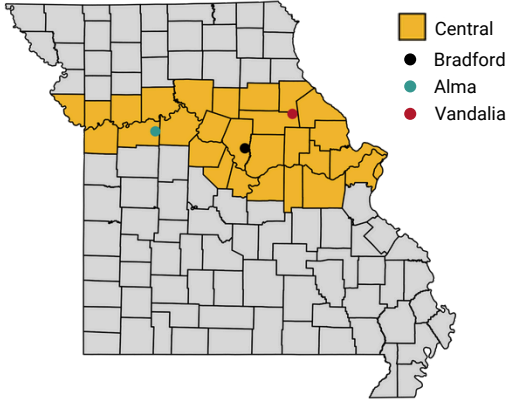




# SOYBEAN GROWTH MONITORING

WEEK: 07/09 - CENTRAL - MO



- The rainfall over the last two weeks has brought soil moisture back to high levels. The increased water availability helps initiate seed filling and pod setting in beans planted from April to mid-June in soils with moderate to good drainage.
- High soil moisture levels also benefit late-planted beans that are still in the vegetative development stage.
- Foliage biomass and node number have increased by approximately 20% compared to normal growth.
- Yields are expected to be at least 19% higher than in a normal year for fields planted from April to mid-June in areas not experiencing prolonged soil saturation or flooding.
- The yield prediction model is not yet calibrated for oxygen stress.

## 2024 Relative Yield Prediction

Planting date:

04-05-2024			04-26-2024			05-17-2024			06-07-2024		
MG 3	MG 4	MG 5	MG 3	MG 4	MG 5	MG 3	MG 4	MG 5	MG 3	MG 4	MG 5
+27%	+25%	+26%	+22%	+21%	+23%	+19%	+19%	+19%	+7%	+7%	+7%

### Historical Baseline Yield\*

<b>Bradford</b> (Boone County) <b>43 bu/acre</b>	<b>Alma</b> (Lafayette County) <b>55 bu/acre</b>	<b>Vandalia</b> (Audrain County) <b>51 bu/acre</b>
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- **Obs 1:** The 2024 yield prediction is relative to the normal yield of the same maturity group planted on the same date.
- **Obs 2:** \*The historical baseline yield is the average from 2019 to 2023 reported by USDA-NASS Survey Program.

## Soil water content

Planting date: 04-05-2024

04-26-2024

05-17-2024

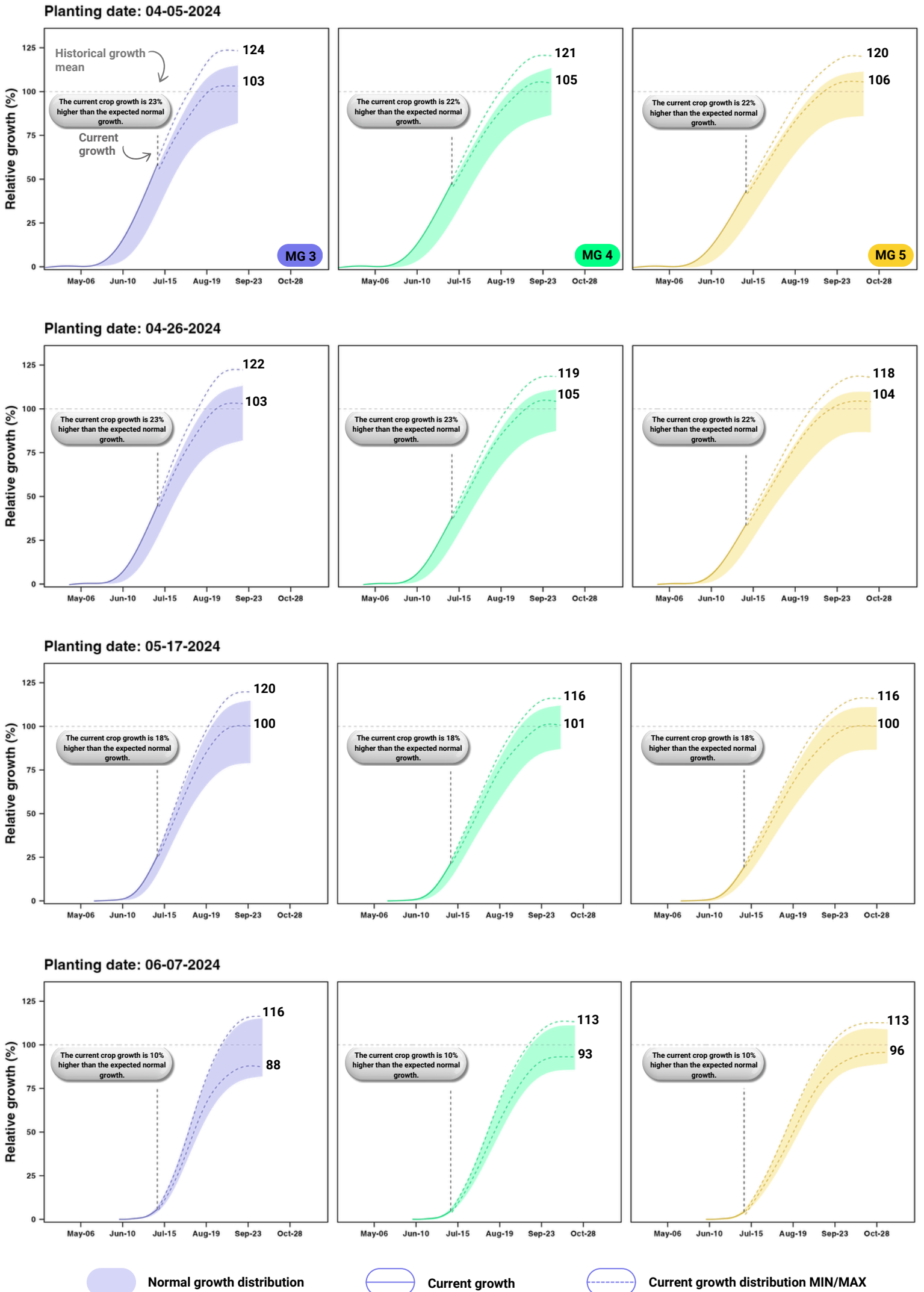
06-07-2024

Soil layer	0-9in			9-23in			23-54in		
	<b>Bradford</b> (Armstrong loam)	98%	99%	99%	100%	98%	99%	99%	99%
<b>Alma</b> (Higginsville silt loam)	90%	91%	90%	90%	91%	89%	87%	90%	88%
<b>Vandalia</b> (Mexico silt loam)	99%	99%	93%	99%	99%	96%	99%	99%	96%

Soil layer	0-8in		8-30in		30-60in	
	<b>Bradford</b> (Armstrong loam)	96%	98%	96%	98%	96%
<b>Alma</b> (Higginsville silt loam)	73%	86%	73%	86%	73%	87%
<b>Vandalia</b> (Mexico silt loam)	96%	97%	96%	97%	96%	96%

### End-of-season growth prediction



The normal growth represents the average growth expected at the reporting date, derived from simulating a current crop variety using 40 years of historical weather data specific to a particular location and planting date.

### Growth Cycle

Planting date: 04-05-2024

04-26-2024

05-17-2024

06-07-2024

Stage	Nodes	Harvest
MG 3 R5	17	08/22 ± 1 days
MG 4 R3	17	09/07 ± 2 days
MG 5 R1	17	09/20 ± 2 days

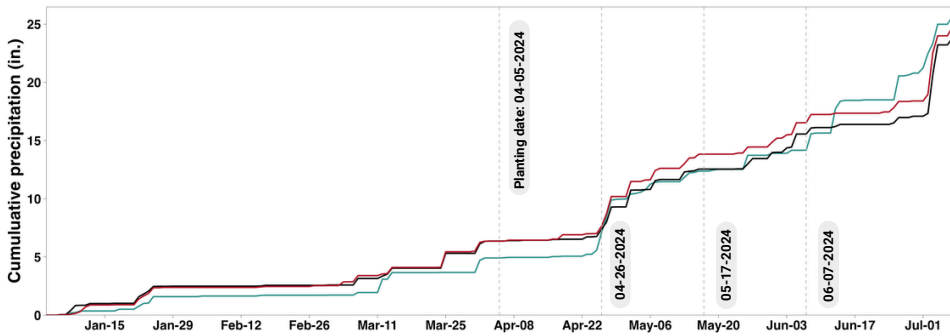
Stage	Nodes	Harvest
R3	14	08/29 ± 1 days
R1	14	09/13 ± 2 days
R1	14	09/25 ± 3 days

Stage	Nodes	Harvest
R1	11	09/08 ± 2 days
R1	11	09/21 ± 2 days
V11	11	10/03 ± 3 days

Stage	Nodes	Harvest
V6	6	09/18 ± 3 days
V6	6	09/30 ± 3 days
V6	6	10/11 ± 4 days

The stage and nodes indicate the current crop development as of the date of this report.

### Rainfall



### Drought Stress

Planting date:	MG 3	MG 4	MG 5
04-05-2024	0%	0%	0%
04-26-2024	0%	0%	0%
05-17-2024	0%	0%	0%
06-07-2024	0%	0%	0%

Drought stress is estimated by the cumulative crop transpiration reduction.