



## EFFECT OF VARIETY AND ROW SPACING ON SOYBEAN YIELD

Several university studies have indicated that narrower rows frequently out produce 30-inch rows<sup>1,2,3</sup>. Narrower rows allow for better weed control because typically, earlier canopy closure shades out weeds. Canopy closure also reduces soil moisture losses due to evaporation. Because of these potential benefits, a multi-year effort is underway at the Monsanto Learning Center at Monmouth, IL to evaluate row spacings that could optimize soybean yield potential. The 2012 trial was designed to demonstrate the effect of row spacing as well as variety on soybean yield potential.

### MATERIALS AND METHODS

From 2009 to 2012 a study has been conducted at the Monsanto Learning Center at Monmouth, IL to investigate the effect of variety and row spacing on soybean yield potential. In 2012, two Genuity® Roundup Ready 2 Yield® soybean products in maturity groups (MG) 2.8 and 3.4, were evaluated for yield potential in 15-inch row, 20-inch row, 30-inch twin row, and 30-inch row systems (Figures 1-2). Plots were planted on May 15, 2012. Conventional tillage practices consisted of a chisel plow in the fall followed by soil finisher in the spring. The herbicide program included Valor® XLT applied on May 17 followed by Roundup PowerMAX® applied on June 13.

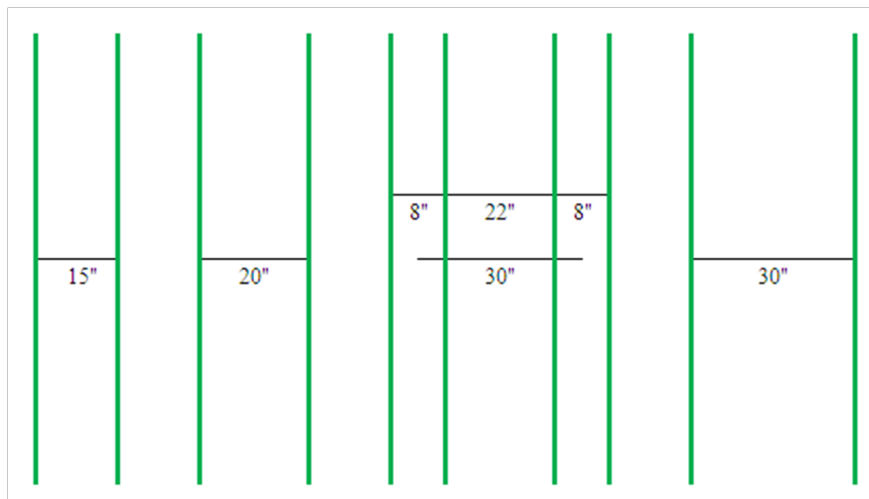


Figure 1. Row configuration side-by-side illustrations: 15-inch, 20-inch, 30-inch twin, and 30-inch.

### RESULTS

While overall yield was greatest with the MG 3.4 soybean across all row configurations, the two different varieties responded similarly to row spacings (Figure 3). For both MG varieties, the 20-inch row configuration provided the highest yield, followed closely by the twin rows. The 20-inch single rows provided a 2 bu/acre advantage over 30-inch twin rows and 5 bu/acre over 30-inch single rows when averaged across varieties (Figure 4).

### SUMMARY COMMENTS

In multiple experiments across Iowa, Dr. Pedersen observed that 15-inch rows produced average yields of 4.5 bu/acre more compared to 30-inch rows<sup>1,2</sup>. A similar yield advantage was observed for the MG 3.4 soybean variety in this trial.

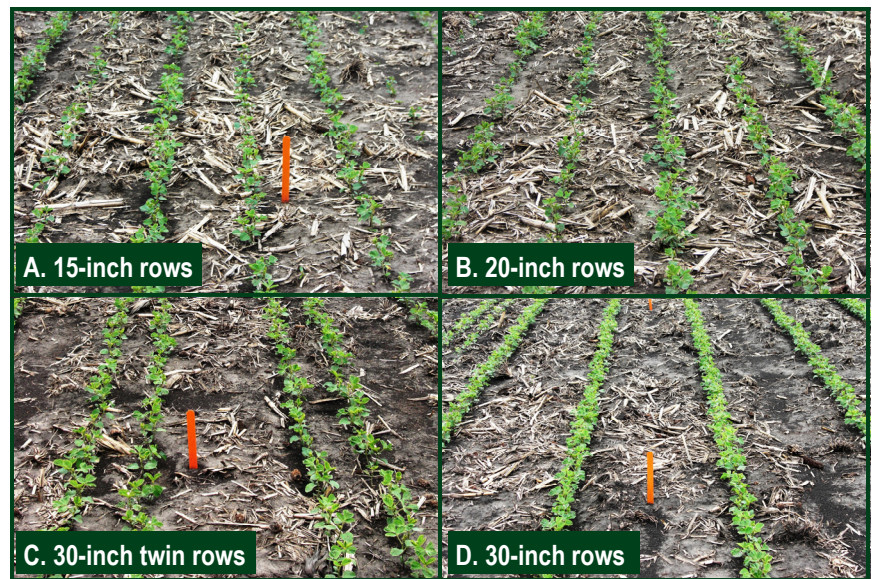
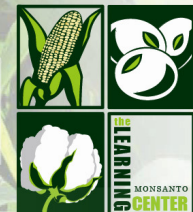


Figure 2. Planted rows: A. 15-inch, B. 20-inch, C. 30-inch twin rows, and D. 30-inch.

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## COMPARISON OF ROW CONFIGURATIONS AND PLANTING POPULATIONS IN SOYBEANS

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In Figure 4, the 2012 yield data is shown averaged by row spacing. In the three previous years, average yield was highest when using twin rows. In each year, the top yield was captured using a narrow or twin row spacing. With the exception of a few anomalies, the average narrow row treatments out-yielded 30-inch rows at the Monsanto Learning Center at Monmouth, IL.

### REFERENCES

<sup>1</sup>De Bruin, J.L. and P. Pedersen. 2008. Effect of row spacing and seeding rate on soybean yield. *Agron. J.* 100:704-710.

<sup>2</sup>Pedersen, P. 2008. Row spacing is important to maximize your yield. Iowa State University Extension.

<sup>3</sup>Walker, E.R., et al. 2010. Plant population and row-spacing effects on Maturity Group III Soybean. *Agron. J.* 102:821-826.

*The information discussed in this report is from a single site, four-year 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.*

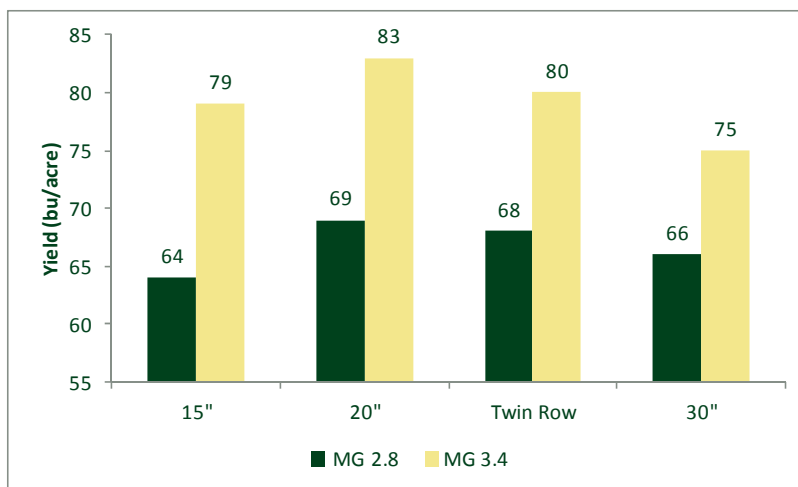


Figure 3. Effect of variety and row spacing on yield, 2012 Monsanto Learning Center at Monmouth, IL.

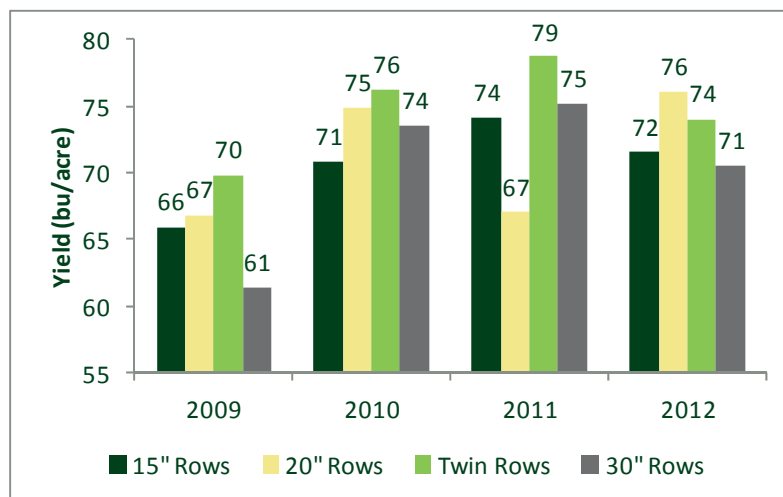


Figure 4. Comparison of average yield by row spacing across four consecutive years, Monsanto Learning Center at Monmouth, IL.

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