



## RESPONSE OF SOYBEAN TO POPULATION AND ROW CONFIGURATION

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



- Many farmers are interested in reducing soybean populations for seed-cost savings.
- The Midsouth has a variety of cropping systems that include several row configurations. A study was established to evaluate the response of soybean yield to population in different row configurations.



## STUDY GUIDELINES

- Study was conducted in Scott, MS on silt loam soil with 65 bu/acre soybean yield potential.
- AG47X6 brand soybean seed was planted at various rates from 100,000 to 200,000 seeds/acre on May 6, 2016
  - into a conventionally tilled field that was previously corn.
- Emergence was typical – near 75%.

Response of Soybean to Population and Row Configuration



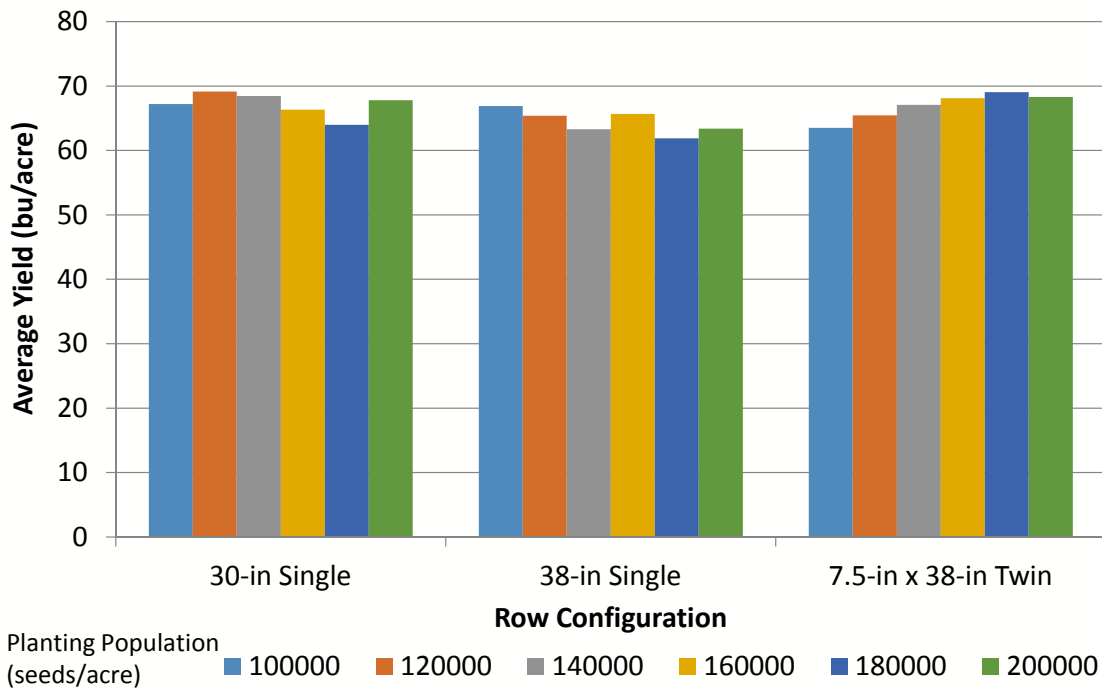
## STUDY GUIDELINES

- All agronomic practices were per local standard.
- Study was replicated and conducted in cooperation with Mississippi State University.
- Crop was harvested September 10, 2016.

Response of Soybean to Population and Row Configuration



# RESULTS & DISCUSSION

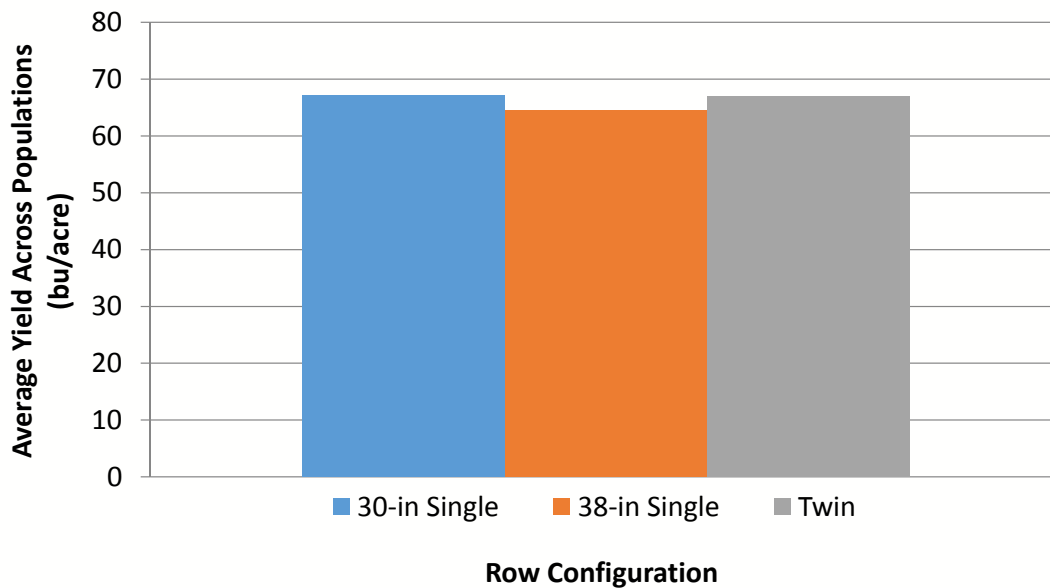


Response of Soybean to Population and Row Configuration



# RESULTS & DISCUSSION

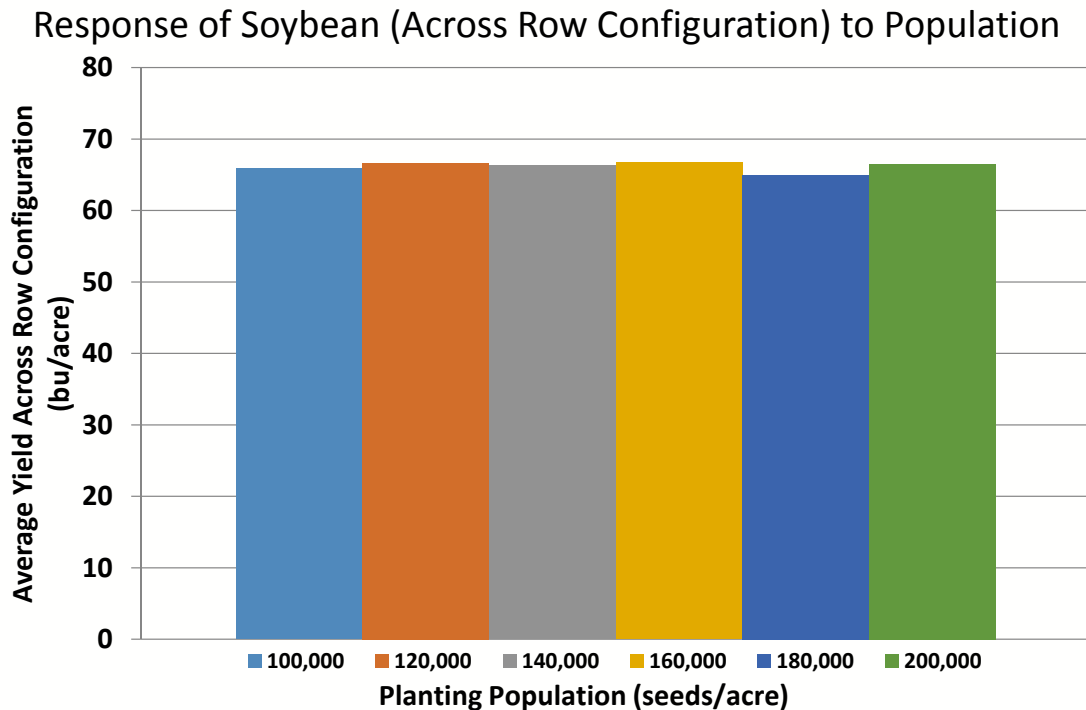
Response of Soybean (Across Populations) to Population and Row Configuration



Response of Soybean to Population and Row Configuration



## RESULTS & DISCUSSION



Response of Soybean to Population and Row Configuration



## RESULTS & DISCUSSION

- Differences between treatments were subtle but meaningful.
- Row spacings were similar in yield response.
- When evaluating the appropriate population to plant for a row configuration, consider these trends:
  - Population increase did not correlate well with average yield increase for the 30-inch row treatment.
  - Some potential for inferior drainage exists in the 30-inch row plots, which may explain why the response was different than the 38-inch and twin row configurations.

Response of Soybean to Population and Row Configuration



## RESULTS & DISCUSSION

- Yield tended to be indirectly related to increasing plant population for the single 38-inch row configuration.
  - This may be due to the fact that plants in a 38-inch single row system tend to be taller with greater potential to lodge.
- In the twin row 38-inch configuration, yield tended to be directly related with increased plant populations. Yield increased with increased plant populations.
  - Optimal yield potential was near 150,000 plants/acre.
  - This system offers the trade-offs between drainage vs. 30-inch and row spacing vs. the 38-inch single row system.

Response of Soybean to Population and Row Configuration



## TAKE AWAYS

- In both the 30-inch and 38-inch single systems, population can be decreased vs. historical standards. This is typical of the commercial experience.
- Farmers that plant soybean in 30-inch row configurations should establish adequate drainage.
- Populations should be maintained near 150,000 plants/acre to help maximize yield potential in the 38-inch twin row systems.

Response of Soybean to Population and Row Configuration



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