

Part 2

Have you ever wondered what happens if soybean varieties of different maturity groups (MG) were planted on different dates?

Results from a study at the North Central Kansas Experiment Field near Belleville provide answers to that question. The study site was a Crete silt loam soil. Varieties representing MG I, MG II, MG III, and MG IV were no-till planted into grain sorghum stubble at 10 seeds/ft using a 30 inch row spacing at four different planting dates. The average planting dates for the two years were May 1, May 25, June 10, and June 23. The average yield over all maturity groups for May 1 was 46 bushels per acre, 47 bushels per acre for May 25, 34 bushels per acre for June 10, and 22 bushels per acre for the June 23 planting date. The MG II and MG III varieties produced yields of 48 and 49 bushels per acre, respectively for the May 1 date and 51 and 52 bushels per acre, respectively for the May 25 planting date. For varieties of MG I, MG II, and MG IIIs there was about a 52 % yield decrease as planting was delayed to the late June date, while there was a 61 % yield decrease for the MG IV variety as planting was delayed. Within each planting date the MG II and MG III varieties had higher yields than the MG I and MG IV varieties.

In this study, the early variety (MG I) was the shortest, while the latest variety (MG IV) was the tallest. The May 1 planting date produced the tallest plants for all maturity groups and plant height was reduced for all varieties as planting date was delayed until June 23. There was a 10 to 15 inch reduction in plant height for varieties of all maturity groups as planting was delayed from the May 1 date to the June 23 date.

The MG I variety matured in 106 days when planted on May 1 and it only took 84 days to mature when planted on June 23. The MG IV variety matured in 134 days when planted on May 1 and matured in 103 days when planted on June 23.

What's the bottom line?

As planting date is delayed soybeans are dramatically affected. Because the time from emergence to maturity is much shorter (they mature quicker) with delayed planting dates, soybeans speed through their developmental stages which makes them shorter and they produce fewer nodes where pods are attached. This causes significant yield reductions. This is the reason for the recommendation that producers should stay with adapted soybean varieties to the area when planting date is delayed, such as with double-cropping after wheat.

For details about this research see:

Field Research 2002. P 83-86. K-State Research & Extension Report of Progress 893.

Jim Shroyer
Extension Specialist
Crop Production