



2014 DEMONSTRATION REPORT

Monsanto Learning Center at Monmouth, IL

Effects of Tillage and Fungicide on Corn Yield

This trial was designed to see the effect a fungicide application had on yield in conventional tillage and strip till systems in both a long term corn-on-corn (C-C) rotation and a corn-soybean (C-S) rotation.

Did the trial reveal an advantage with the use of fungicide in either rotation?

Study Guidelines

A corn demonstration trial was conducted at the Monsanto Learning Center near Monmouth, IL comparing the use of fungicide on two rotations and two tillage treatments. The trial was planted with 112 and 113 RM (relative maturity) corn products.

- Rotation treatments
 - Corn-on-corn (C-C)
 - Corn-soybean (C-S)
- Tillage Treatments
 - Conventional tillage: Fall chisel plow and spring soil finisher to establish a seed bed
 - Strip till: Spring strip till zones (no fall tillage)

The trial was conducted in plots measuring 10 ft x 100 ft (0.023 acre)/ treatment. Corn was planted in 30-inch single rows with 4 rows/plot. Both systems had fall anhydrous applied. Strip till had 18-46-60 applied in strip till zones on April 18, 2014. The conventional tillage system had 18-46-60 broadcast applied in the fall of 2013. Fungicide applications were made July 21, 2014 at R2 growth stage (Headline AMP® fungicide at 14 fl oz/acre). Plots were harvested on October 1, 2014.

Results



Figure 1. Untreated control (UTC) on left compared to Headline AMP® fungicide on right.

In C-S ground, the untreated control yielded the same regardless of tillage type (Figure 2). The use of fungicide made a larger difference in yield on conventional tillage than on strip tillage. There was an 18.2 bu/acre yield advantage for fungicide under conventional tillage versus a 5 bu/acre yield advantage under strip tillage.

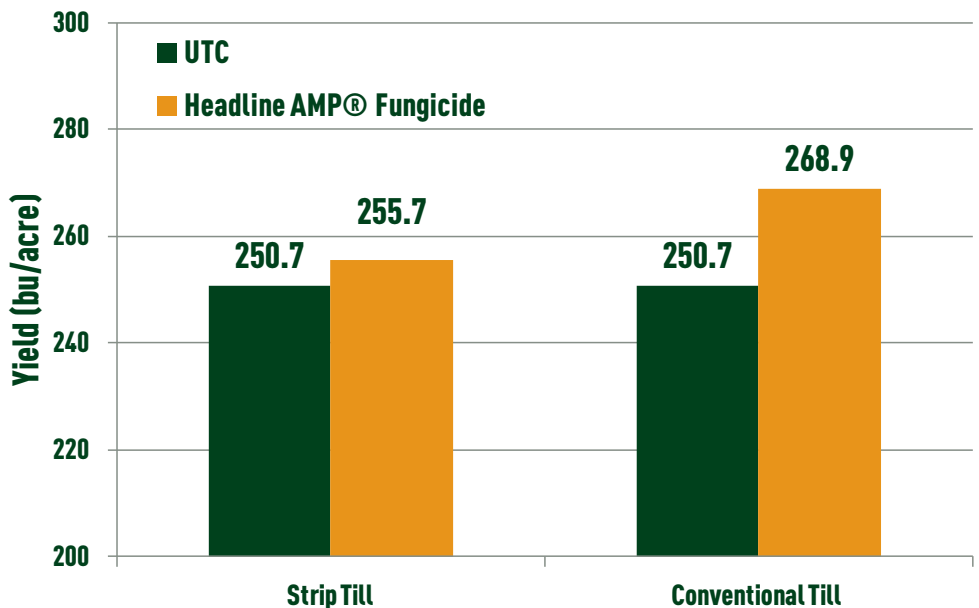


Figure 2. Tillage by fungicide comparison on C-S rotated ground.



2014 DEMONSTRATION REPORT

Monsanto Learning Center at Monmouth, IL

Effects of Tillage and Fungicide on Corn Yield

In C-C ground, the untreated control yielded 3.2 bu/acre better under strip tillage than under conventional tillage (Figure 3). The use of fungicide made a larger difference in yield on strip tillage than on conventional tillage. There was a 24.1 bu/acre yield advantage for fungicide under strip tillage versus a 16.2 bu/acre yield advantage under conventional tillage.

When yields were averaged across rotation types, the untreated control and fungicide treatments yielded similarly under both types of tillage (Figure 4). The use of fungicide made a slightly larger yield difference under conventional tillage than under strip tillage. There was a 17.2 bu/acre yield advantage for fungicide under conventional tillage versus a 14.5 bu/acre yield advantage under strip tillage.

Key Messages

Overall, this trial provided the following findings:

- A greater yield response was seen with fungicide on the C-C ground.
 - C-C ground has more opportunity to harbor plant disease due to the high amount of crop residue carryover.
- Fungicide use has the potential to increase corn yield and improve standability in a disease environment.
- The cool and wet weather conditions in 2014 were ideal for disease development.

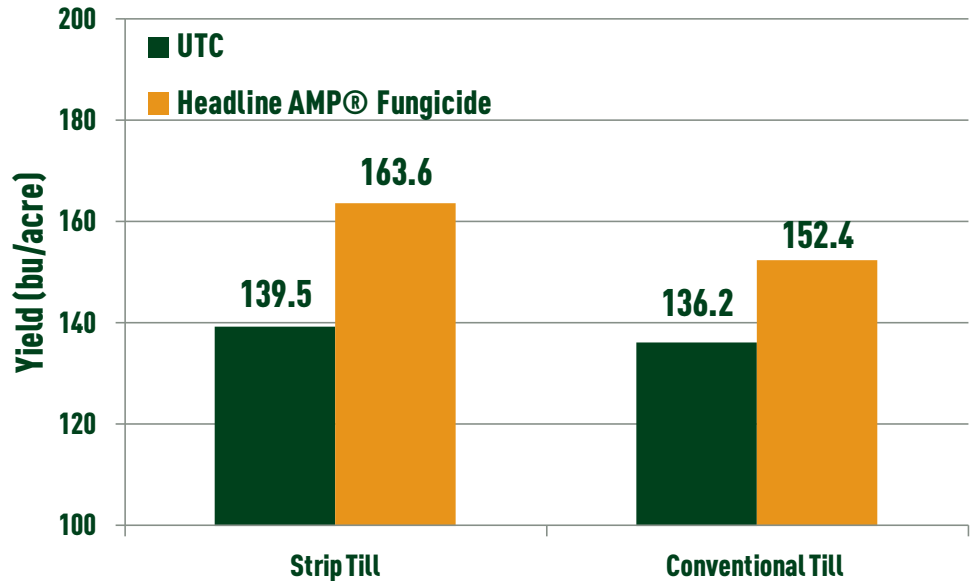


Figure 3. Tillage by fungicide comparison on C-C ground.

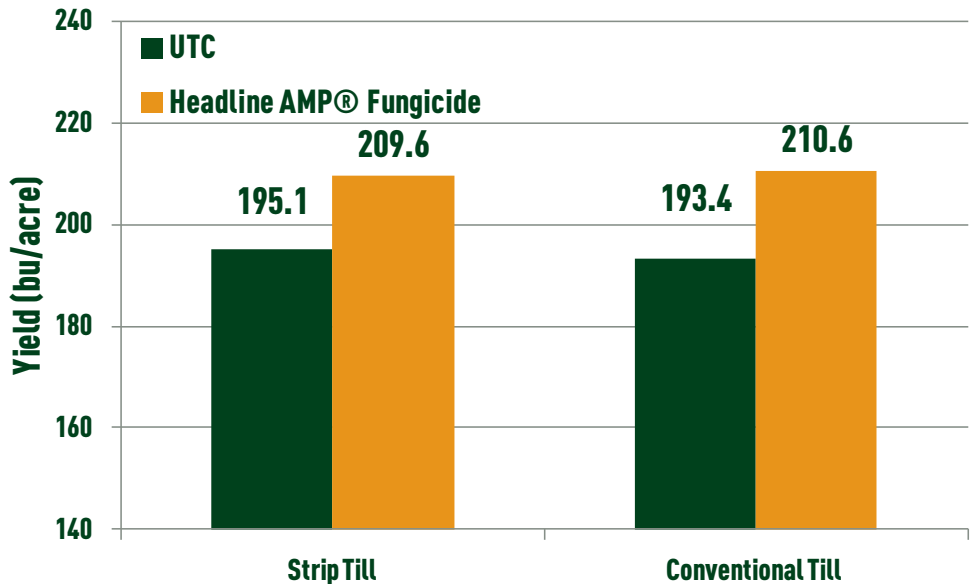


Figure 4. Tillage by fungicide comparison averaged across C-S and C-C rotations.

The information discussed in this report is from a single site, non-replicated demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Leaf Design® is a registered trademark of Monsanto Company. Headline AMP® is a registered trademark of BASF Corporation. All other trademarks are the property of their respective owners. ©2014 Monsanto Company. 141111104751 111714JMG