

# Evaluation of Warrior Insecticide and Quadris Fungicide Applications on Soybeans

Andy Kleinschmidt, AGNR Extension Educator- Van Wert County  
Gary Prill, Program Manager, Farm Focus/Research Coordinator

## Objectives

To determine if the addition of Warrior insecticide, Quadris fungicide, or Warrior insecticide plus Quadris fungicide tankmix will provide a yield benefit to soybeans.

## Background

---

|                   |   |                |                                     |
|-------------------|---|----------------|-------------------------------------|
| Soil Type:        | Hoytville silty clay loam,<br>Haskins loam          | Herbicide:     |                                     |
| Drainage:         | Non-Systematic Tile                                 | PRE (May 11):  | 2.4 pt/A Boundary 6.5 EC            |
| Previous Crop:    | Wheat   | POST:          | 20 oz/A Flexstar + 10 oz/A          |
| Tillage:          | Fall disk/ripper, Spring field<br>cultivate (2x)    | (June 18)      | Fusion + 2 lb/A AMS + 1% v/v<br>COC |
| Soil Test (2005): | pH 6.0, P 27 ppm, K 133 ppm                         | Variety:       | Golden Harvest H-2885               |
| Fertilizer:       | 285 lb/A 4-18-39 surface<br>broadcast (May 5, 2005) | Row width:     | 7.5 inches                          |
|                   |   | Planting Rate: | 220,000 seeds/A                     |
|                   |   | Planting Date: | May 10, 2005                        |
|                   |   | Harvest Date:  | October 1, 2005                     |

---

## Methods

This study originally consisted of four treatments replicated seven times in a complete randomized block design. The treatments are as follows:

1. Warrior insecticide @ 3.2 oz/A applied July 15 at R3 – beginning pod set.
2. Quadris fungicide @ 6.4 oz/A applied July 15 at R3 – beginning pod set.
3. Warrior insecticide @ 3.2 oz/A + Quadris fungicide @ 6.4 oz/A tankmix applied July 15 at R3 – beginning pod set.
4. Untreated Check

Applications were made with an Application Systems ground sprayer operated at 40 psi application pressure in 15 gallons per acre spray volume. Turbo TeeJet wide angle flat spray tips (TT11002) on 15 inch spacings were used for all applications. At the time of application on July 15 aphid pressure was noted as low, well below the threshold of 250 aphids/plant. Two weeks following the July 15 application, aphid pressure had reached threshold. We elected to use three of our seven untreated check plots to make a Warrior only application on August 5 (soybean growth state R5), thus timing the insecticide application based on aphid threshold. Plot size was 45 feet wide by 572 feet long.

Harvest populations (September 22) were estimated by counting the number of plants in the row on each side of a 10 foot section at three different locations in each plot. The average number of plants counted per 10 feet was converted to plants per acre. Yields were determined by harvesting one round (28 feet) out of the center of each plot with a John Deere 6620 combine equipped with a calibrated AgLeader PF3000 yield monitor. Plot weights were determined with a calibrated weigh wagon and moistures were taken from the combine yield monitor. All yields were adjusted to a 13% moisture standard.

## Results

Table 1. Soybean harvest population, moisture, and yield means for each treatment.

| Treatment                            | Date of Treatment | Harvest Population (plants/A) | Moisture (%) | Yield (bu./A) |
|--------------------------------------|-------------------|-------------------------------|--------------|---------------|
| Untreated Check                      | NA                | 154,100                       | 11.5         | 47.5a         |
| 3.2 oz/A Warrior Insecticide         | July 15           | 149,800                       | 11.3         | 47.1a         |
| 6.4 oz/A Quadris Fungicide           | July 15           | 150,600                       | 11.4         | 47.8a         |
| 3.2 oz/A Warrior + 6.4 oz./A Quadris | July 15           | 144,000                       | 11.4         | 49.9b         |
| 3.2 oz/A Warrior Insecticide         | August 5          | 158,400                       | 11.2         | 62.6c         |
|                                      | LSD (P=0.05)      | NS                            | NS           | 1.9           |
|                                      | F-test            | <1                            | 1.2          | 125.9         |
|                                      | CV (%)            | 10.5                          | 1.5          | 2.0           |

NS= not significant

Means followed by the same letter are not statistically different

## Summary

This study is divided into two parts. The first part of this study examines three separate treatments: an application of Warrior, an application of Quadris, and a tankmix application of Warrior and Quadris. These three treatments were all applied at soybean stage R3 (July 15) with little to no disease or aphid pressure. The second part of this study examines the application of Warrior at soybean stage R5 (August 5) when aphid pressure reached threshold >250 aphids per plant. Final statistical analysis is based on all five treatments with three replications per treatment.

Results of this study indicate statistical differences in yield from a foliar application of Warrior insecticide tankmixed with Quadris fungicide when applied at R3. Even though there was no disease observed in soybeans, and very few insects observed prior to the application, there appears to be a synergistic yield effect of a Warrior plus Quadris tankmix application. This yield effect resulted in approximately two bushel yield increase compared to the untreated check or the Warrior or Quadris applications by themselves.

Results from this year's study also clearly indicate a yield advantage from an application of Warrior when aphid reached threshold >250 aphid/plant. For this study, timing the Warrior application when aphid population reached threshold increased yield by 15.1 bushels compared to the untreated check. Further, a single Warrior application at soybean stage R3 clearly did not provide enough residual control to protect soybean yield from aphid damage.

The additional cost for adding the Warrior insecticide in this trial was \$7.13 per acre at the 3.2 oz/A rate. The additional cost for adding the Quadris fungicide in this trial was \$15.45 at the 6.4 oz/A rate. The additional cost for adding the Warrior insecticide plus Quadris fungicide as a tankmix in this trial was \$22.58 per acre at the 3.2 oz/A rate for Warrior and 6.4 oz/A rate for Quadris. These prices are based on in season pricing with no discounts and this cost does not include application fees. Typical commercial application fees are approximately \$5 per acre.

## Acknowledgement

OSU Extension-Van Wert and Farm Focus express appreciation to Syngenta Crop Protection, Inc. for supplying the Warrior insecticide and Quadris fungicide used in this study.