

## Planting Date Effect on Soybean Reproductive Duration

2016

### Objectives

- Evaluate the effect of planting date on the number of days required to reach the R1 growth stage (beginning flowering) and days from R1 to R6 (full seed) growth stage among different soybean maturity groups.
- Compare days to Growing Degree Unit (GDU) accumulation at reproductive stages of soybean growth among different planting dates.

### Study Description

- Six locations in southern Pennsylvania, including one double-crop location.
- Each location had a different planting date, ranging from mid-April to early July and was evaluated twice per week from R1 to R6 soybean growth stage.
- Results were divided into two maturity groups:
  1. Late II to Mid III
  2. Mid III to Mid IV



Reproductive growth stage of a soybean plant.

### Results

- Days required to reach R1 and R1 to R6 declined as planting was delayed for both soybean maturity groups (Table 1 and 2).
- Variation among planting dates in GDU accumulation from planting to R1 was greater for later maturity varieties (219) than for earlier maturity varieties (102).
- Planting date had an impact on the duration of reproductive growth (R1 to R6) and GDU accumulation during this time period. Duration and GDU accumulation both declined with later planting.
- Results of this trial suggest that, although GDU accumulation from planting to R1 was relatively stable among planting dates, there is opportunity to increase the duration of reproductive growth from the R1 to R6 stage and capture more GDUs with earlier planting.

**Table 1.** Duration and GDU accumulation of vegetative and reproductive growth for soybean maturity Late II to Mid III.

Location	Planting Date	Days to R1	GDUs to R1	Days R1 to R6	GDUs R1 to R6
1	4/15/15	50	768	52	1198
2	5/4/15	41	805	45	1032
3	5/9/15	40	821	38	859
4	5/11/15	41	861	37	836
5	6/11/15	34	851	28	836
6	7/7/15	28	759	26	609
	<b>Range</b>	<b>22</b>	<b>102</b>	<b>26</b>	<b>589</b>

**Table 2.** Duration and GDU accumulation of vegetative and reproductive growth for soybean maturity Mid III to Mid IV.

Location	Planting Date	Days to R1	GDUs to R1	Days R1 to R6	GDUs R1 to R6
1	4/15/15	53	822	53	1249
2	5/4/15	51	1041	40	938
3	5/9/15	46	1027	41	893
4	5/11/15	44	926	41	961
5	6/11/15	39	974	30	757
6	7/7/15	36	932	26	644
	<b>Range</b>	<b>17</b>	<b>219</b>	<b>27</b>	<b>605</b>

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