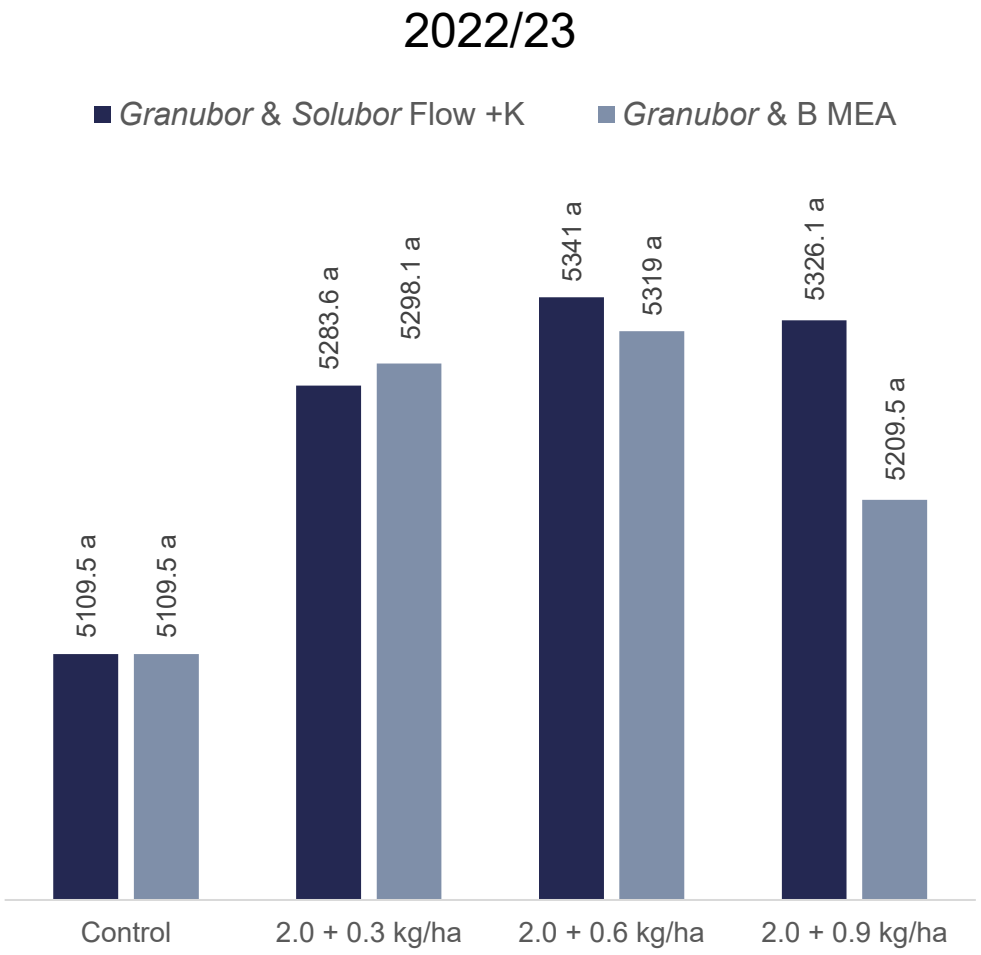
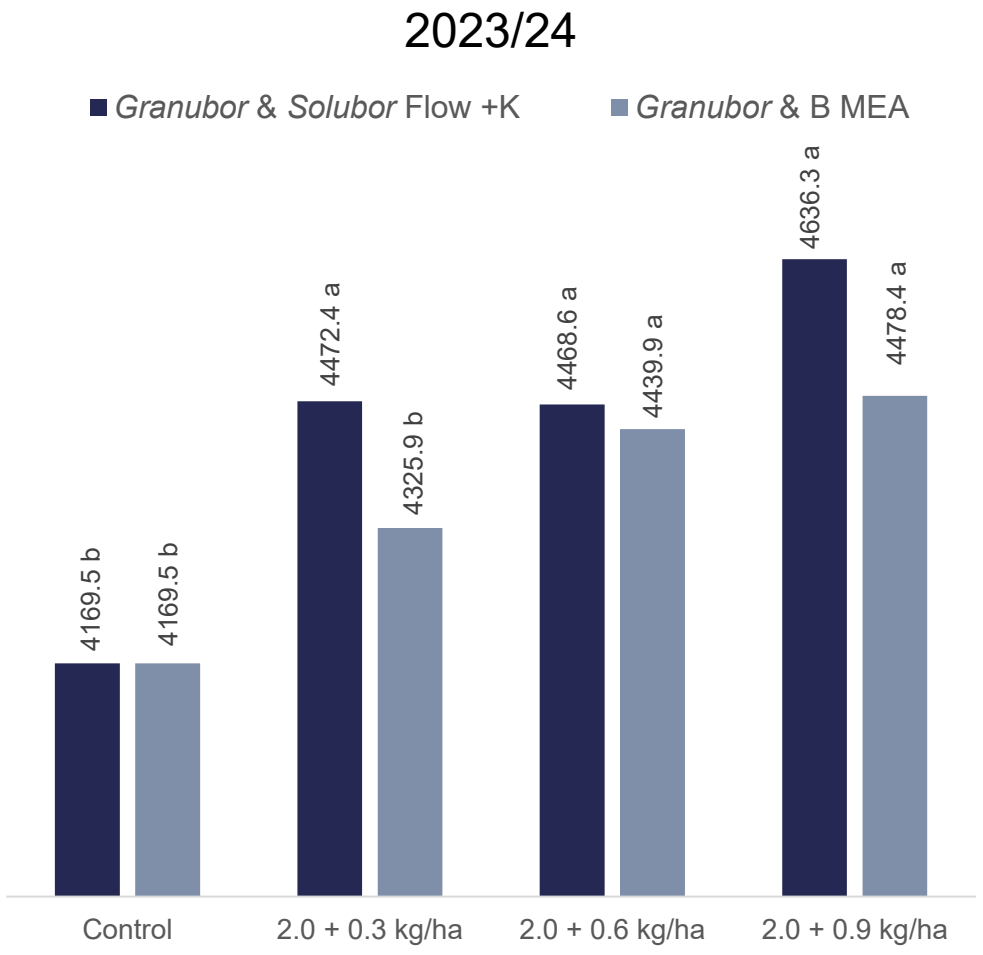
Boron in cotton

Study details

Research institution: NEMABIO, Agronomic Research
Researcher: Dr. Claudinei Kappes
Date: 2022/23 and 2023/24
Location: Sinop, MT – Brazil
Crop variety: TMG 44 B2RF
Soil: Dystrophic Red-Yellow Latosol (Oxisol)
Clay: 49.8%, Sand: 32.5%, Silt: 17.7%
Soil pH: 5.7 ($CaCl_2$)
Additional soil information: OM 24.3 g/dm^3; P 28.9 mg/dm^3; K 91.6 mg/dm^3 S 25 mg/dm^3; Ca 4.1 $cmol_c$/dm^3; Mg 1.6 $cmol_c$/dm^3; B 0.23 mg/dm^3; Cu 0.5 mg/dm^3; Mn 0.5 mg/dm^3; Zn 3.4 mg/dm^3; Fe 60 mg/dm^3
Fertilizers: *Granubor*®, *Solubor*® Flow $^+$K and liquid 10%B (boric acid + monoethanolamine)
Trial design: Randomized complete block with four repetitions
Metrics: Yield (kg/ha), B content in the leaves, and B content in the soil (after harvest). Plant stand evaluation to ensure consistent stand in each replication

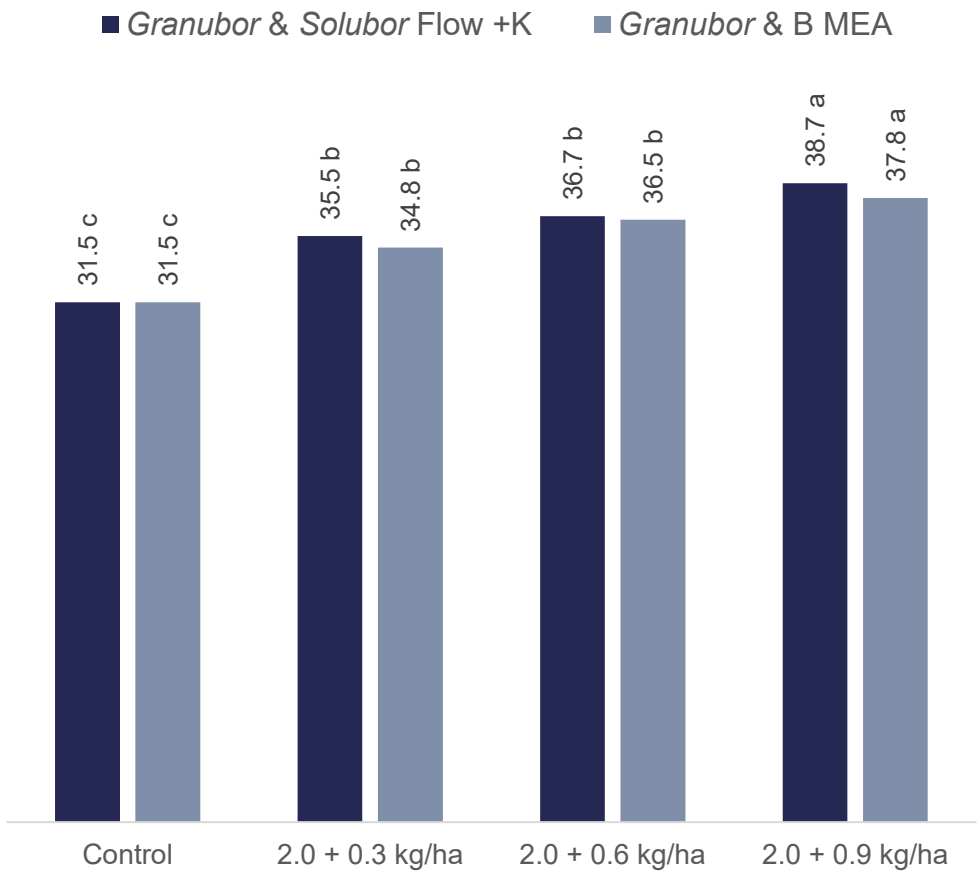
Boron in cotton: Yield (kg/ha)

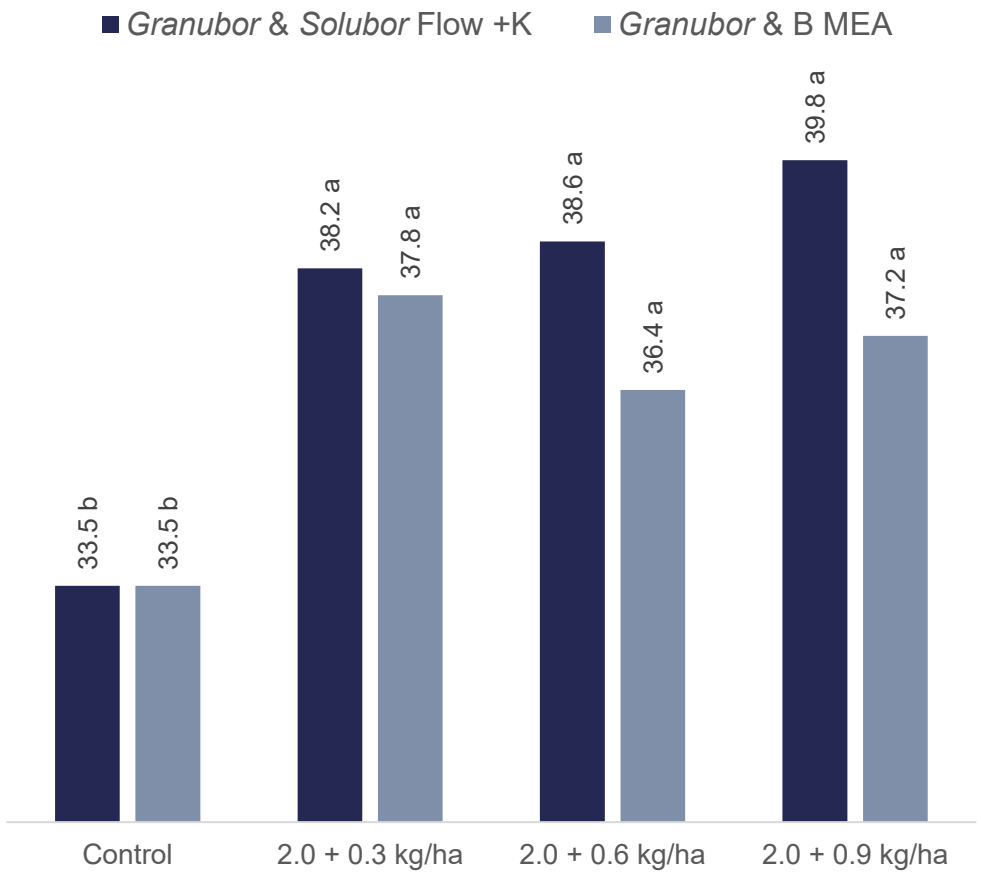




GRANUBOR® SOLUBOR® FLOW +K

Boron in cotton: Boron foliar (ppm)

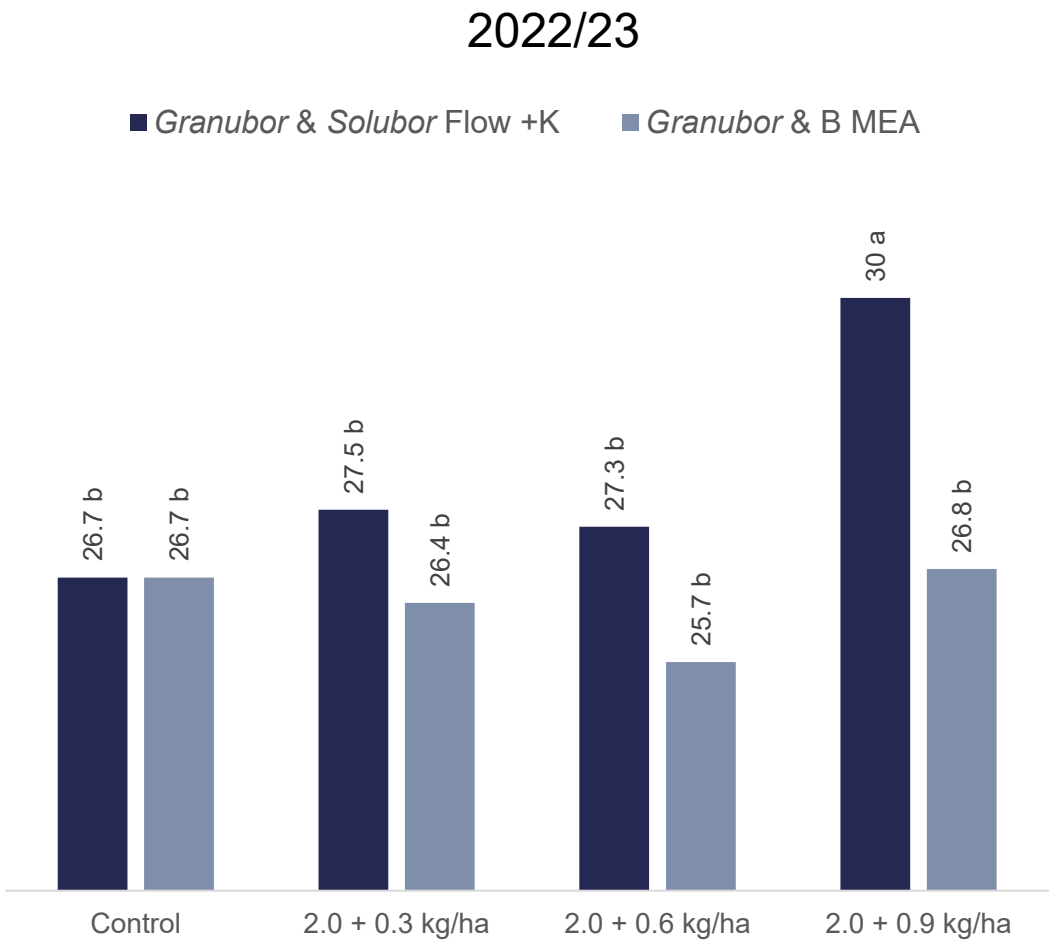


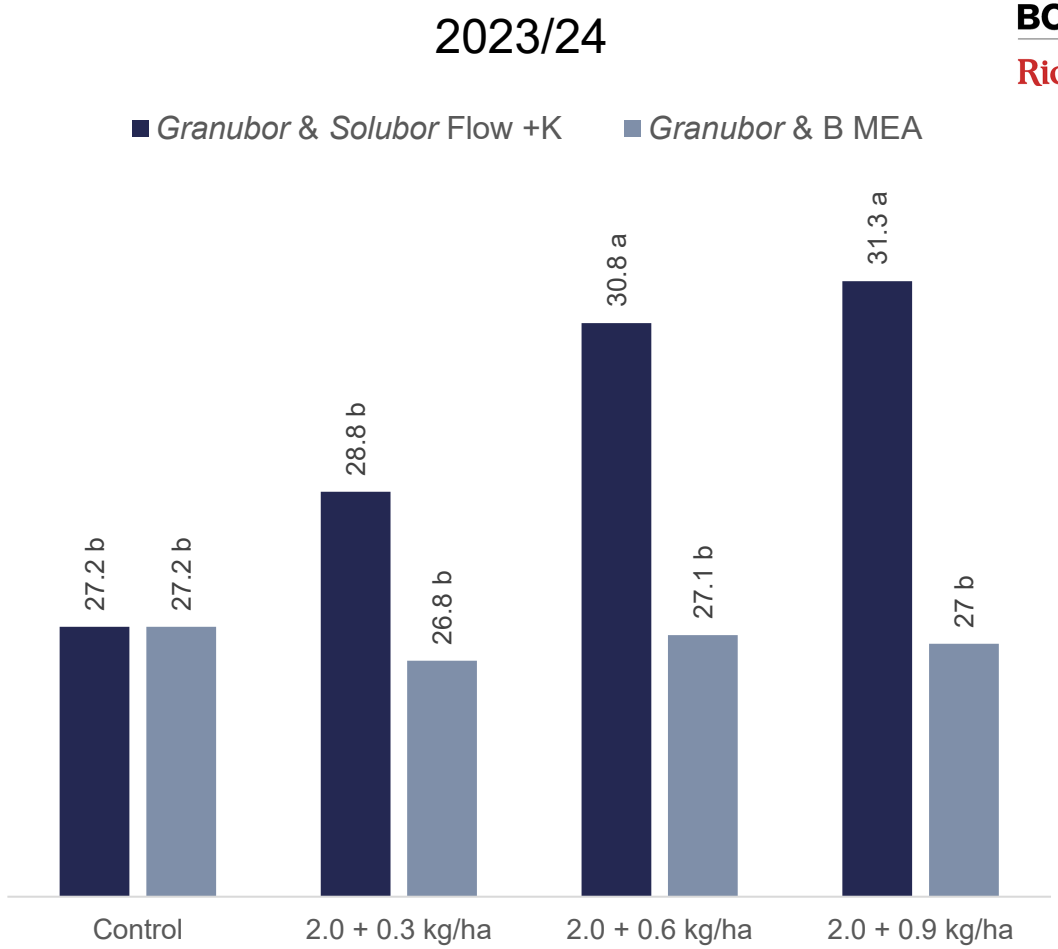


GRANUBOR®

SOLUBOR® FLOW +K

Boron in cotton: Potassium foliar (g/kg)





Boron in cotton: Results

Given the soil and climate conditions of this study, the results obtained allowed us to conclude that:

1. In the first year of the study, the application of *Solubor* Flow $^{+}$K at its highest dose (equivalent to 0.9 kg/ha B), divided into five times, provided higher potassium and boron levels during bloom and boll development
2. In the second year, all treatments that received reapplications of boron were efficient in increasing the number of bolls per plant and the boron levels in the leaf and soil
3. In the two consecutive years, the seed cotton yields obtained with the foliar applications of *Solubor* Flow $^{+}$K were statistically similar to those provided by boron MEA.

GRANUBOR® SOLUBOR® FLOW $^{+}$K