Objectives

Compare corn yield and response to plant population in 22-inch and 30-inch rows for 3 hybrids of differing relative maturity.

Experimental Procedure

Plot layout: 4-row randomized small plots
Replicates: 4 per location

Factors:
Row Width: 22-inch vs. 30-inch
Hybrid: 80-day RM - 39V07 (HX1, LL, RR2)
85-day RM - P8581R (RR2)
89-day RM - 39N99 (HX1, LL, RR2)
Population: 16,500; 22,000; 27,500; 33,000; 38,500; 44,000 plants/acre

Results (averaged across the 5 locations)

- The 89-day hybrid yielded 5% more than the 80- and 85-day hybrids. This was consistent for both row widths.
- The response to final plant population was similar among hybrids. This was consistent for both row widths.
- Yield did not differ between row widths when there were populations of 33,000 plants/acre or less. When final plant population was increased from 33,000 to 38,500 plants/acre, yield was increased by 4% in 22-inch rows but was not increased in 30-inch rows.
- Optimum seeding rates (assuming 5% over-seeding) to get within $1.00/acre maximum net return were higher than expected:
  - At $225/bag and $6.00/bushel: 36,600 to 39,300 seeds/acre in 30-inch rows; 40,100 to 42,800 seeds/acre in 22-inch rows.
  - At $225/bag and $7.00/bushel: 37,100 to 39,400 seeds/acre in 30-inch rows; 40,500 to 43,200 seeds/acre in 22-inch rows.

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