Field trial results:
Boron in cotton via soil application

Trial overview:

- **Research Institution:** NEMABIO, Agronomic Research (Dr. Claudinei Kappes)
- **Locality:** Sinop, MT - Brazil

- Date: 2023
- Crop variety: TMG 44 B2RF – 11 seeds/meter
  - Fertilizer: *Granubor® and acidulated ulexite*

- **Purpose - evaluate and develop yield data, leaf boron content, and boron content in the soil on *Granubor vs. acidulated ulexite***

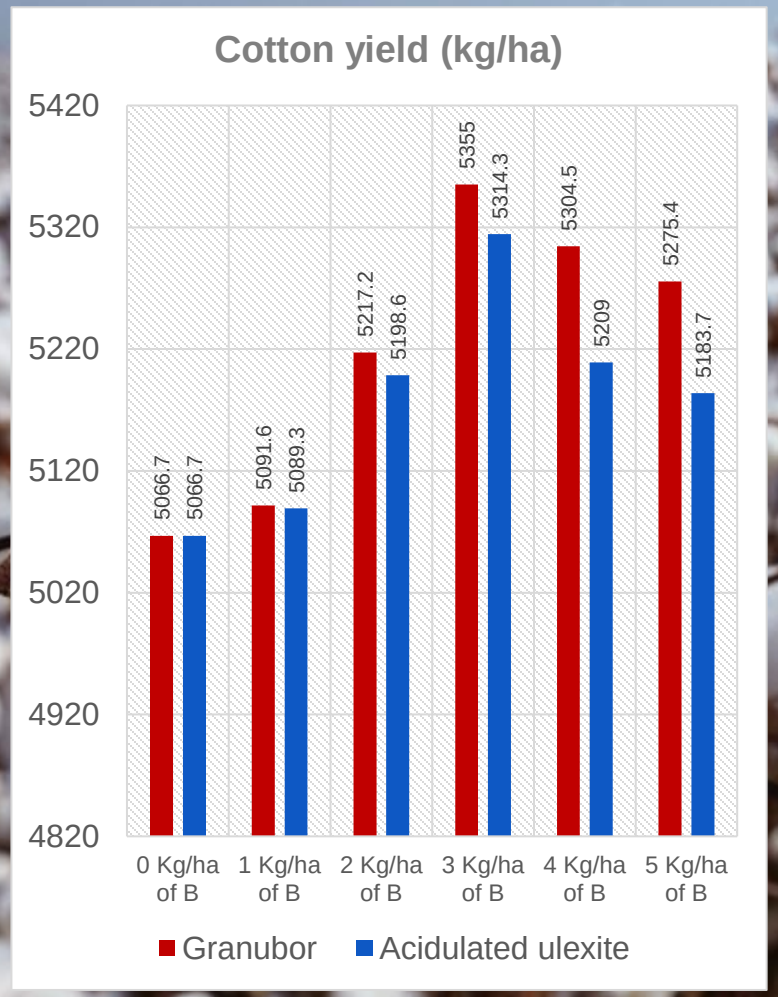
Trial design: Randomized complete block with four repetitions

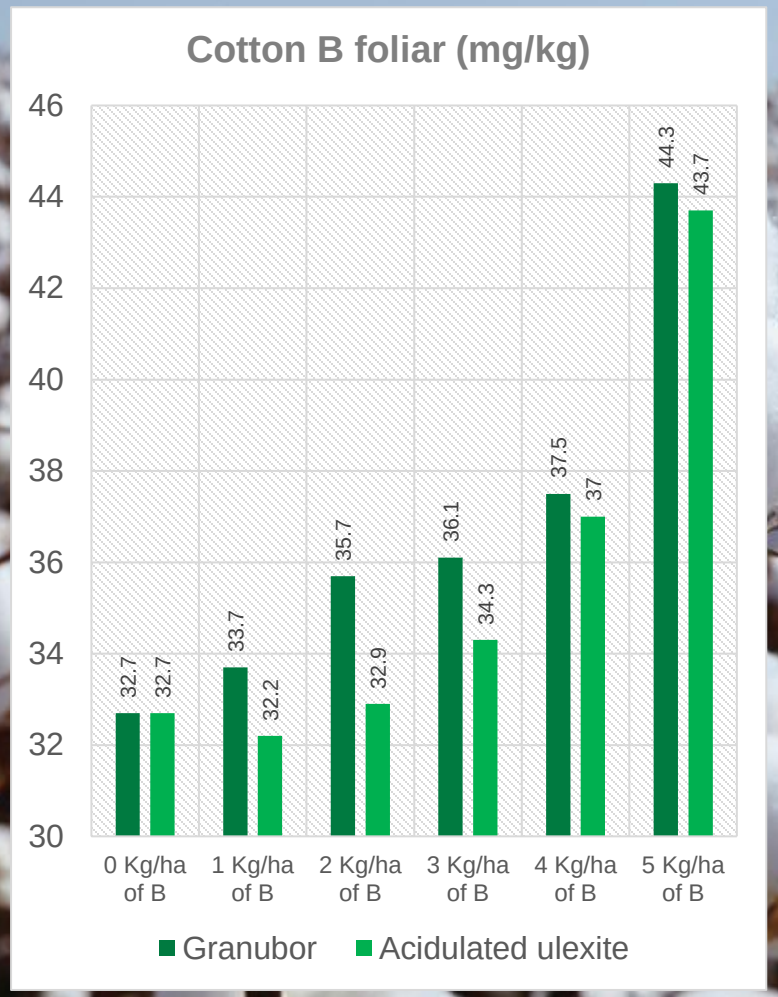
Metrics - Yield (kg/ha), B content in the leaves, and B content in the soil (after harvest)
Metric - Plant Stand evaluation - to ensure consistent stand in each replication.
Analysis - Statistical analysis of Yield Metric to evaluate product performance.

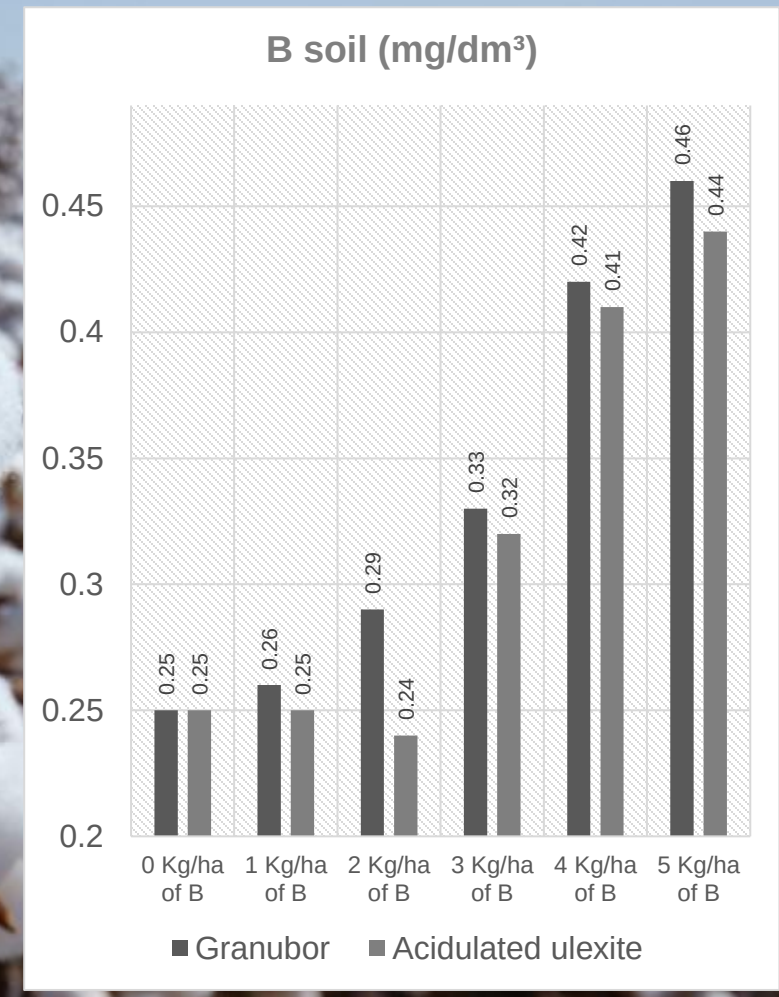
- **Soil Type and General Soil Information**

Soil type: Dystrophic Red-Yellow Latosol/Oxisol. Clay: 49.8%; Sand: 32.5%; Silt: 17.7%.
Soil information: pH: 5.7 ($CaCl_2$); O.M.: 24.3 g/dm^3; P: 28 mg/dm^3; K: 91.6 mg/dm^3;
S: 25 mg/dm^3; Ca: 4.1 cmol$_c$/dm^3; 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;

Response of cotton to the application of B in a clayey soil (Dystrophic Red-Yellow Latosol) Comparing control vs. *Granubor vs. acidulated ulexite* in Mato Grosso state, Brazil



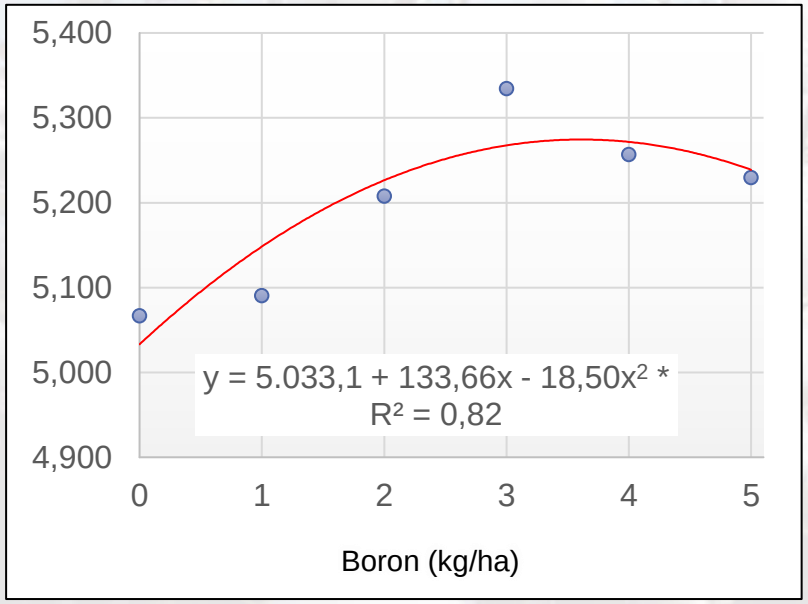




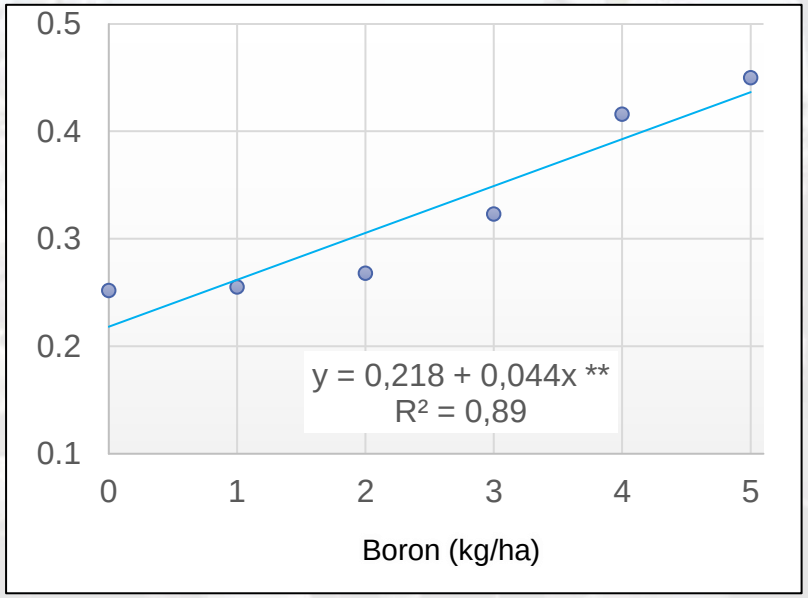
Source: C. Kappes (2023).

Response of cotton to the application of GRANUBOR® in a clayey soil (Dystrophic Red-Yellow Latosol)

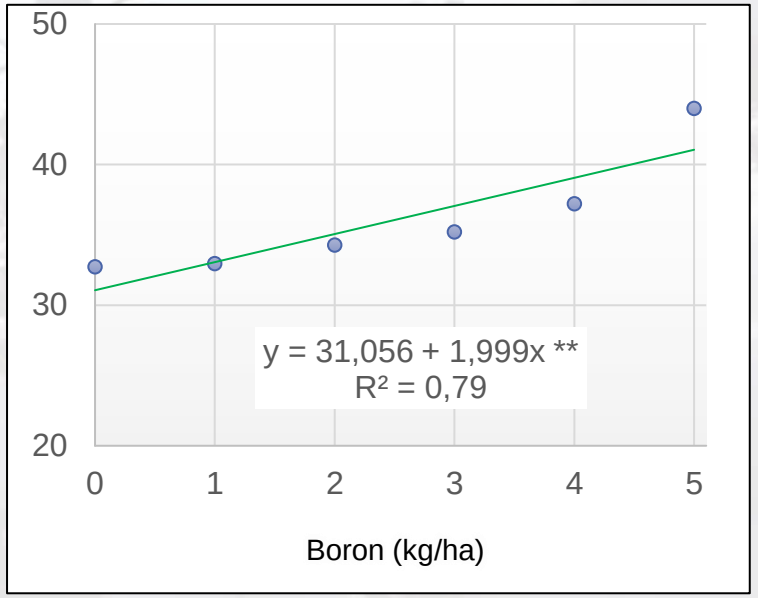
Cotton yield (kg/ha)



B in soil (mg/dm³)



B in leaf (mg/kg)



Source: C. Kappes (2023).

Results

1. Application of 3.0 kg/ha of boron broadcast at the time of sowing in soil with low availability of the element, provided a higher yield of seed cotton, whose percentage increase was 5.28% in comparison to the control treatment (increase of 267.9 kg/ha);
2. Applications of increasing doses of boron linearly increased the contents of the element in the leaf and soil, the lowest values were verified in the control, which did not receive application of boron.