

Fruit production increased by 38%

TOMATO

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OBJECTIVE

Evaluate the effect of mycorrhizal inoculation on growth and yield of tomato transplants under two fertilization rates.

METHODS

The trial was conducted in La Pocatière (Quebec) in a sandy clay type of soil with a pH of 5.5. The experiment was conducted on tomato transplants cv "Celebrity". Four treatments were tested combining two levels of fertilization (none and fertilized) and two levels of mycorrhizal inoculation (none and inoculated).

The experiment was conducted according to a randomized complete blocks design, replicated eight times. The mycorrhizal inoculation was applied at the time of transplantation in the field. A first fertilization application of Myke® Tomato Food 5-6-8 was done also at the time of transplantation at the recommended dose of 45ml/plant. Then, four weeks later, a dose of 85ml/plant was applied around each plant. No artificial irrigation or phytosanitary treatment was required during the culture.

Growth parameters, height (cm), width (cm) and stem collar diameter (mm) were measured at the

time of transplantation and at week 10 (August 25). The number of fruit sets was evaluated three weeks after transplantation. Harvest of mature fruits was between August 19 and September 26. On September 29 all the remaining green fruits were harvested without being classified as healthy or rejected. For all crops, the number of fruits per plant and fresh mass of each fruit were recorded.

RESULTS

After 10 weeks of growth, treatment inoculated with the mycorrhizal fungus significantly increased plants height ($p < 0.0001$) and width ($p = 0.0370$), regardless of fertilization. The application of fertilizers has also helped boost the plants height ($p = 0.0269$) and width ($p = 0.0020$) significantly.

The total production of fruits (ripe and green) was significantly influenced by the mycorrhizal inoculation. The total number of tomatoes produced per plant increased significantly by 38% with inoculation, all fertilizer treatments combined ($p = 0.0110$). The total fruit production in weight per plant has increased significantly by 34% ($p = 0.0220$).

