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Management of Corn Aphids

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Management of Corn Aphids

Abstract
Many agronomists and producers have noticed a large number of aphids present in select corn fields the past two growing seasons. The two predominant species are the corn leaf aphid (*Rhopalosiphum maidis*) and the bird cherryoat aphid (*Rhopalosiphum padi*). Currently, there are no economic threshold levels available for producers to use when debating the need for management strategies beyond tasseling. A trial was initiated at the Northwest Research Farm in 2009 to study the impact of these aphid species on corn grain yield.

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Management of Corn Aphids

RFR-A9086

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Josh Sievers, ag specialist

Introduction

Many agronomists and producers have noticed a large number of aphids present in select corn fields the past two growing seasons. The two predominant species are the corn leaf aphid (*Rhopalosiphum maidis*) and the bird cherry-oat aphid (*Rhopalosiphum padi*). Currently, there are no economic threshold levels available for producers to use when debating the need for management strategies beyond tasseling. A trial was initiated at the Northwest Research Farm in 2009 to study the impact of these aphid species on corn grain yield.

Materials and Methods

Corn plots were planted on April 24 with Agrigold 6325VT3 at 35,600 seeds per acre in a corn-soybean rotation. Weeds were managed with pre- and post-emergent herbicide applications. Individual plot size was 10 ft wide (4 rows) by 94 ft long. There were six replications of two treatments—untreated control and a foliar insecticide at the blister (R2) stage of growth.

Scouting of random corn plants on August 17 indicated aphid populations of 200 aphids per plant. Of the total population, 125 were located on the ear and the other 75 were on the leaves in the upper canopy. Over 90% of the plants were infested with aphids and honeydew was present on corn leaves.

Warrior II insecticide was applied to plots on August 17 at a rate of 1.92 oz per acre. Treatments were applied with a John Deere 6000 sprayer at 15.1 gallons per acre at 40 pounds per square inch (psi).

All four rows were harvested for yield on November 5. Corn grain yields were adjusted to 15.5% moisture. Statistical analysis was used to analyze the yield data, with a significance level of $P \leq 0.05$.

Results and Discussion

Treated corn plots had no aphids or honeydew present on leaves one week after application. Aphid numbers in the untreated plots had decreased to less than 20 aphids per plant at the same time, with only a small amount of honeydew still on the plants.

Plots treated with insecticide had higher yield (215.9 bu/acre) compared with the untreated plots (209.7 bu/acre). Although the yield difference was not numerically statistically different.

Results of this study suggest that aphids in corn may have a negative impact on yield. Further research is needed to determine an economic threshold of aphids in corn. This study will continue in future years, depending on the aphid populations present.