



# SOYBEAN RESPONSE TO PLANTING DATE BY MATURITY

## PURPOSE

Soybean planting dates have dramatically changed in recent years to the point many are planting soybeans the same time as corn and planting as soon as conditions are fit. This is in response to increased yields observed from earlier planting dates primarily in April. The question then has become is there a preferred soybean maturity for those earlier dates. This study begins to investigate that question.

LOCATION	PLANTING DATE	PRODUCTS	TILLAGE	PREVIOUS CROP
Gibson Co, IN	4/12/18	3628R2X Brand	Conventional	Corn/Clover
	5/13/18	4228R2X Brand		
		4927R2X Brand		

## METHODS

Site treatments were replicated 3X

Each soybean product was planted on the two planting dates and replicated 3 times in a randomized strip design in 12, 30" rows at 118,000 plants/acre

Average # of nodes, pods and seed size were taken from a random sample of each product

The 3628R2X Brand and 4228R2X Brand was harvested on 10/1 and the 4927R2X Brand was harvested on 10/8. Grain was weighed with a calibrated weigh wagon. Statistical analysis completed by simple ANOVA

## DETAILS OBSERVED

- Emergence was fairly uniform with final stands approaching 100,000 ppa for the April and 110,000 for the May plantings.
- Rainfall was plentiful throughout the season as 28.9 inches was accumulated compared to the 15 year average of 23.7 in according to Climate weather data.
- In early parts of September, 4.7 inches of rain fell accompanied by above average temperatures for a two week period.
- The April, 3628R2X Brand and 4228R2X Brand beans flowered well before the summer solstice during the week of June 11 while the 4927R2X Brand maturity flowered the following week. Warm weather in the month of May accelerated growth and flowering.
- Plant size increased with the April planting across all product.

## SUMMARY

- Node counts were noticeably higher on average for the April planted 4927R2X Brand compared to the May planting. Node counts were similar for the 4228R2X Brand and 3628R2X Brand both planting dates
- Pod counts were also higher on average for the April planted 4927R2X Brand while the 4228R2X Brand and 3628R2X Brand pod counts were similar for both dates
- At harvest seed size was similar for both planting dates for the 4927R2X Brand and 3628R2X Brand while the 4228R2X Brand planted in April were slightly larger than the May planting date.
- Due to the large amount of rain and warm weather in early September, seed quality was diminished especially in the 4927R2X Brand resulting in likely yield loss. All three products experienced seed quality reductions.
- Final yields indicated a 7-8 bu/a increase for April planting in the 4228R2X Brand and 4927R2X Brand while the May planted 3628R2X Brand was slightly higher. The April planted 4228R2X Brand product was the highest yielding product. The 4927R2X Brand was the only one with significant difference at the P= 0.10 level.<sup>1</sup>

Brand	YIELD BU/A			LSD (Least Significant Difference)
	April	May	April Advantage	
<b>3628R2X</b>	75.1	77.3	-2.2	NS
<b>4228R2X</b>	81.9	74.0	7.9	NS
<b>4927R2X</b>	68.6	61.3	7.3	S
<b>Avg</b>	75.2	70.9	4.3	

Photo: June 14, 2018  
Product: 4228R2X Brand

P= 0.10<sup>1</sup>

## RECOMMENDATIONS

- Planting a range of maturities continues to be a solid way of reducing risk and exposure to unforeseen weather related yield influencers
- While planting a full season product did produce more nodes on average, late season weather likely reduced seed #s influencing final yield.
- We will reproduce this study in 2019 to continue to gain understanding

