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The aim of this study was to investigate the influence of potassium stress through two potassium fertilizer (KCl and K<sub>2</sub>SO<sub>4</sub>) treatments over leaf proline and fruit production in eggplant, as well as the modifications in electrical conductivity of soil.

## Introduction

Eggplant is a horticultural species that has been largely consumed in world due to medical and nutritive potentials.



Currently domestic production of potash fertilizer in Brazil as K<sub>2</sub>O is above 16 % and import is 83 %.



The main potassium fertilizer used in agriculture is potassium chloride followed by potassium sulphate to a lesser extent. Potassium sulfate is less “salty” than the potassium chloride.



This amino acid has function of cell protection against denaturation processes when plants are exposed to inadequate situations as mineral, salt and water stresses, because this organic compound is highly soluble in water.

## Results

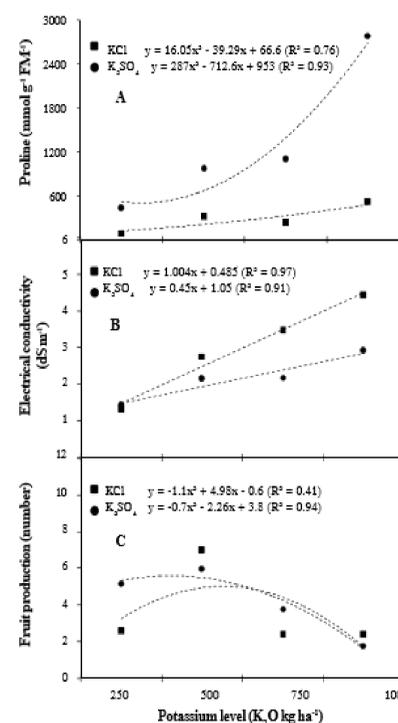


Figure 1. Proline level (A), electrical conductivity in soil (B), and fr production (C) of eggplant exposed to two potassium sources (KCl and K<sub>2</sub>SO<sub>4</sub>) and four levels (K<sub>2</sub>O 250, 500, 750, and 1000 kg ha<sup>-1</sup>).

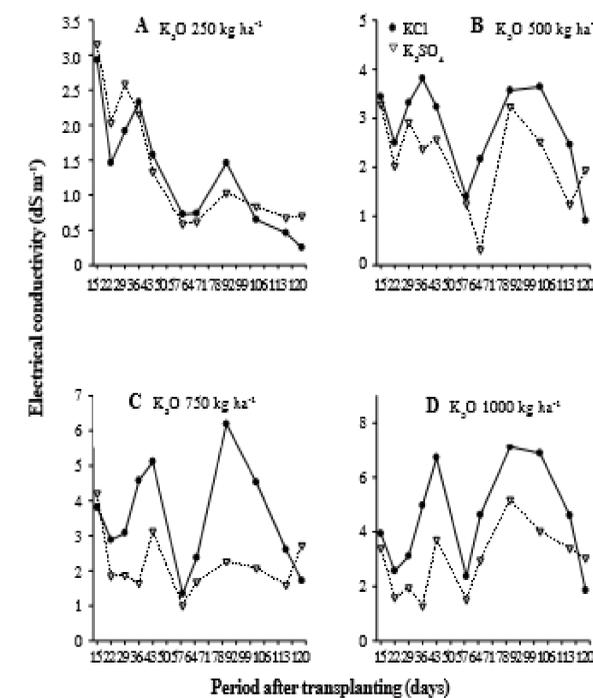


Figure 2. Electric conductivity in soil containing two potassium sources (KCl and K<sub>2</sub>SO<sub>4</sub>) and four levels (K<sub>2</sub>O 250, 500, 750, and 1000 kg ha<sup>-1</sup>).

## Materials and Methods

The experiment design used was factorial scheme with randomized blocks, 2 potassium sources (KCl and K<sub>2</sub>SO<sub>4</sub>) combined with 4 levels of K<sub>2</sub>O (250, 500, 750 and 1000 kg ha<sup>-1</sup>).



## Conclusions

The highest fruit production was obtained with K<sub>2</sub>O 500 kg ha<sup>-1</sup> using KCl compared to K<sub>2</sub>SO<sub>4</sub> with an average electrical conductivity of 2.76 and 2.16 dS m<sup>-1</sup>.

In this study it was observed that excessive level of KCl and K<sub>2</sub>SO<sub>4</sub> as K<sub>2</sub>O 1000 kg ha<sup>-1</sup> resulted in decrease of fruit production and increase of proline concentration in leaves of the eggplant.

## Acknowledgements