

Boron in cotton



Study details

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Researcher: Dr. Claudinei Kappes

Date: 2023

Location: Sinop, MT – Brazil

Crop variety: TMG 44 B2RF – 11 seeds/meter

Soil: Dystrophic Red-Yellow Latosol (Oxisol)

Clay: 49.8%, Sand: 32.5%, Silt: 17.7%

Soil pH: 5.7 (CaCl₂)

Additional soil information: OM 24.3 g/dm³; P 28.9 mg/dm³; K 91.6 mg/dm³; S 25 mg/dm³; Ca 4.1 cmol_c/dm³; Mg 1.6 cmol_c/dm³; B 0.23 mg/dm³; Cu 0.5 mg/dm³; Mn 0.5 mg/dm³; Zn 3.4 mg/dm³; Fe 60 mg/dm³

Fertilizers: *Granubor*[®] and 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). Plant stand evaluation to ensure consistent stand in each replication

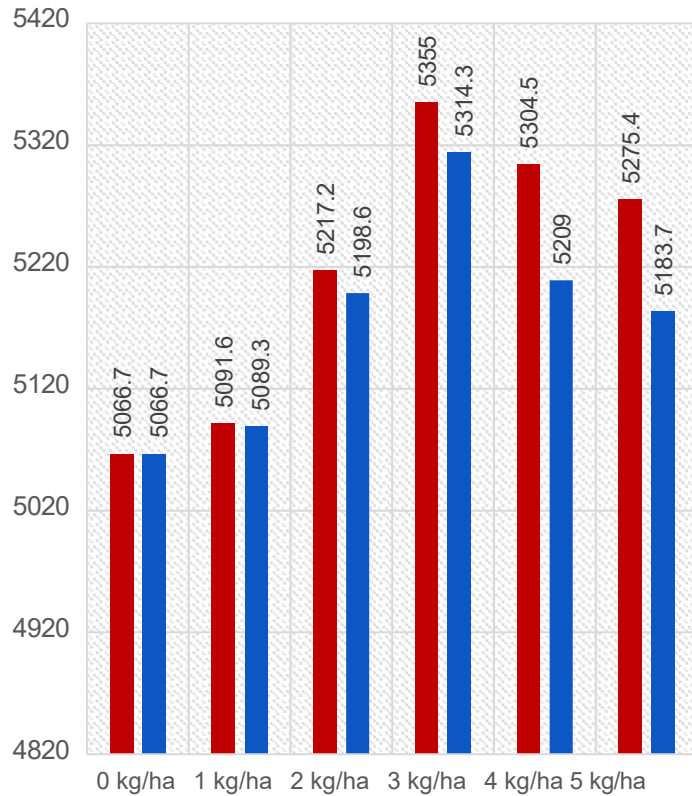


Boron in cotton



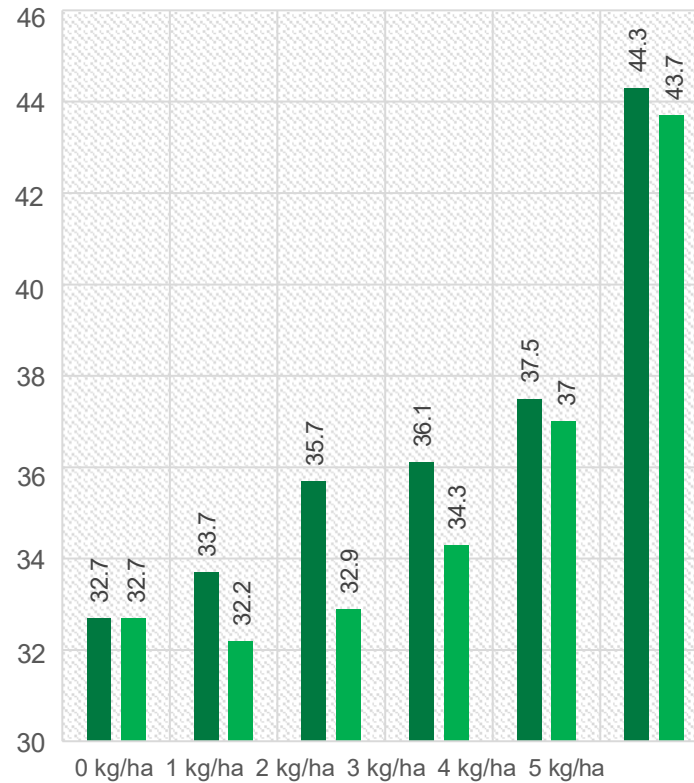
RioTinto

Cotton yield (kg/ha)



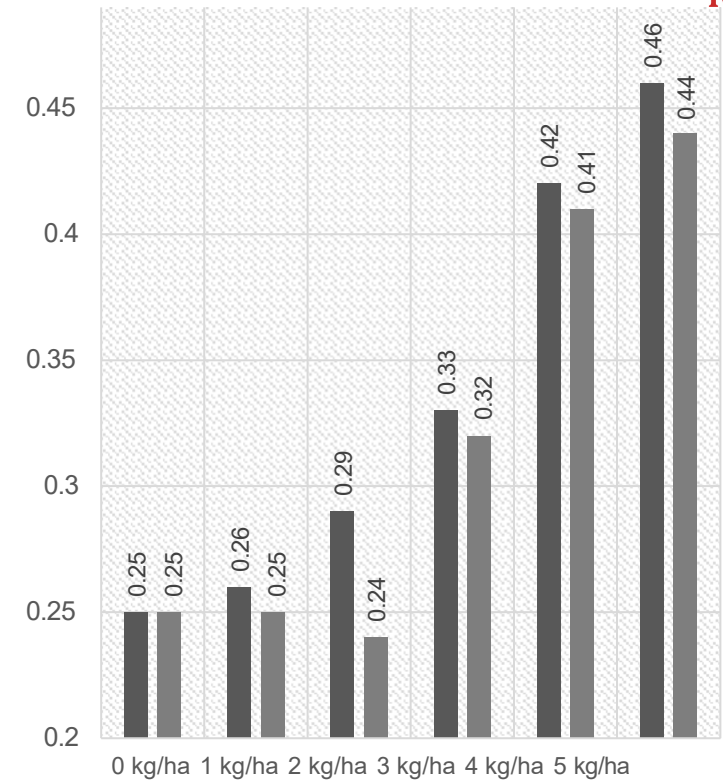
■ Granubor ■ Acidulated ulexite

Cotton B foliar (mg/kg)



■ Granubor ■ Acidulated ulexite

B soil (mg/dm³)

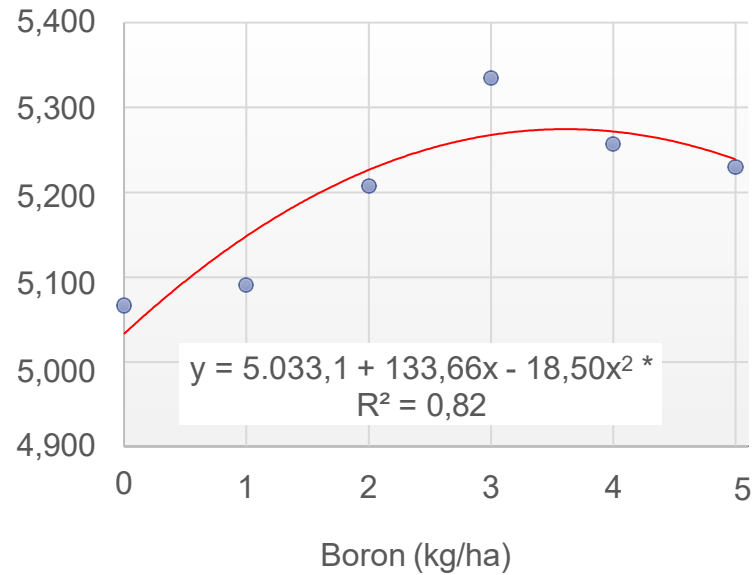


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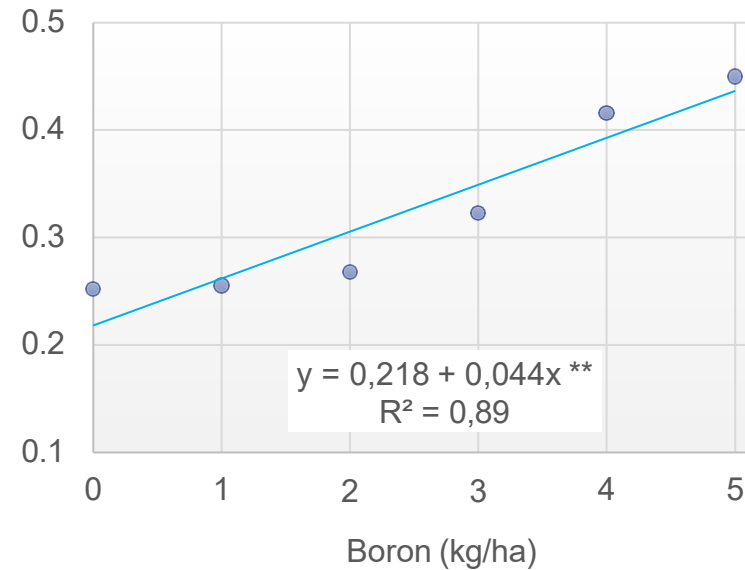
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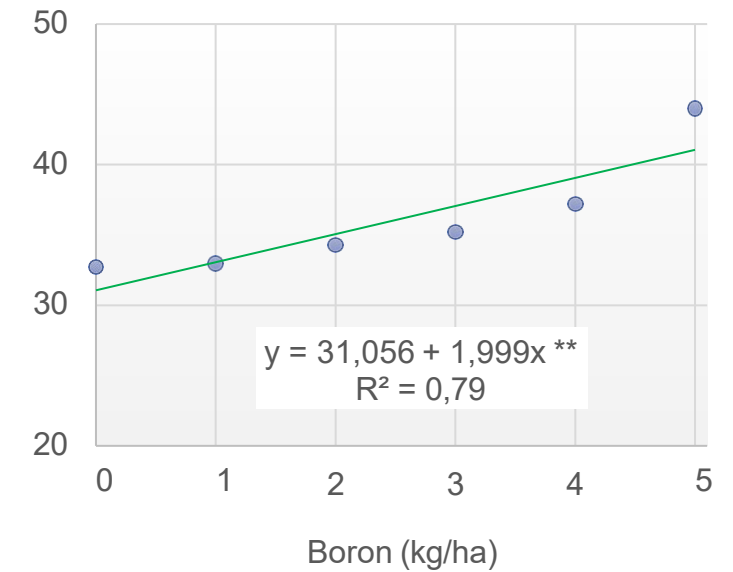
Cotton yield (kg/ha)



B in soil (mg/ dm³)



B in leaf (mg/kg)



Boron in cotton: Results



1. The 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 content of the element in the leaf and soil, the lowest values were verified in the control, which did not receive an application of boron.

