Soybean Relative Maturity and Planting Date Influence on Optimal Yield

Purpose of Study:
To evaluate soybean relative maturity and planting date influence on optimal yield in northwestern Minnesota.

Results:
The plots were established utilizing two Asgrow cultivars with 0.9, and 0.4 relative maturities planted at eight different dates commencing April 25 and concluding on June 11. Optimum yield was achieved with the early maturing varieties at planting date 4 (May 15) and with the later maturing variety at planting date 3 (May 9) as is noted in Graph 1.

Graph 1. 2007 Planting Date Yields

Source: 2007 On-Farm Cropping Trials Northwest and West Central Minnesota
Soybean Relative Maturity and Planting Date Influence on Optimal Yield (continued)

Results continued . . .

Protein percentage was not affected by planting date and oil percent significantly decreased with delayed planting as is noted in Graph 2. These are identical results to the 2006 Planting Date Trial.

Soil temperature had a large effect on days from planting to emergence as can be seen in Graph 3, ranging from 14 days to 7 days from planting to emergence.

Graph 4 gives the average daily air temperature, and average 2 inch and 4 inch soil temperatures. Mean soil temperatures at the 2 and 4 inch depths had achieved 55 degrees as early as April 25 in 2007. This was well above normal. It was May 1 of 2006 before soil temperatures exceeded 50 degrees.

The growing conditions during 2007 were not typical of a normal year in northwestern Minnesota with borderline drought conditions and warmer than normal soil temperatures. To utilize this information to make planting date decisions, several years of different environments need to be considered to determine a risk assessment of early planting of soybean.