

Field trial: Boron in soy

Study details

Research institution: Delta Research & Extension Center, Mississippi State University

Date: 2022

Location: Mississippi, United States

Crop variety: AG46X0

Soil: Dundee silt loam

- Pre-plant soil sample 0-6" depth composited by rep fresh root weights of six plants per plot at v4 growth state
- Soil with 0.5 ppm of B
- Soil pH (CaCl₂): 6.51
- Organic matter: 0.5%

Fertilizer: *Solubor*, *Solubor Flow*, *Solubor Flow +K*

Trial design: Randomized complete block with four repetitions



Average soybean grain yield: Bushels per acre

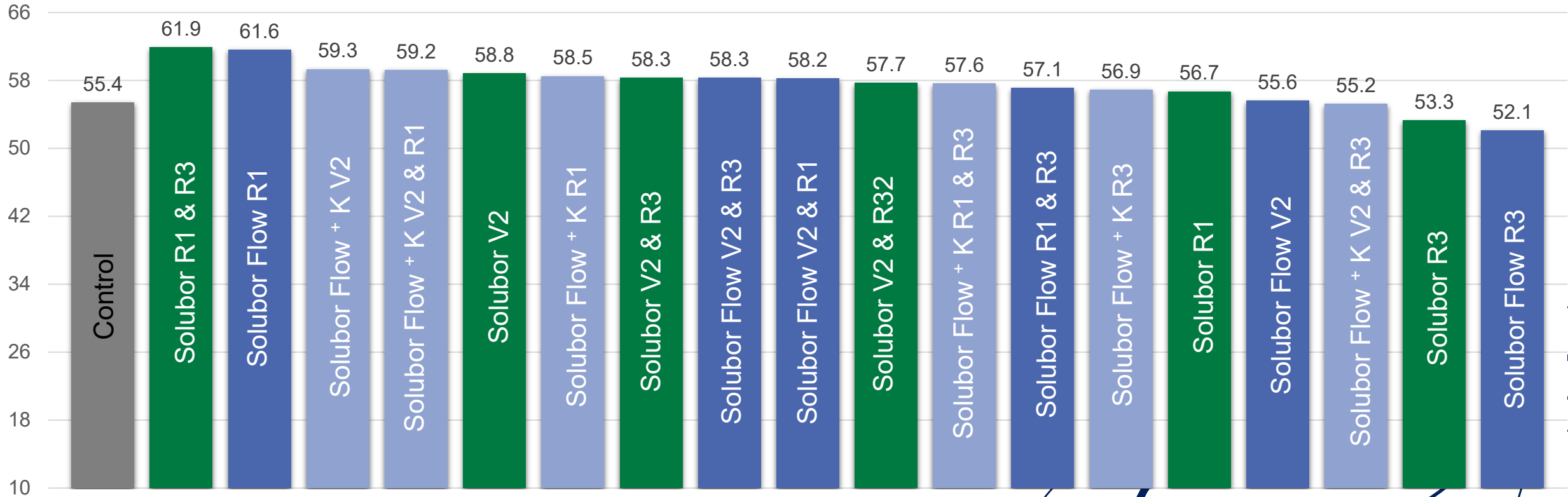
Response of soybean to the application of B (applied via foliar)

- **Solubor R1&R3:** 0.25 lb ai/a at R1 & R3 growth stages
- **Solubor Flow R1:** 0.5 lbs ai/a at R1 growth stage
- **Solubor Flow +K V2:** 0.5 lbs ai/a at V2 growth stage
- **Solubor Flow +K V2&R1:** 0.25 lb ai/a at V2 & R1 growth stages
- **Solubor V2:** 0.5 lbs ai/a at V2 growth stage
- **Solubor Flow +K R1:** 0.5 lbs ai/a at R1 growth stage
- **Solubor V2&R1:** 0.25 lb ai/a at V2 & R1 growth stages
- **Solubor Flow V2&R3:** 0.25 lb ai/a at V2 & R3 growth stages
- **Solubor Flow V2&R1:** 0.25 lb ai/a at V2 & R1 growth stages
- **Solubor Flow R1&R3:** 0.25 lb ai/a at R1 & R3 growth stages
- **Solubor Flow +K R3:** 0.5 lbs ai/a at R3 growth stage
- **Solubor R1:** 0.5 lbs ai/a at R1 growth stage
- **Solubor Flow V2:** 0.5 lbs ai/a at V2 growth stage
- **Solubor Flow +K V2&R3:** 0.25 lb ai/a at V2 & R3 growth stages
- **Solubor R3:** 0.5 lbs ai/a at R3 growth stage
- **Solubor Flow R3:** 0.5 lbs ai/a at R3 growth stage



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Results

The highest yields occurred with the application of:

- 0.25 lb ai/a of *Solubor* at the R1 and R3 growth stages which produced **11.7% more** compared to the control
- 0.50 lb ai/a of *Solubor Flow* at the R1 growth stages which produced **11.2% more** compared to the control
- 0.5 lbs ai/a of *Solubor Flow* +K at the V2 growth stage which produced **7% more** compared to the control