

18.6% marketable yield increase

POTATO

K. Al-Mughrabi, PhD. and D. LeQuérée Msc. Biol.
NBDAAF et Premier Tech. 2010

OBJECTIVE

Evaluate the effect of endomycorrhizal inoculation applied by a powder seed treatment on the growth and production of potatoes.

METHODS

The trial was conducted at the Potato Development Centre, located in Wicklow (New-Brunswick), during the growth season 2010. Four treatments were assessed and the inoculation was applied at seeding. There was a non-inoculated control with fungicide (fludioxonyl, applied according to recommended rate on label) and another without. For the inoculated treatments, there was also one with fludioxonyl and another without. A randomized complete block design with six replicates was used. Each plot consisted of a 20-tuber row spaced at 37.5 cm (15 inches) and each treatment was separated by a guard row.

The variety of potato used was “Russet Burbank”. At seeding, the fertilizer 18.5-10-15 was applied to each treatment. The 2010 season was hot and dry.

Yields were measured in plot and comparisons were made using a factorial design ANOVA.

RESULTS

The endomycorrhizal inoculation had a positive impact on yields. The total quantity of tubers was 10.8% higher, in presence or not, of the fungicide ($p=0.05$). Of this, an increase of the number of marketable tubers of 23.9% was obtained ($p=0.01$). The marketable yield (kg) of inoculated plants was 18.6% higher than the non-inoculated controls ($p=0.06$). No disease was observed in all plots.

