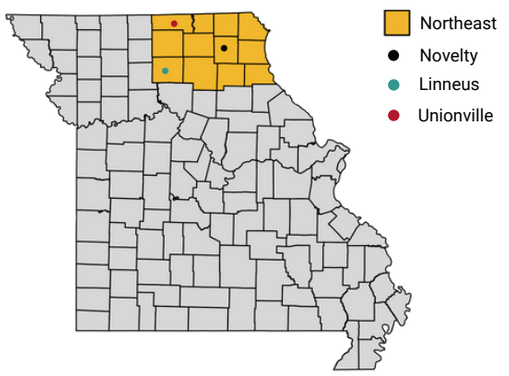
# SOYBEAN GROWTH MONITORING

SOYBEAN FARMING SYSTEMS
RESEARCH AND EXTENSION

## WEEK: 06/26-NORTHEAST-MO




- Soybean fields planted in April are mostly undergoing pod setting or flowering. The high temperatures and rainfall shortage during June impacted pod retention and, therefore, attainable yield. Drought stress is estimated to have reduced crop transpiration by approximately 2%.

- Fields planted in May or June have been minimally affected by the dry June and do not show a major yield penalty.

- Soybeans planted in May or later are still in vegetative development without canopy closure. Post-emergence herbicides may still be required.

- Soil moisture returned to high levels due to the most recent rainfall precipitations.

## 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 |
| -9% | -8% | -8% | -3% | -5% | -6% | +3% | -1% | 0% | +2% | +1% | +1% |

| Historical Baseline Yield* | | | | | |
|---|---|---|---|---|---|
| **Novelty** (Knox County) | 45 bu/acre | **Linneus** (Linn County) | 43 bu/acre | **Unionvillle** (Putnam County) | 45 bu/acre |

- **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**

| Soil layer | 0-9in | 9-23in | 23-54in |
|---|---|---|---|
| Novelty (Chariton silt loam) | 88% | 76% | 39% |
| Linneus (Armstrong clay loam) | 82% | 86% | 80% |
| Unionville (Gara loam) | 75% | 52% | 48% |

**04-26-2024**

| 0-9in | 9-23in | 23-54in |
|---|---|---|
| 88% | 78% | 42% |
| 85% | 88% | 80% |
| 72% | 52% | 49% |

**05-17-2024**

| 0-9in | 9-23in | 23-54in |
|---|---|---|
| 86% | 93% | 91% |
| 83% | 91% | 85% |
| 65% | 56% | 55% |

**06-07-2024**

| 0-8in | 8-30in | 30-60in |
|---|---|---|
| 83% | 95% | 93% |
| 74% | 94% | 88% |
| 61% | 66% | 69% |

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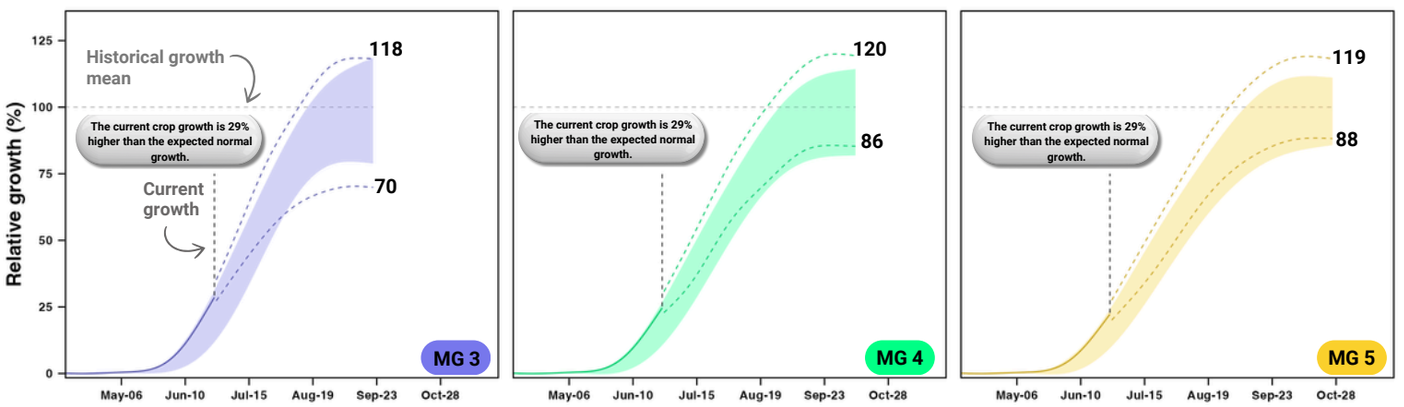
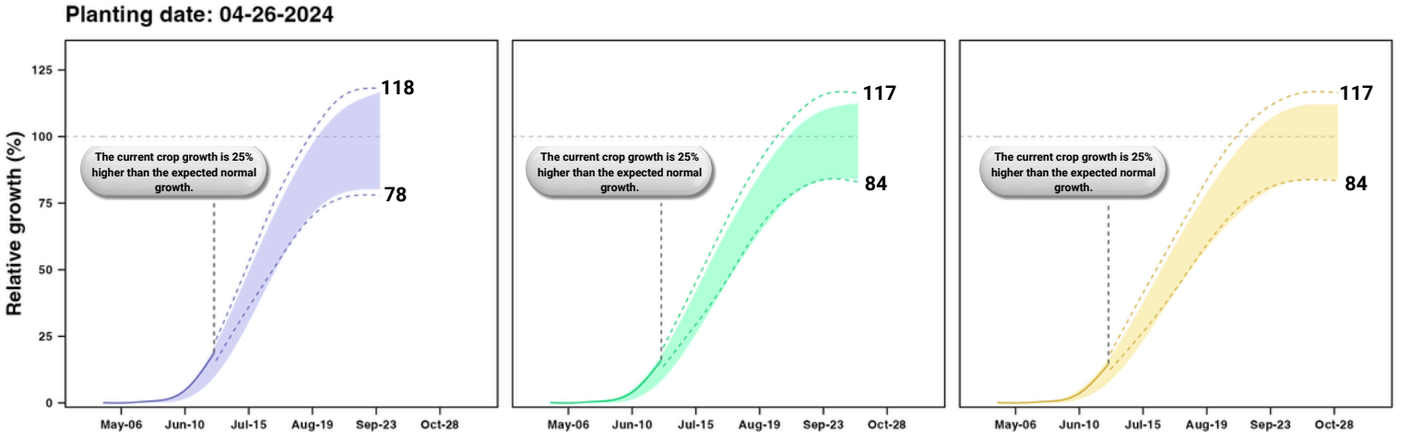
# End-of-season growth prediction

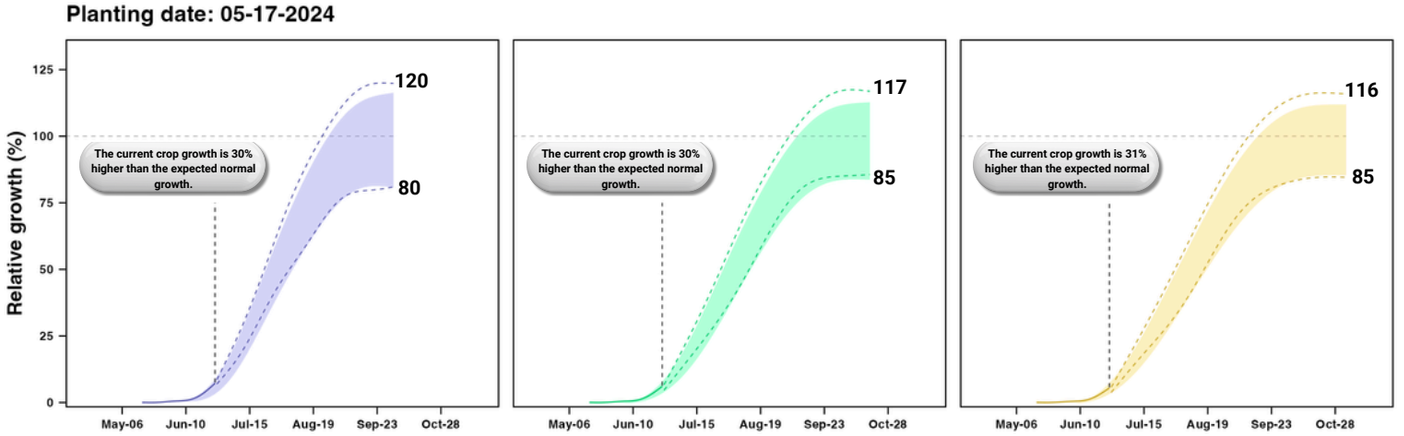
## Planting date: 04-05-2024



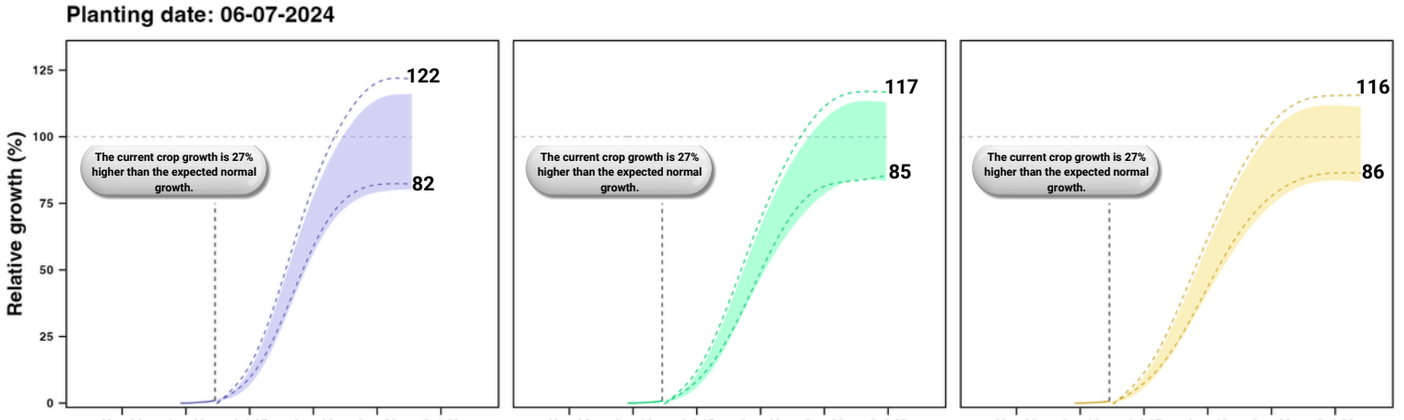

## Planting date: 04-26-2024




## Planting date: 05-17-2024




## Planting date: 06-07-2024




Normal growth distribution

Current growth

Current growth distribution MIN/MAX

**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.**

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## Growth Cycle

**Planting date: 04-05-2024**

| | Stage | Nodes | Harvest |
|---|---|---|---|
| MG 3 | R3 | 12 | 08/25 ± 4 days |
| MG 4 | R1 | 12 | 09/09 ± 5 days |
| MG 5 | V12 | 12 | 09/23 ± 6 days |

**04-26-2024**

| Stage | Nodes | Harvest |
|---|---|---|
| R1 | 10 | 09/01 ± 4 days |
| V10 | 10 | 09/15 ± 5 days |
| V10 | 10 | 09/29 ± 6 days |

**05-17-2024**

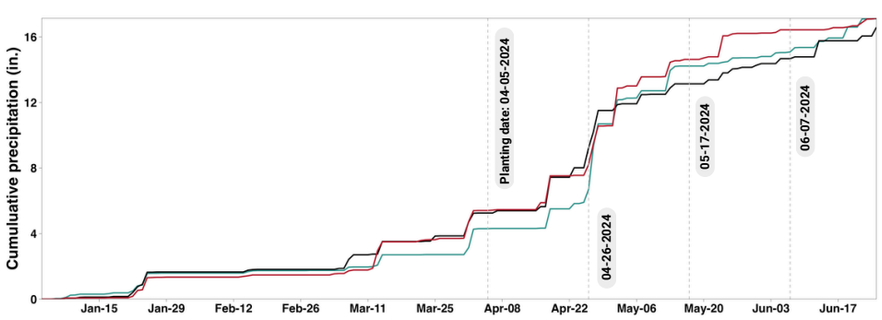
| Stage | Nodes | Harvest |
|---|---|---|
| V7 | 7 | 09/10 ± 4 days |
| V7 | 7 | 09/23 ± 5 days |
| V7 | 7 | 10/06 ± 6 days |

**06-07-2024**

| Stage | Nodes | Harvest |
|---|---|---|
| V3 | 3 | 09/21 ± 4 days |
| V3 | 3 | 10/03 ± 5 days |
| V3 | 3 | 10/14 ± 6 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 | 2.3% | 2.4% | 2.4% |
| 04-26-2024 | 1.7% | 1.7% | 1.7% |
| 05-17-2024 | 0% | 0% | 0% |
| 06-07-2024 | 0% | 0% | 0% |

Drought stress is estimated by the cumulative crop transpiration reduction.

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