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## INTRODUCTION

The sugar industry can be directly affected by the ripening process and continuous supply of high quality raw material depends on the use of tools to optimize the production system, such as ripeners and micronutrients.

Boron deficiency can affect the growth and development of plants, mostly due to its structural function in cell wall composition, but also to be involved in other functions such as protein synthesis and metabolism of carbohydrates.

The aim of this study was to evaluate the effect of boron on sugarcane in areas with restricted availability of the element at the same time of application of the ripener Trinexapac-ethyl.

## MATERIALS AND METHODS

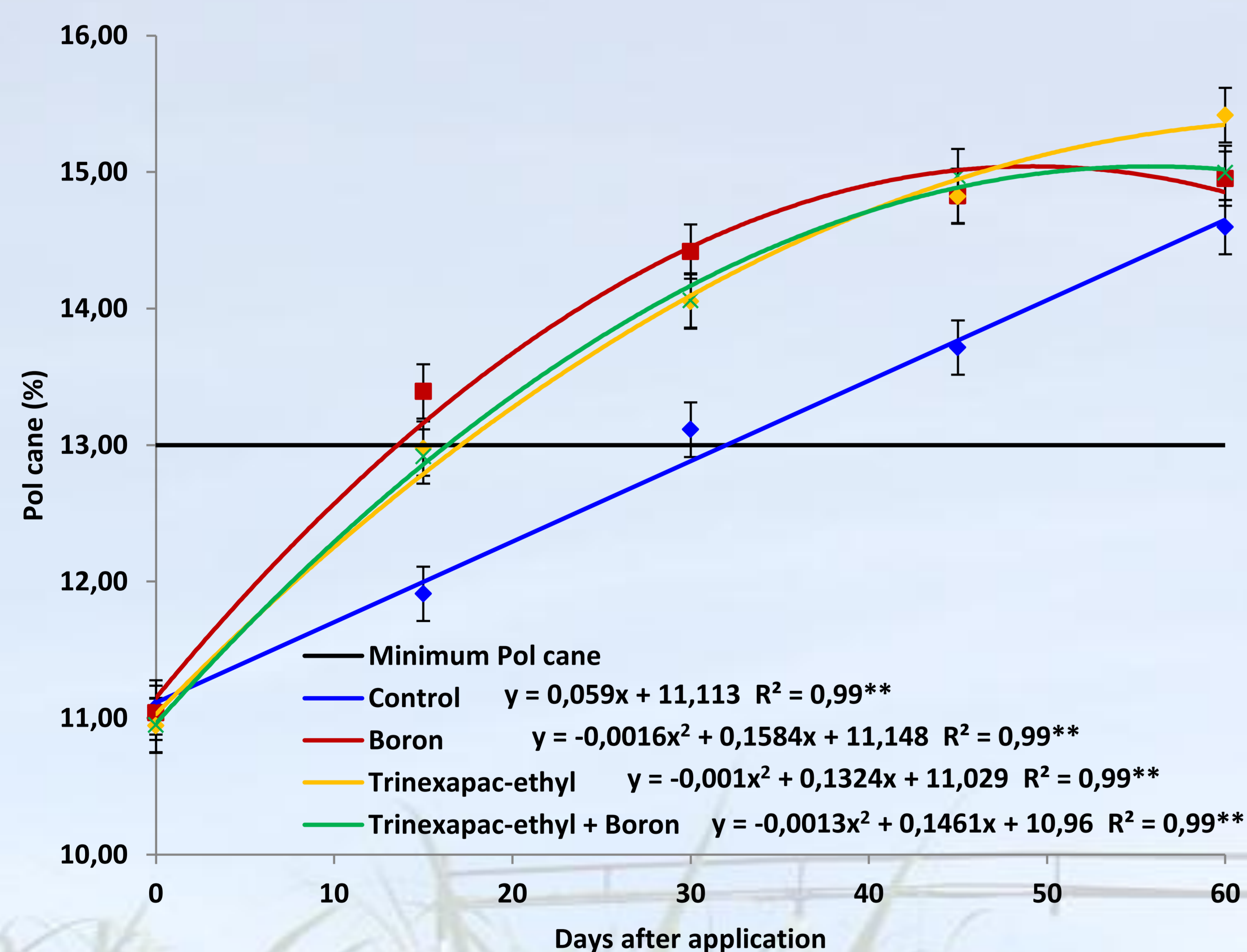
The experiments were conducted on ratoon cane in early harvest in two consecutive years and two locations with different soil types and production environments, a total of four experiments (2008/2009 at Olimpia, SP, Brazil and 2009/2010 at Igarapu do Tiete, SP, Brazil).

The treatments consisted in the application of Trinexapac-ethyl, Trinexapac-ethyl + Boron, Boron and control (natural ripening), applied at the dose recommended by the manufacturers, i.e., 0.8 L ha<sup>-1</sup>, 0.8 L ha<sup>-1</sup> + 0.18 Kg ha<sup>-1</sup>, and 0.18 Kg ha<sup>-1</sup>, respectively, with the addition of 5% adjuvants.

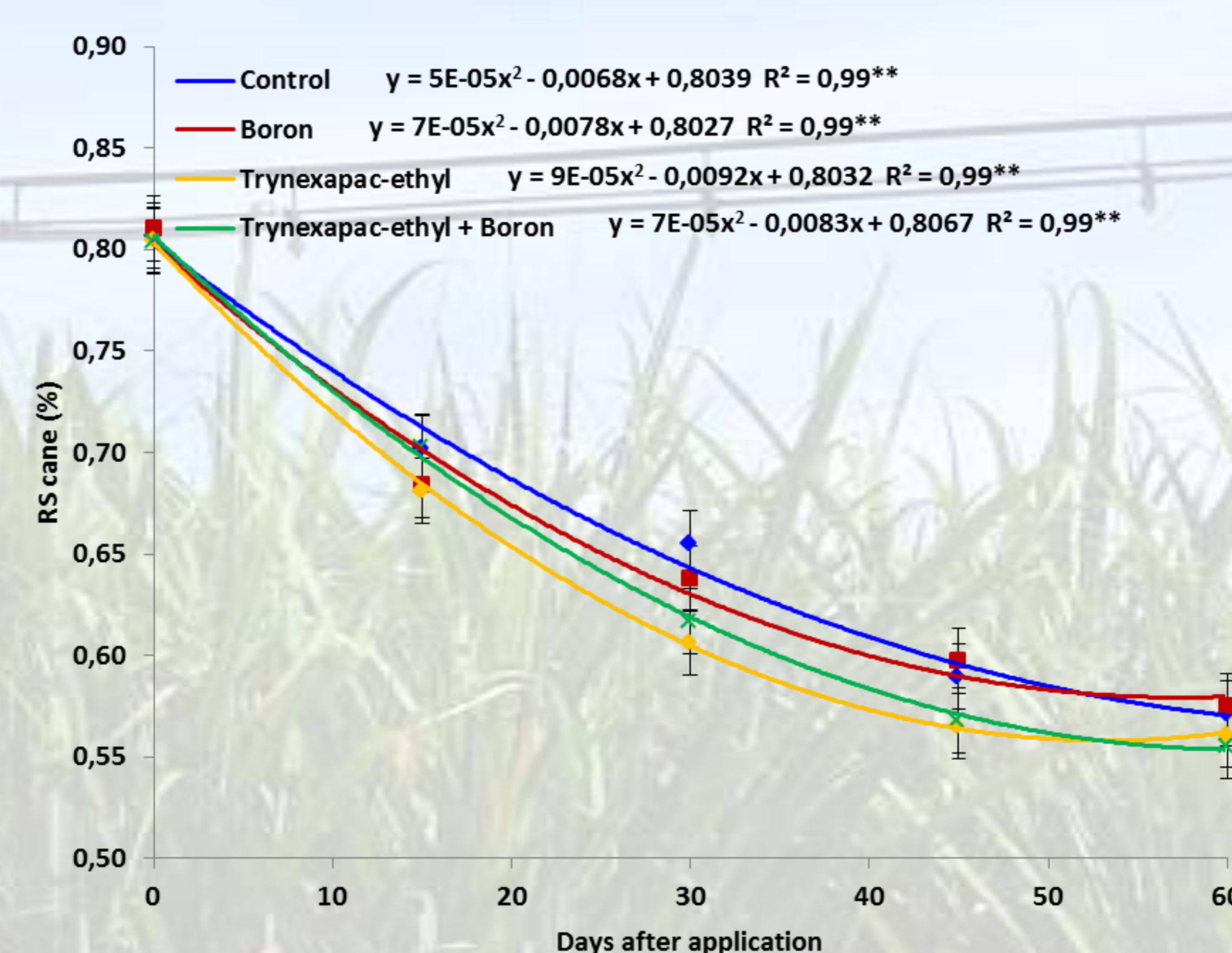
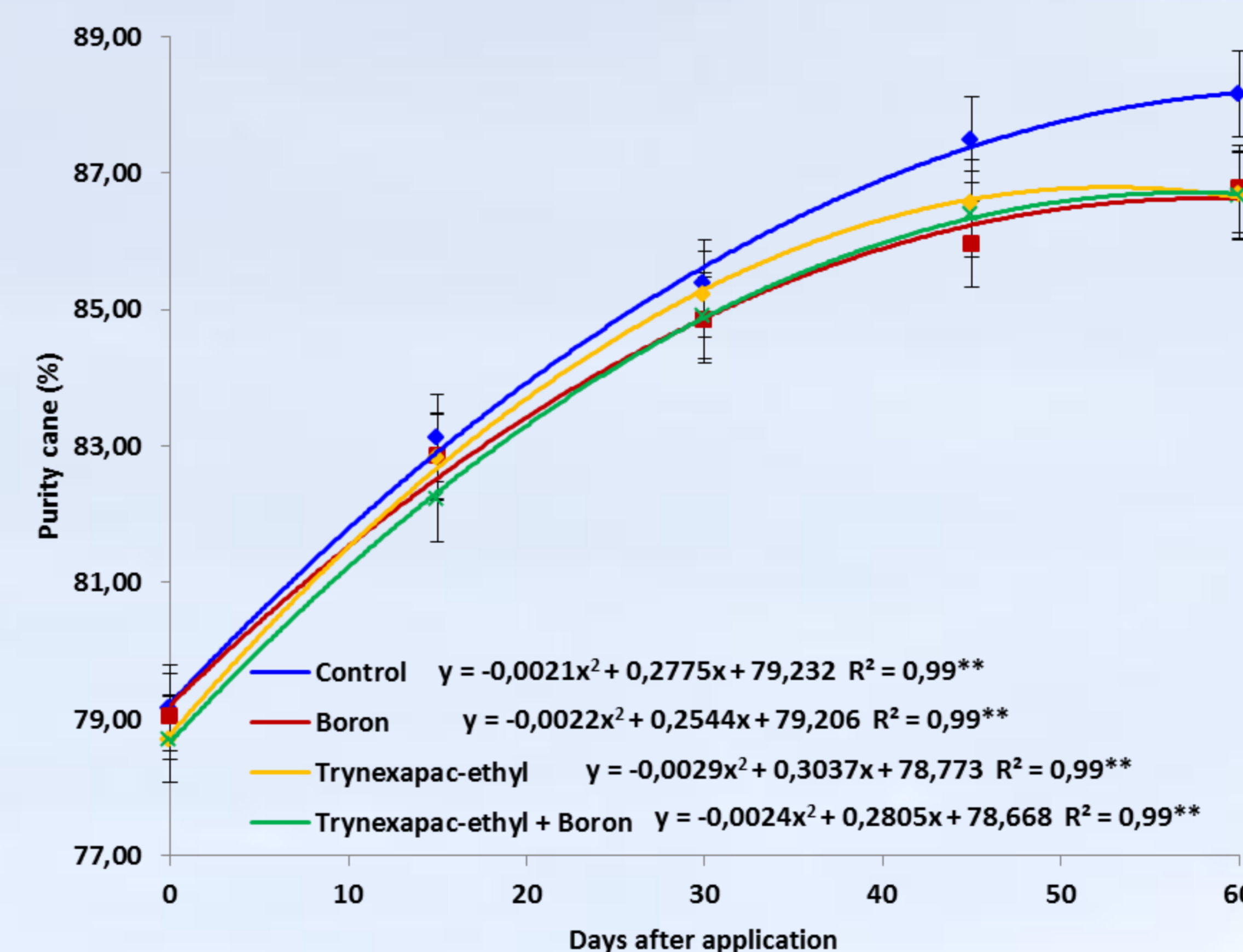
Each plot consisted of 6 rows (10 m long), spaced at 1.5 m. However, for evaluation purposes, only the central 4 rows were considered, disregarding 1 m at the extremities, made at 0, 15, 30, 45 and 60 days after application (DAA).

Variety RB855453 was used, known for its medium stalk yield, high sucrose content and early maturation, and medium soil fertility requirements.

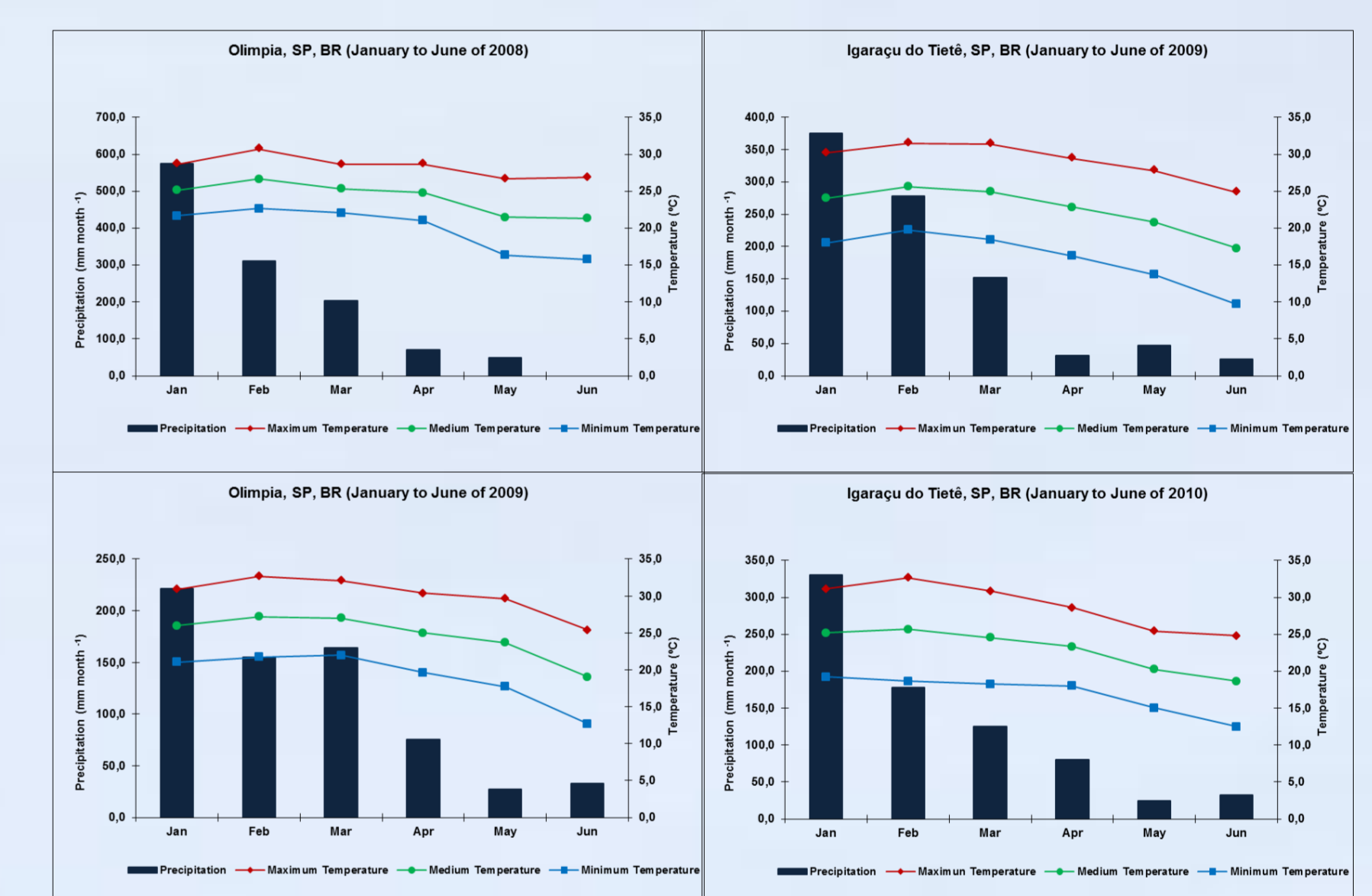
## RESULTS



Pol cane (%), with the application of Trinexapac-ethyl, associated or not with Boron, in early season. Average of 2 locals and 2 years. \*\* significant at 5% probability by the LSD test.



Purity cane (%) and Reducing sugar (RS) (%), with the application of Trinexapac-ethyl, associated or not with Boron, in early season. Average of 2 locals and 2 years. \*\* significant at 5% probability by the LSD test.



## CONCLUSIONS

- The application of Boron, Trinexapac-ethyl + Boron and Trinexapac-ethyl, anticipated harvest in 18, 16 and 15 days, respectively, comparing with the control.
- Boron, Trinexapac-ethyl + Boron and Trinexapac-ethyl treatments provided on average of 7% higher sucrose accumulation than control at 50 DAA (harvesting recommendation by manufacturer).
- The application of Trinexapac-ethyl, in association with Boron or not, improves the technological quality of sugarcane.

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