Determining Soybean First Flowering (R1) Dates

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A study was conducted to determine when soybean plants from different maturity groups and seeding on different dates typically reach first flowering (R1). The study was conducted to address the concern about scouting for Asian Soybean Rust (ABR) and the evidence that ABR typically does not occur in soybean until after R1. Two varieties from each of four maturity groups (II, III, IV, and V) were seeding at different planting dates in 2005 near Lexington, Keysburg and Adairville, Kentucky. Acceptable production practices were followed for soil fertility and pest management. The soybeans were scouted several times each week through the growing season to identify when a plot of soybean plants had reached R1.

Another aim of the project was to determine if flowering date was affected by location in the state. Our assumption going into the project was that since summer temperatures in western Kentucky are slightly warmer than in eastern Kentucky, the soybeans in western Kentucky would reach R1 slightly quicker than soybean in eastern Kentucky.

The flowering dates are graphed in Figure 1. The Lexington and Keysburg flowering dates follow the same general flowering date pattern. The Adairsville flowering dates appear to be a little sooner than the other two locations, but not by a couple days only.

The data suggest that current R1 predictions in AGR-184 are satisfactory for most of the Kentucky. The study was funded by the Kentucky Soybean Board and investigated by Wheat Tech, Inc. and the University of Kentucky.

Figure 1. Observed first flowering dates (R1) of soybean in Kentucky in 2005.

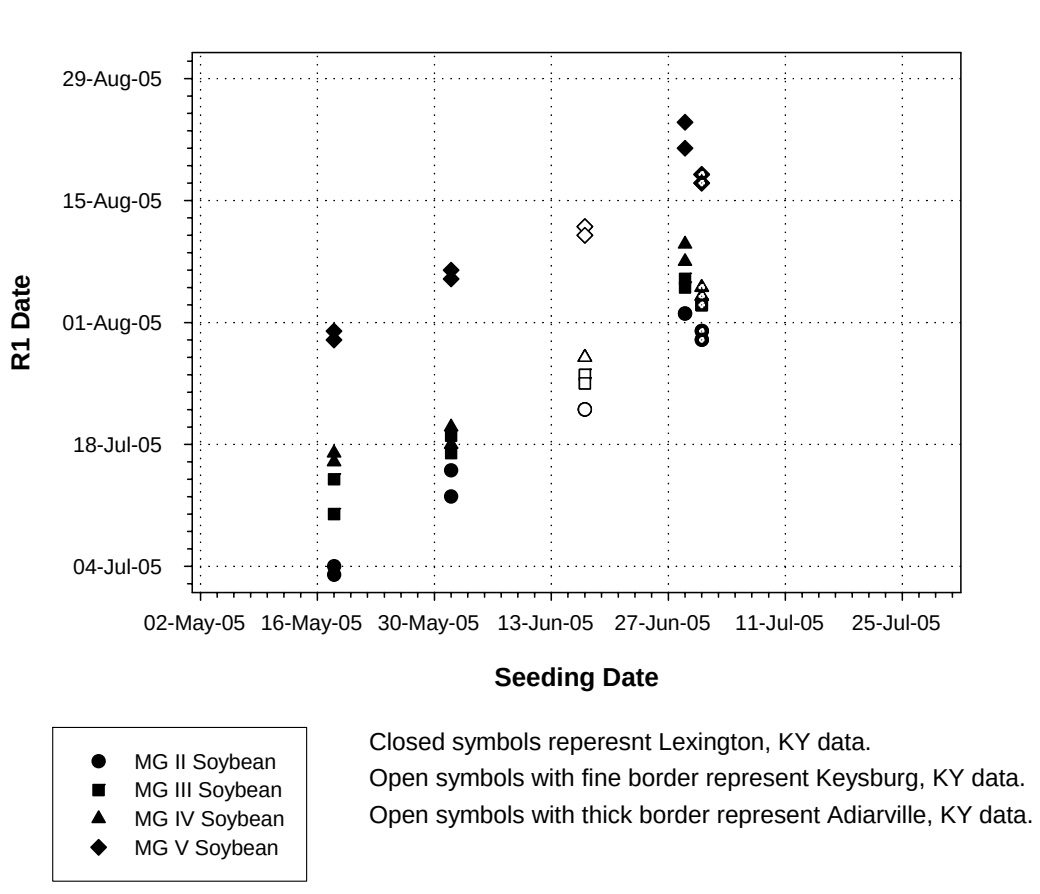

Table 1. Observed first flowering dates (R1) of soybean in Kentucky in 2005.

Lexington, KY 38.03N -84.44W (Elev. 1000 ft) VARIETY	MTY	SEEDING DATE	R1 DATE	DAYS
Dekalb DKB23-51	2.3	18-May	4-Jul	47
Great Lakes GL2419 RR	2.4	18-May	3-Jul	46
Delta King 3968 RR	3.9	18-May	14-Jul	57
Golden Harvest H-3945 RR	3.9	18-May	10-Jul	53
Delta King 4763 RR	4.7	18-May	17-Jul	60
So. Cross Micheal 4.2N RR	4.2	18-May	16-Jul	59
Delta King 5465RR	5.4	18-May	30-Jul	73
Pioneer 95B32	5.3	18-May	31-Jul	74
Dekalb DKB23-51	2.3	1-Jun	15-Jul	44
Great Lakes GL2419 RR	2.4	1-Jun	12-Jul	41
Delta King 3968 RR	3.9	1-Jun	19-Jul	48
Golden Harvest H-3945 RR	3.9	1-Jun	17-Jul	46
Delta King 4763 RR	4.7	1-Jun	20-Jul	49
So. Cross Micheal 4.2N RR	4.2	1-Jun	18-Jul	47
Delta King 5465RR	5.4	1-Jun	6-Aug	66
Pioneer 95B32	5.3	1-Jun	7-Aug	67
Dekalb DKB23-51	2.3	29-Jun	2-Aug	34
Great Lakes GL2419 RR	2.4	29-Jun	2-Aug	34
Delta King 3968 RR	3.9	29-Jun	5-Aug	37
Golden Harvest H-3945 RR	3.9	29-Jun	6-Aug	38
Delta King 4763 RR	4.7	29-Jun	10-Aug	42
So. Cross Micheal 4.2N RR	4.2	29-Jun	8-Aug	40
Delta King 5465RR	5.4	29-Jun	24-Aug	56
Pioneer 95B32	5.3	29-Jun	21-Aug	53

Keysburg, KY 36.69N -87.00W (Elev. 597 ft) VARIETY	MTY	Planting Date: June/17/2005 Emergence Date: June/24/2005 SEEDING DATE	R1 DATE	DAYS
Asgrow 2403	2.4	17-Jun	22-Jul	35
Great Lakes GL2419 RR	2.4	17-Jun	22-Jul	35
Delta King 3968 RR	3.9	17-Jun	26-Jul	39
Golden Harvest H-3945 RR	3.9	17-Jun	25-Jul	38
So. Cross Michael 4.2N RR	4.2	17-Jun	28-Jul	41
Delta King 4763 RR	4.7	17-Jun	28-Jul	41
Pioneer 95B32	5.3	17-Jun	12-Aug	56
Delta King 5465 RR	5.4	17-Jun	11-Aug	55

Adairville, KY 36.69N -86.86W (Elev. 600 ft) VARIETY	MTY	Planting Date: July/1/2005 Emergence Date: July/7/2005 SEEDING DATE	R1 DATE	DAYS
Asgrow 2403	2.4	1-Jul	31-Jul	30
Great Lakes GL2419 RR	2.4	1-Jul	30-Jul	29
Delta King 3968 RR	3.9	1-Jul	3-Aug	33
Golden Harvest H-3945 RR	3.9	1-Jul	3-Aug	33
So. Cross Michael 4.2N RR	4.2	1-Jul	5-Aug	35
Delta King 4763 RR	4.7	1-Jul	4-Aug	34
Pioneer 95B32	5.3	1-Jul	18-Aug	48
Delta King 5465 RR	5.4	1-Jul	17-Aug	47