Nebraska On-Farm Research Network

Soybean Maturity Group with Early Planting Research Protocol

Protocol developed by: Jenny Rees and Laura Thompson, Nebraska Extension Educators

Objective: Determine if a longer season maturity increases yield/economics with early soybean planting.

Rationale: 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 are also obtaining high yields with mid-group 2 varieties. This plot design will help answer the question if growers need to automatically plant a longer-season maturity soybean when planting early or not.

Treatment Design: The following is an example treatment design for comparing two soybean varieties. This design allows for a planter pass to be made for each treatment as long as two combine passes can be harvested from that planter pass (i.e. 12 row planter and 6 row combine). A total of 5 replications need to be harvested for this trial (7 is preferred). Soybean should be planted in April or as close to May 1 as planting conditions allow. We recommend a fungicide/insecticide seed treatment to be applied to seed in both varieties. We recommend asking your seed dealer for the highest proven yielder for a mid-group 2 soybean and 3.0-3.5 soybean for comparison.

Treatments:

Variety 1: Mid-group 2 variety (proven high yielder)
Variety 2: Maturity group 3.0-3.5 (depending on part of the State you live) (proven high yielder)

NOTE: Yield from the full header width needs to be obtained for each treatment strip shown below.

Replication 1	Variety 1	Yield from header width:
	Variety 2	Yield from header width:
Replication 2	Variety 2	Yield from header width:
	Variety 1	Yield from header width:
Replication 3	Variety 1	Yield from header width:
	Variety 2	Yield from header width:
Replication 4	Variety 2	Yield from header width:
	Variety 1	Yield from header width:
Replication 5	Variety 1	Yield from header width:
	Variety 2	Yield from header width:
Replication 6	Variety 2	Yield from header width:
	Variety 1	Yield from header width:
Replication 7	Variety 1	Yield from header width:
	Variety 2	Yield from header width:

Data to Collect:

1. 4" soil temperature prior to planting.
2. Harvest stand counts. In each treatment strip, 2 stand counts will be taken and averaged. Stand counts should be taken from an area of 1/1000 of an acre.
3. (Optional) Nodes and pods per plant. When doing stand counts, take the 5th plant of each stand count and count all nodes and pods per plant. This will result in 2 counts per treatment strip. The two counts will be averaged to determine one count for each treatment strip.
4. Yield. Yield can be collected using a well-calibrated yield monitor or with a weigh wagon. Harvest each variety as close to 13% as possible.
5. Any observations such as emergence, photos, etc.

Grower Requirements:

1. Flag or mark GPS location of each treatment.
2. Provide all necessary inputs for crop production.
3. Complete background agronomic form about site and practices.
4. Collect yield data and grain moisture with weight wagon or yield monitor. If using yield monitor, please designate a separate "load" for each treatment and set up separate "products" names for each treatment harvested. Yield monitor must be **well calibrated**. Contact UNL Extension if assistance with this process is needed.
5. Collect stand counts at harvest.
6. Submit harvest data to UNL Extension within 30 days of harvest or by Dec. 15.
7. Allow UNL Extension to use submitted and collected data for research, educational, and informational purposes.

Nebraska On-Farm Research Network will:

1. Provide technical assistance in setting up replicated and randomized experimental design.
2. Provide assistance upon request with treatment implementation, flagging, stand counts, stalk rot tests, and recording yield.
3. Analyze raw data using statistical analysis and provide this information to the grower.