

# Yield Observations When Shifting To Earlier Maturity Group Soybeans

## Trial Objective

We continue to see a trend of growers planting earlier maturity group (MG) soybeans for the region and managing them at a higher level with seed treatments and foliar applications of fungicide and insecticide. This phenomenon, dubbed “MG shift”, is becoming increasingly important in some locations.

- There are many benefits of planting early MG soybeans including, but not limited to, earlier harvest timing, earlier cover crop seeding, and risk management benefits.
- The objective of this trial was to determine the yield impact of early MG soybean product selection against the normal MG products for the location.

## Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
Fonda, IA	Silty clay loam	Corn	No tillage	5/25/18	10/19/18	65	140K
Storm Lake, IA	Silty clay loam	Corn	Conventional	5/25/18	10/20/18	65	140K
Marble Rock, IA – North	Loam	Corn	Strip tillage	5/22/18	10/18/18	55	140K
Marble Rock, IA - South	Loam	Corn	Strip tillage	5/22/18	10/18/18	55	140K
Huxley, IA	Clay loam	Corn	No tillage	5/19/18	10/17/18	60	140K
Atlantic, IA	Silty clay loam	Corn	Conventional	5/29/18	10/16/18	65	140K
Shenandoah, IA	Silty clay loam	Corn	No tillage	5/31/18	10/15/18	60	140K
Victor, IA	Silty clay loam	Corn	Conventional	5/18/18	9/24/18	60	140K

- This trial was broken into two sets, North and South Iowa, with a total of eight locations – four locations in the north set and four locations in the south set:
  - North Set – Fonda, Storm Lake, Marble Rock North, and Marble Rock South
  - South Set – Huxley, Atlantic, Shenandoah, and Victor
- Each set consisted of 18 unique soybean products:
  - Nine products are considered early MG
    - North Set – 1.1 MG to 1.8 MG
    - South Set – 2.0 MG to 2.4 MG
  - Nine products are considered normal MG
    - North Set – 2.0 MG to 2.4 MG
    - South Set – 2.9 MG to 3.5 MG
  - The nine 2.0 to 2.4 MG products were the same products for both the north and south sets.

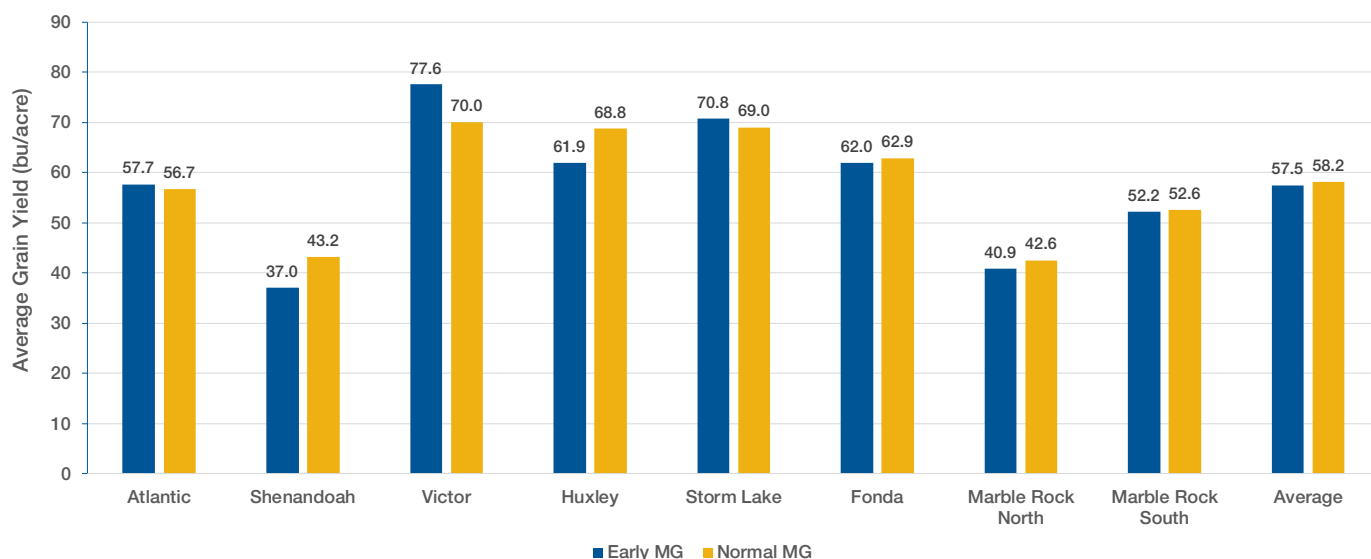


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- The plots consisted of four, 15-ft-long rows in 30-in row spacing with three replications.
- The Shenandoah site exhibited above average levels of frogeye leaf spot and insect feeding.
- Above average levels of sudden death syndrome were observed at the Victor site.
- The Marble Rock North site was impacted with hail on August 28th.

## Understanding the Results

- The effect of maturity group on soybean yield was variable and highly dependent on the location. For example, Victor saw an 8 bu/acre yield advantage with early MG products, whereas Huxley realized a 7 bu/acre advantage with normal MG products.
- In general, three locations (Atlantic, Victor, and Storm Late) saw some level of yield advantage with early MG soybean products versus the other locations where normal MG products gained some yield advantage. However, average site performance across all locations was nearly similar at 58 bu/acre.



**Figure 1. Average yields of the nine products in each MG range at each location. There was severe insect and frogeye leaf spot damage at Shenandoah and hail damage at Marble Rock North.**

## What does this mean for your farm?

- In general, early MG soybean products yield close to late MG products, especially when conditions are favorable.
- In this trial, there were some unfavorable growing conditions (listed below) in the locations where the normal MGs succeeded:
  - Excessive rain, wind, and hail
  - Weathered/delayed harvest
  - Lower management (no R3 growth stage fungicide/insecticide application)
- Finding the proper genetic package for a maturity group is still critical when considering planting early soybeans.

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- More research needs to be done in the genetic pipeline to better understand which soybean products will move south.
- It should be noted that a MG shift may not be right for every operation and that its benefits could be defined in terms other than yield.

## Legal Statements

The information discussed in this report is from a multiple site, replicated demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

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