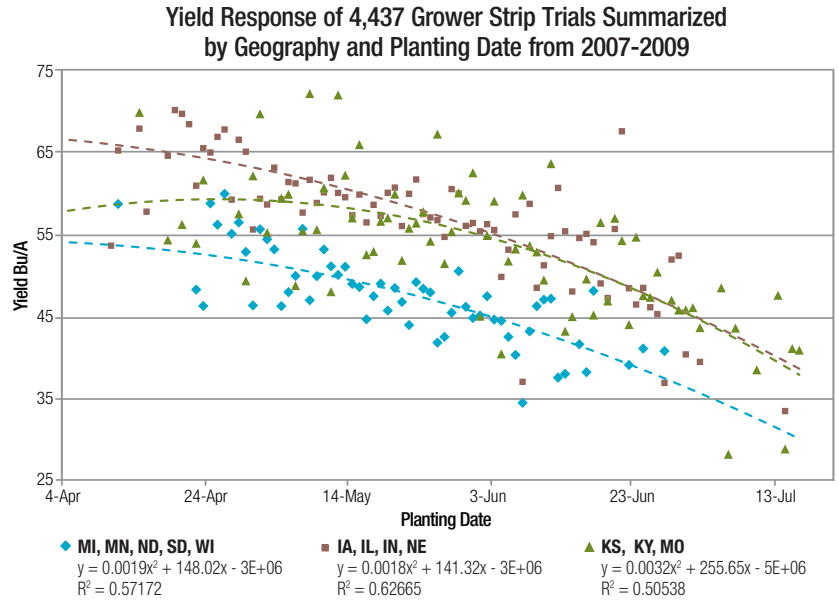


Across the Midwest the relationship between soybean planting date and yield response differs only slightly by region. To better understand how yield response relates to planting date, a robust data set was extracted from 2007-2009 grower strip trials (Graph 1).

## Planting Date Response Across Regions

- Rate of yield loss after May 25 is just over 2.5 Bu/A per week, regardless of growing region.
- Yield losses from delayed planting in the central and northern regions of Midwest states were influenced by day-length and number of days available in the growing season.
- Planting delays in Southern states (data not included) did not appear to impact yields as much as in Midwestern states. Due to the extended growing season, Southern areas are more likely to be impacted by other environmental factors.



Graph 1

## Relative Maturity for Delayed Planting

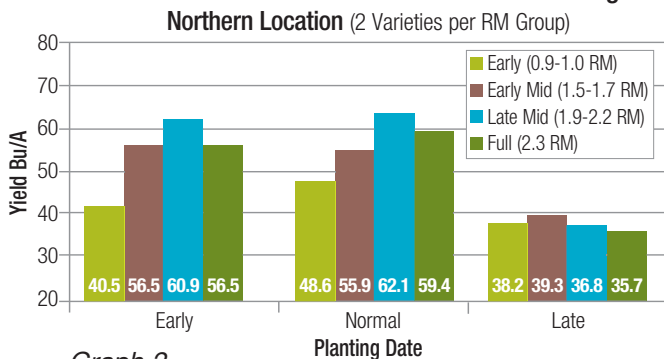
Syngenta Agronomy Research conducted replicated trials at two separate Midwest locations to better understand relative maturity (RM) performance and selection, in delayed planting situations moving from northern to central geographies.

- Full season varieties, at both northern and central locations, yielded best when planted at early to normal planting dates.
- When planting was delayed (June) at the northern location, early season varieties yielded as well as full season varieties and matured before frost (Graph 2).
- Switching to earlier RM varieties (0.6-0.8 earlier than full season) provided maximum yield at later planting dates in northern locations (Graph 2).
- At central locations full season varieties always out-yielded earlier maturing varieties, even in delayed (June) planting scenarios (Graph 3).
- Growers wanting to maintain optimum yields in central regions (I-80 corridor) should always maintain full season varieties, even into June.

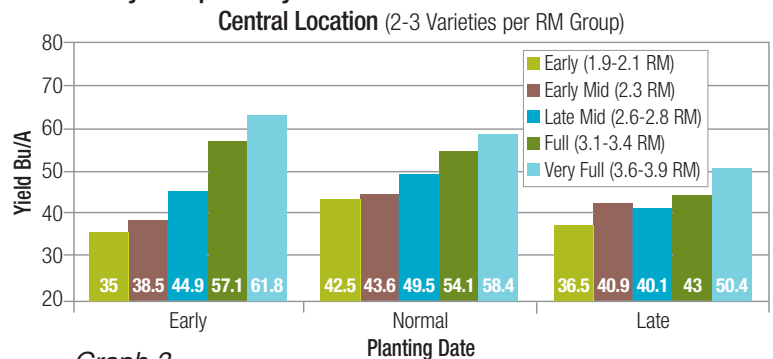
## Plant Early to Maximize Yields

- Plant into favorable seedbed conditions at depths of 1 to 1.5 inches.
- Plant into warm soils for best seed germination (>50°F soil temperature at 2 inch depth).
- Use CruiserMaxx® Beans insecticide/fungicide seed treatment to increase stand and early season vigor in cool and damp soils by controlling seedling diseases, and other insect pests.

## Effective Planting Date and Maturity Group on Soybean Yield



Graph 2



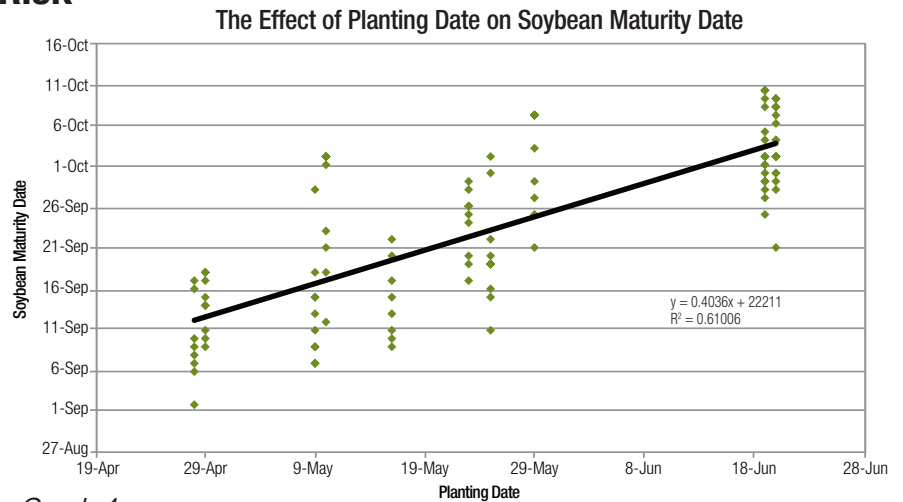
Graph 3



## Select RM to Minimize Fall Frost Risk

Predicting the time frame for the first killing frost is critical for RM selection, especially in northern geographies. Once the first killing frost date is estimated by utilizing historic weather data, growers can determine what RM is required to safely reach maturity at that planting date.

- Each day planting is delayed does not result in the same number of days maturity is delayed.
- Syngenta Agronomy Research trials show that for each week planting is delayed, soybean maturity is only delayed by 2.8 days (Graph 4).



**Number of Days Difference in Maturity Date from Original Planting Date**

		Decrease in Relative Maturity for Delayed Planting				
		0.0	0.5	1.0	1.5	2.0
Days Between Planting Dates	0	0	-5	-10	-15	-20
	5	2	-3	-8	-13	-18
	10	4	-1	-6	-11	-16
	15	6	1	-4	-9	-14
	20	8	3	-2	-7	-12
	25	10	5	0	-5	-10
	30	12	7	2	-3	-8
	35	14	9	4	-1	-6
	40	16	11	6	1	-4
	45	18	13	8	3	-2
	50	20	15	10	5	0
55	22	17	12	7	2	
60	24	19	14	9	4	

Table 1

## Selecting the Best RM

Due to maturity date being delayed with late plantings, growers must decide what replanting strategy best meets end goals. If replanting an entire field, an RM that maximizes yield and minimizes frost risk should be chosen (see example 1). If replanting into partial areas of a field, it may be more valuable to synchronize maturity dates to avoid harvest delays (see example 2).

Table 1 offers guidelines for both planting scenarios previously described. First, determine how many days planting has been delayed from normal and locate the number in the “Days Between Planting Dates” column. Scrolling right from the number of days between planting you identified to the green area and then upward to the column header will designate how much of a decrease in RM is required for replanted soybeans to mature at a date near the earlier planting date. The chart can also be used in similar fashion to understand how many days later the replanted crop will mature if lesser or no RM changes were made.

### Example 1: Selecting RM to maximize replant yield potential

A field planted on May 9 to a 2.1 RM variety is damaged by a hail storm and needs to be replanted on June 23. *Can the grower still use a 2.1 RM variety for replanting?*

- May 10 planting would normally mature around September 25
- Days Between Planting Dates = 45
- Table 1 demonstrates if the RM is unchanged (0.0 RM decrease) for replanting, the crop will mature 18 days later, around October 12.
- If October 12 is before normal first killing frost, grower may still use 2.1 RM variety for replant.

### Example 2: Selecting RM to best synchronize harvest dates

A field planted on May 16 with a 2.8 RM variety experienced excessive rains, requiring replanting in low areas of the field on June 10.

*What RM should be used for replant so the entire field can be harvested at the same time?*

- Days Between Planting Dates = 25
- Moving right in Table 1 (to green area) shows a 1.0 RM decrease is needed for coinciding maturity.
- Indicates a 1.8 RM variety is required to match maturity of initial May 16 planting date.

For more information contact your NK® Soybeans Dealer or Retailer or visit [www.nkbrandsoybeans.com](http://www.nkbrandsoybeans.com).

