



# Soybean Maturity Group Studies

With early planting of soybean (in April or as close to May 1 as possible), a longer-season variety may help take advantage of the longer growing season. However, some growers in South-Central Nebraska are also obtaining high yields with mid-group 2 varieties. The goal of this study was to determine if growers should plant a longer-season maturity soybean to achieve optimum yields when planting early. Group 2 and group 3 soybeans were evaluated at ten sites in 2018, 2019, and 2020. The varieties used and exact maturity dates varied among sites.

## SITES

Ten studies were conducted in Seward, York, and Merrick counties in 2018 through 2020 (Figure 1). Site details are displayed in Table 1.

**Table 1.** Sites, location, year, replications, varieties used, planting date, and irrigation status for ten sites evaluating soybean maturity groups.

ID	Report ID	County	Year	Reps	Group 2 Variety	Group 3 Variety	Planting	Irrigation
2018-1	0006159201801	Seward	2018	6	Big Cob BC24cr2x	Big Cob BC35wr2x	5/2/18	Pivot
2018-2	0802159201801	Seward	2018	3	Pioneer 25A12X	Pioneer 31A22X	5/7/18	None
2018-3	0118185201801	York	2018	7	Golden Harvest GH 2788X	NK S30-C1	5/2/18	Pivot
2019-1	0802159201901	Seward	2019	3	Pioneer 21A28X	Pioneer 31A22X	4/22/19	None
2019-2	0802159201902	Seward	2019	4	Pioneer 24A99X, Pioneer 27A17X	Pioneer 31A22X, Pioneer 33A53X	5/2/19	Gravity
2019-3	0118185201902	York	2019	6	Golden Harvest GH 2788X	Golden Harvest GH 3475X	5/16/19	Pivot
2020-1	0802159202002	Seward	2020	3	Pioneer 21A28X	Pioneer 31A22X	4/15/20	None
2020-2	0802159202003	Seward	2020	3	Pioneer 21A28X	Pioneer 31A22X	4/11/20	None
2020-3	0802159202001	Seward	2020	4	Pioneer 21A28X, Pioneer 25A04X, Pioneer 27A17X	Pioneer 31A22X	5/1/20	Gravity
2020-4	1118121202001	Merrick	2020	3	Pioneer 21A20	Pioneer 34A50	4/25/20	Pivot



**Figure 1.** Locations of the 2018, 2019, and 2020 soybean maturity group studies.

## RESULTS

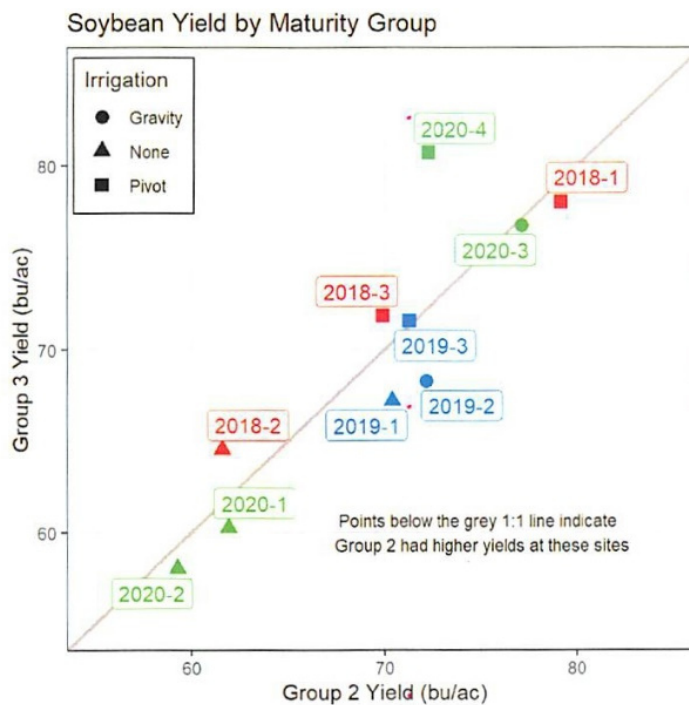
Yield from the studies were analyzed as a large group by comparing the group 2 yields versus the group 3 yields (Table 2).

**Table 2.** Yield, pods per plant, and nodes per plant for group 2 and group 3 soybeans across 10 sites.

	Yield (bu/acre) <sup>†</sup>	Pods/plant	Nodes/plant
Group 2	70 A*	52.4 A	20.4 A
Group 3	70 A	53.3 A	20.8 A
Site (P>F)	<0.0001	0.0005	<0.0001
Treatment (P>F)	0.6978	0.690	0.140
Site*Treatment	<0.0001	0.393	0.0008

\*Values with the same letter are not significantly different at a 90% confidence level.

<sup>†</sup>Bushels per acre corrected to 13% moisture.



**Figure 2.** Distribution of yield for group 2 and group 3 soybeans across 10 sites. The grey diagonal line shows the zero-yield difference line. Sites falling below this line indicate higher yield for the group 2 soybeans.

**Summary:** Yield response to maturity group differed by site. Overall, yield, pods per plant, and nodes per plant were not different between the group 2 and group 3 soybeans. Individual sites from 2020 are reported in more detail in the following pages. In general, it is estimated that there is a 1 day delay in harvest for every 0.1 increase in maturity group. The similar yield results between maturity group 2 and maturity group 3 in this study demonstrate an opportunity for growers to plant a variety of maturities to spread out harvest. Additionally, for non-irrigated fields, planting a range of high-yield maturities can spread out risk due to uncertainty of rainfall timing. Finally, by planting a shorter season maturity group, growers can establish cover crops earlier or plant winter wheat.