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Field trial results
Boron in soybean via soil application

Trial overview:

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

- Crop season: Two-year field trial (**2022/23 and 2023/24)**
- Crop variety: *BMX Bônus IPRO*
  - Fertilizer: Granubor®
  - **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

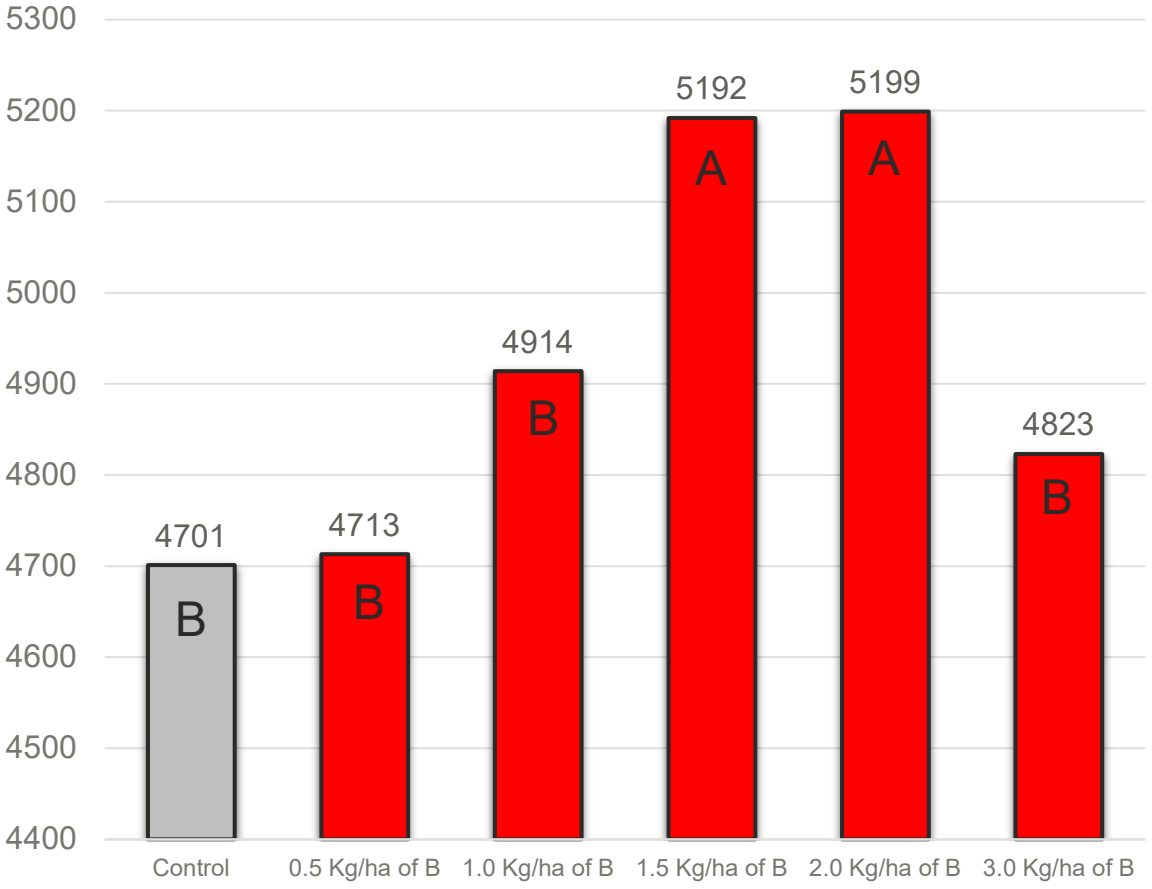
    Metrics - Yield (kg/ha), B content in the leaves, and B content in the soil (after harvest)
    Metric - Plant Stand evaluation - to ensure consistent stand in each replication.
    Analysis - Statistical analysis of Yield Metric to evaluate product performance.

➢**Soil Type and General Soil Information (before planting in 2022)**

Soil type: Dystrophic Red-Yellow Latosol (Oxisol). Clay: 40.8%; Sand: 51.0%; Silt: 8.2%.
Soil information: pH: 4.9 ($CaCl_2$); O.M.: 19.6 g/dm^3; P: 9.6 mg/dm^3; K: 34.5 mg/dm^3;
S: 16 mg/dm^3; Ca: 2.1 $cmol_c$/dm^3; Mg: 0.6 $cmol_c$/dm^3; B: 0.14 mg/dm^3; Cu: 1.5 mg/dm^3;
Mn: 2.0 mg/dm^3; Zn: 5.1 mg/dm^3; Fe: 37 mg/dm^3;

Response of soybean to the application of B in a clayey Red-Yellow Latosol (Oxisol) – Yield (Kg/ha)
Comparing control vs. Granubor® in Mato Grosso, Brazil | Two-year field study (2022/23 – 2023/24)

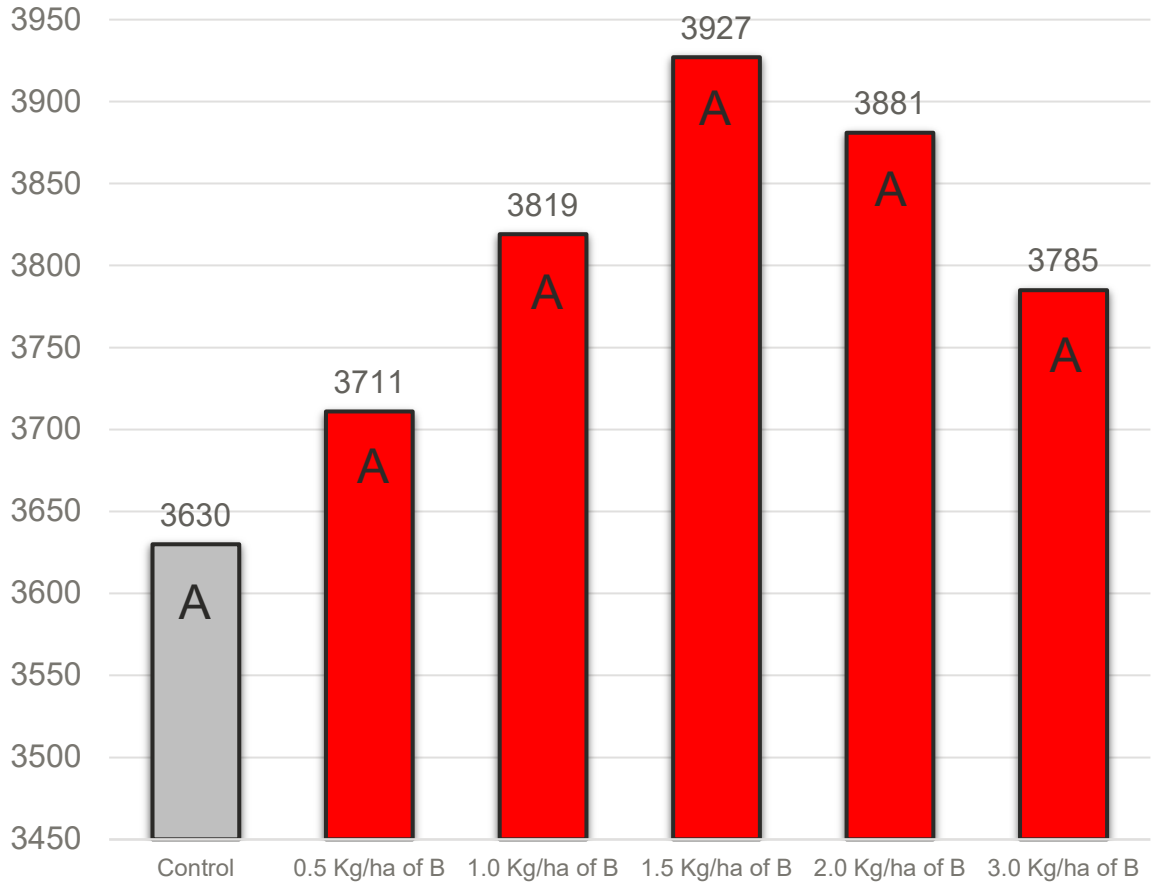
Crop year 2022/23 - Yield (Kg/ha)



Scott-Knott test (p<0,1)
CV: 4.28%

Source: C. Kappes, 2023

Crop year 2023/24 - Yield (Kg/ha)

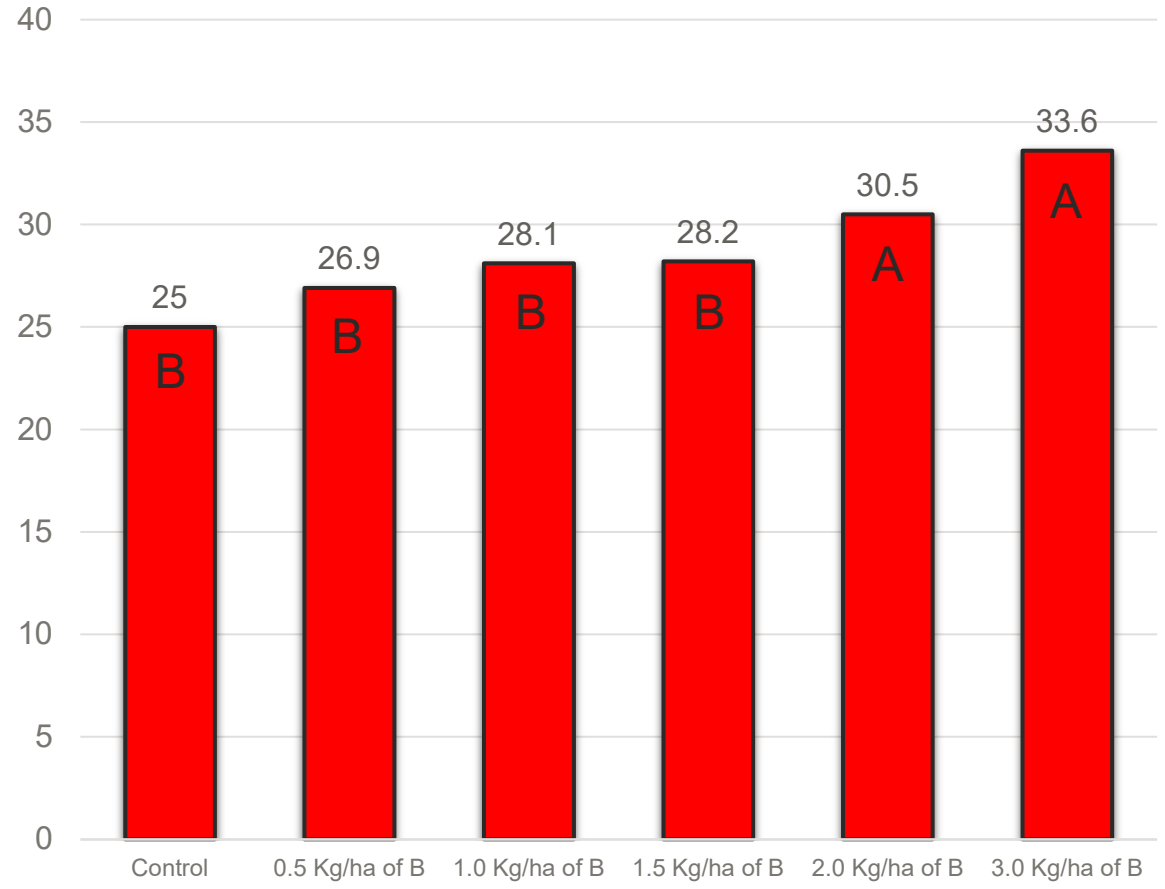


Scott-Knott test (p<0,1)
CV: 5.50%

Source: C. Kappes, 2024

Response of soybean to the application of B in a clayey Red-Yellow Latosol (Oxisol) – Boron foliar (mg/Kg) Comparing control vs. Granubor® in Mato Grosso, Brazil | Two-year field study (2022/23 – 2023/24)

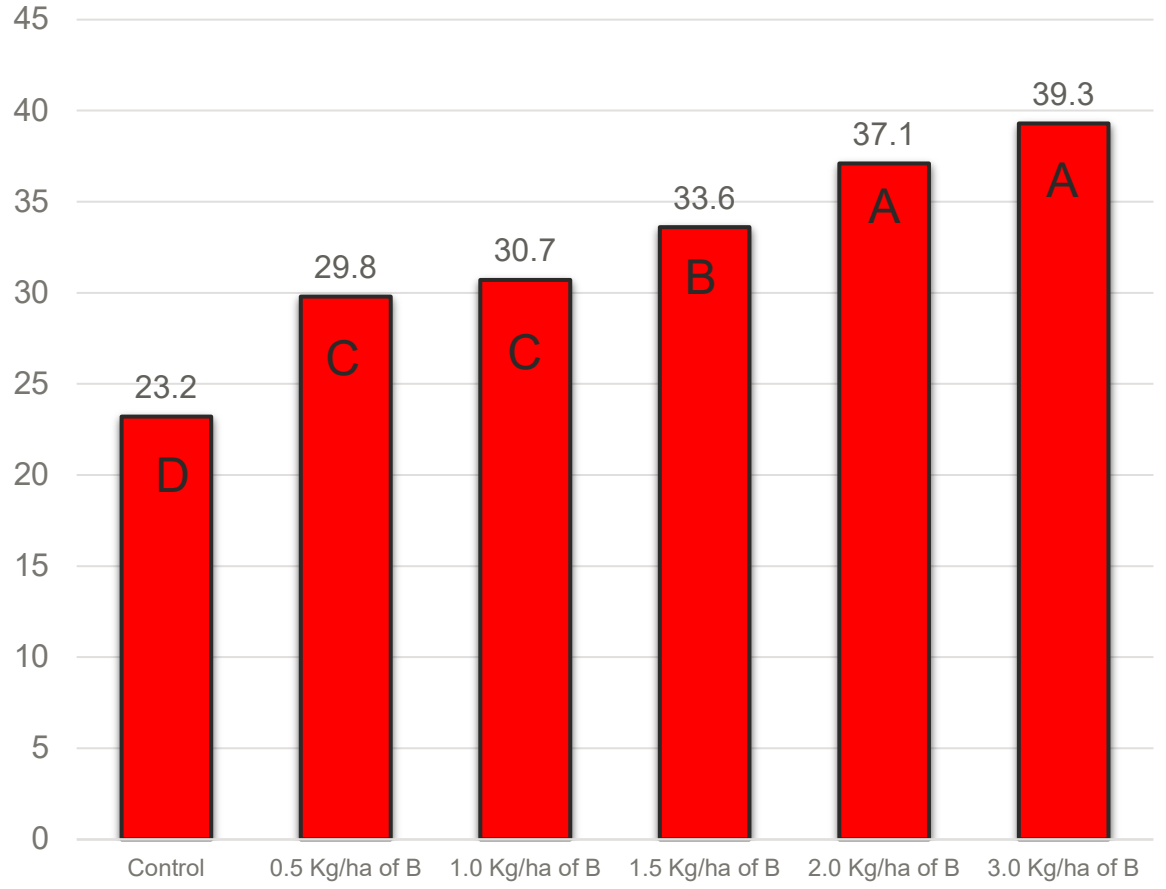
Crop year 2022/23 - Boron Foliar (mg/Kg)



Scott-Knott test (p<0,1)
CV: 12.24%

Source: C. Kappes, 2023

Crop year 2023/24 – Boron Foliar (mg/Kg)



Scott-Knott test (p<0,1)
CV: 6.81%

Source: C. Kappes, 2024

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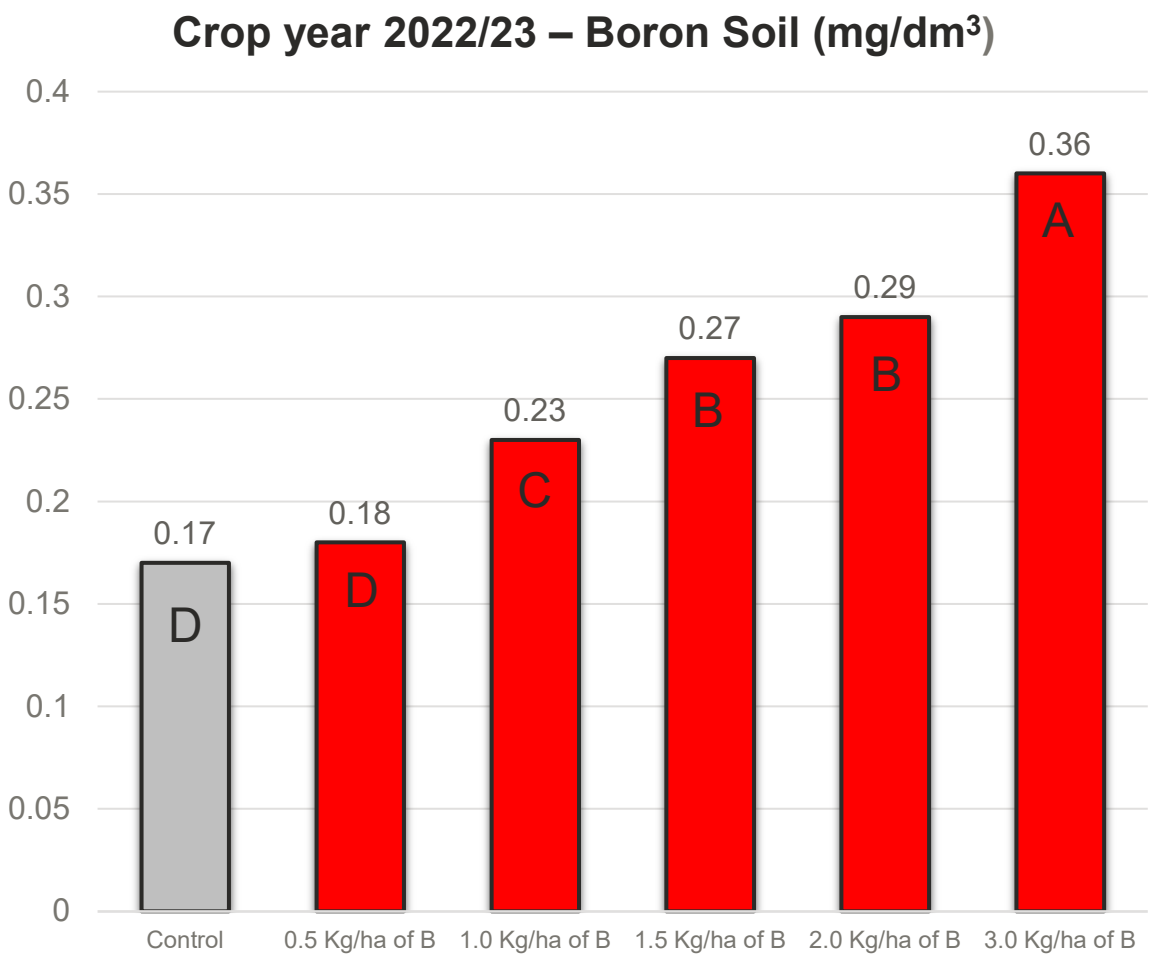
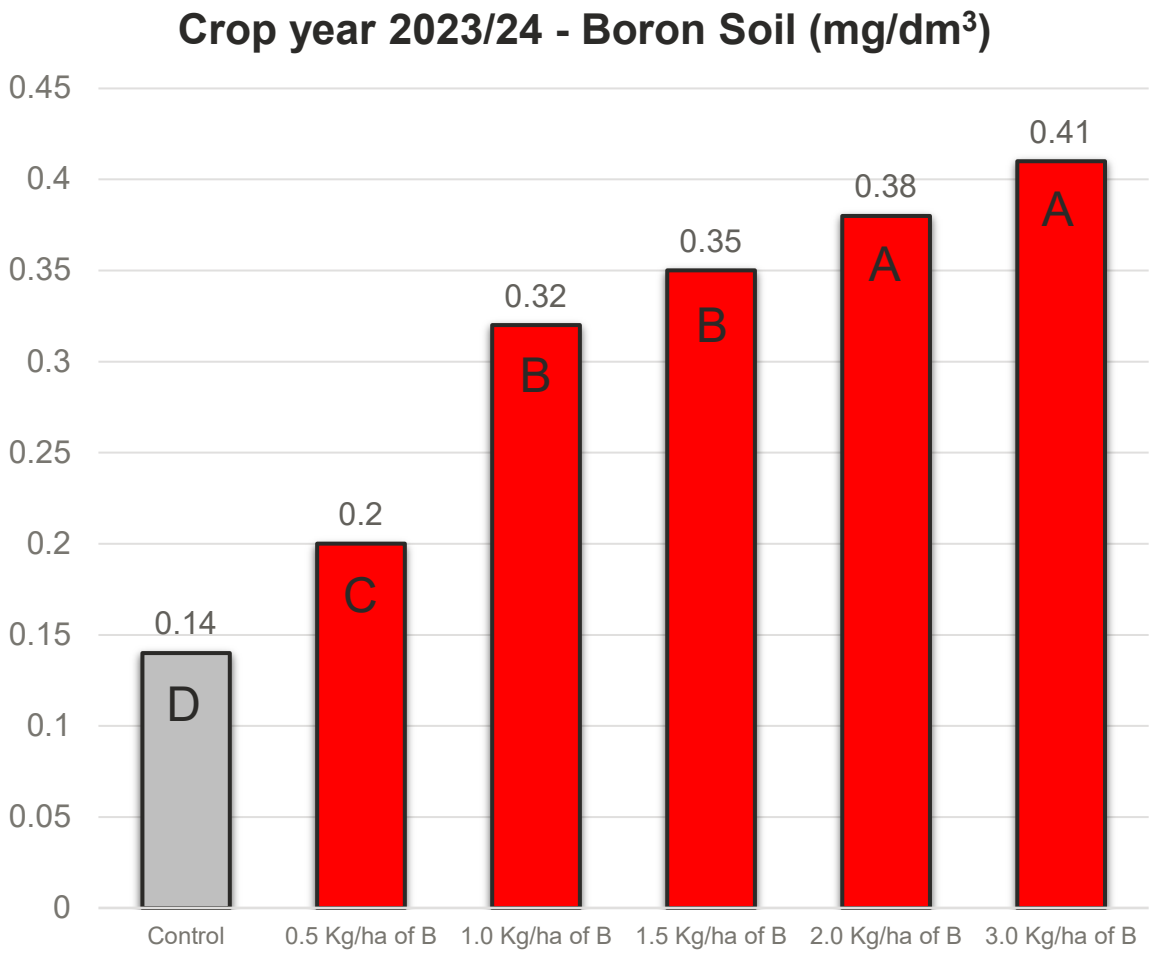
Response of soybean to the application of B in a clayey Red-Yellow Latosol (Oxisol) – Boron in the soil (mg/dm³) Comparing control vs. Granubor® in Mato Grosso, Brazil | Two-year field study (2022/23 – 2023/24)



Scott-Knott test (p<0,1)
CV: 10.47%

Source: C. Kappes, 2023



Scott-Knott test (p<0,1)
CV: 12.08%

Source: C. Kappes, 2024

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Results

The results obtained allowed us to conclude that:

a) The application of 2.0 kg/ha of B via Granubor® in soil with low initial availability of the element led to higher soybean yield (cv. BMX Bônus IPRO), whose percentage increase was 10.6% in the season 2022/23, compared to the treatment control;

b) The application of 1.5 kg/ha of B via Granubor® in soil with low initial availability of the element led to higher soybean yield (cv. BMX Bônus IPRO), whose percentage increase was 8.2% in the season 2023/24, compared to the treatment control;

c) Applications of increasing doses of B linearly increased the levels of the element in the leaf and soil, where the lowest values were seen in the treatment control;


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