RESPONSE OF ASGROW® SOYBEAN PRODUCTS TO FLOOD IRRIGATION

2016 Learning Center Demo Report
Monsanto Learning Center at Scott, MS

BACKGROUND

- In the Midsouth, many soybean growers use flood irrigation in flat planted systems because:
  - Flood irrigation is compatible with rice production.
  - Flood irrigating is easier than row watering.
- A difference in soybean product response to flood irrigation has been observed in the past
- A demonstration was established to evaluate the tolerance of new Asgrow® soybean products to flood irrigation regimes of different lengths.
- A second evaluation was to supply data to the adaption of new soybean products for systems in the Midsouth.

STUDY GUIDELINES

- Soybean products were planted in 38-inch twin rows on April 26, 2016 at 150,000 seeds/acre.
- Irrigation was applied three times:
  - June 27, 2016
  - July 17, 2016
  - August 1, 2016
- Flood irrigation water was held on each soybean product for either 24 and 72 hours.
- Untreated check plots were rainfed.

STUDY GUIDELINES

- Soybean products with different relative maturities were ready for harvest on different dates.
  - Harvesting took place over a 2 to 3 week period.
- Soybean product yield was calculated and compared by flood irrigation timing (24 and 72 hours).
- Plots were conducted on clay loam soil with corn as the previous crop. All agronomics were per local standards.

RESULTS & DISCUSSION

- The 72-hour flood plots yield reduced from 18-41% versus the untreated check.
- Some yield differences were observed in soybean product tolerance to flooding.
- When averaged across soybean products, a 72-hour flood reduced yield by about 20 bu/acre with the range being 10-33 bu/acre.

RESULTS & DISCUSSION

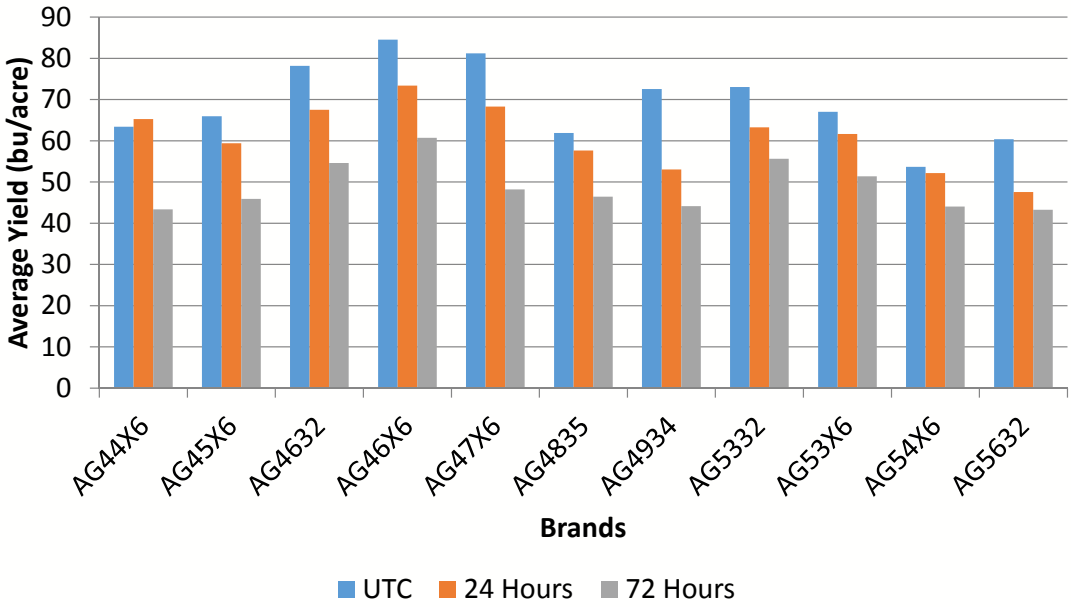

Figure 1. Soybean product average yield response to flood irrigation timing and untreated check (UTC).

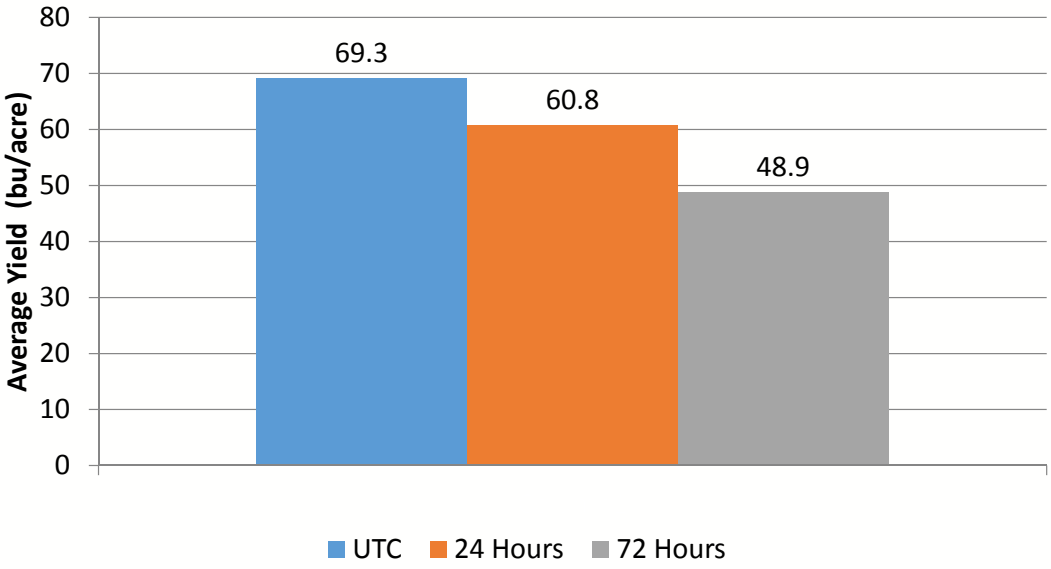

Figure 2. Average yield response of soybean products to flood irrigation timing and untreated check (UTC).

RESULTS & DISCUSSION

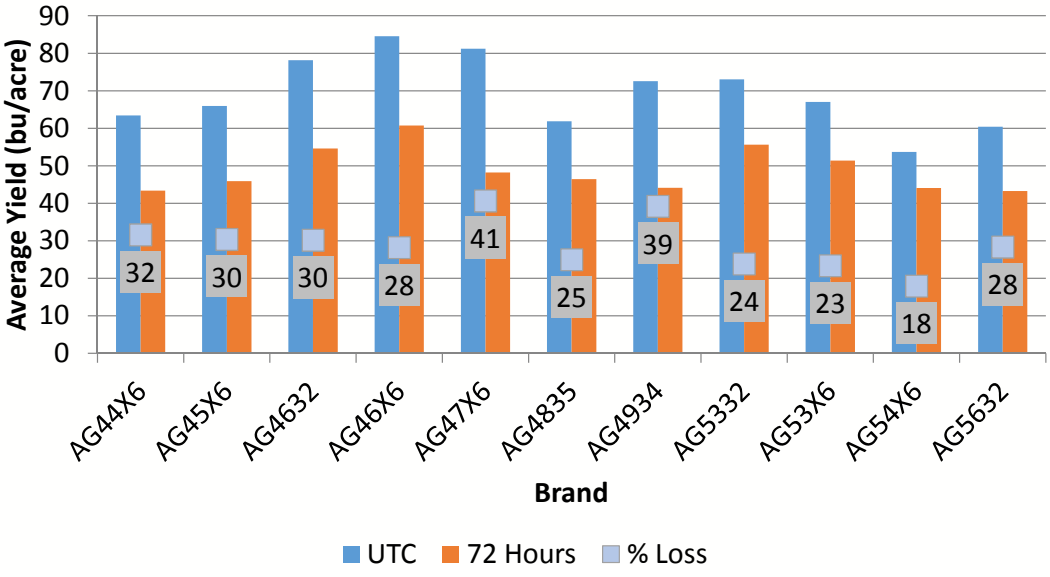

Figure 3. Soybean product average yield response to 72-hour flood irrigation and percent yield loss.

RESULTS & DISCUSSION

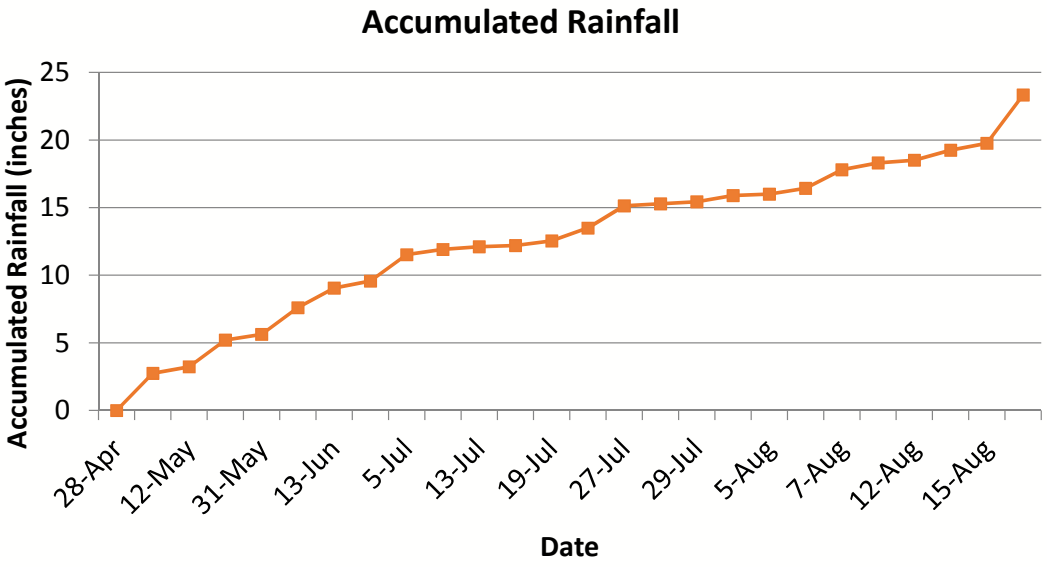

Figure 4. Accumulated rainfall 2016, for Scott, MS.

TAKE AWAYS

- In fields prone to flooding, careful attention should be given to soybean product selection.
- Even in fields that utilize flood irrigations, growers should make efforts to establish drainage to remove water in a timely manner.

LEGAL STATEMENTS

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.