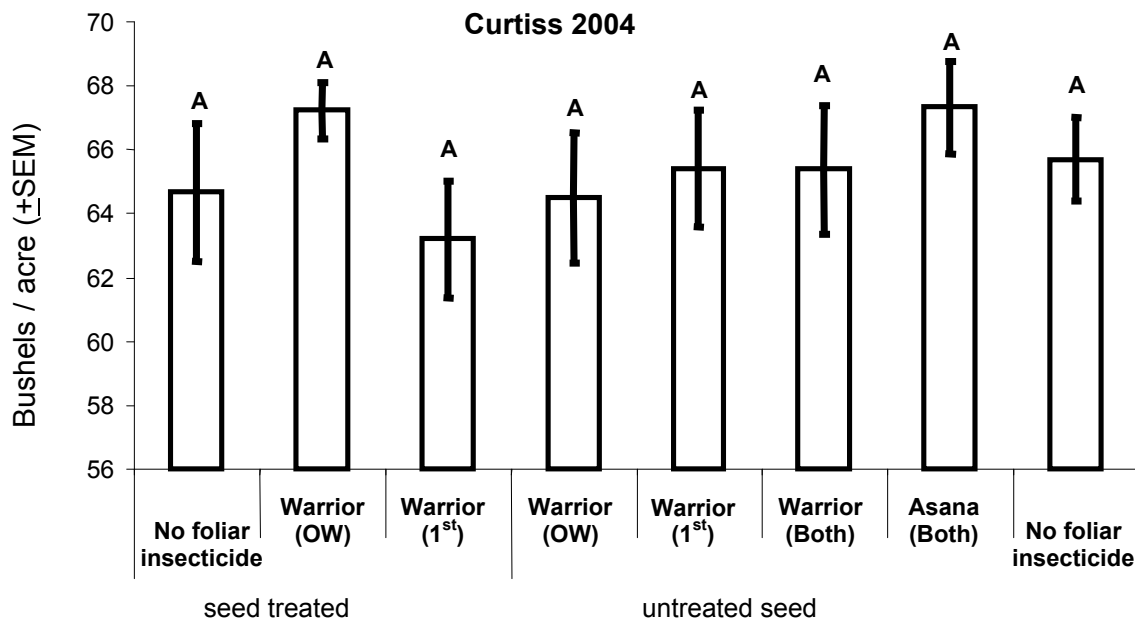


Figure 2. The effect of bean leaf beetle insecticide treatments on soybean yield (13% moisture). Means labeled with a unique letter were significantly different (P=0.05).