

Yield increase

CORN

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D. Le Quéré, Premier Tech, 2011.

OBJECTIVE

To evaluate the effect of mycorrhizal inoculation and phosphate fertilizer on corn yield.

METHODS

Field trials were conducted in the area of Thorndale, ON. Two sites were sown in 3 m x 10 m plots. Two factors were tested: a) the phosphorous fertilization, absent or at the recommended rate (0P and 100P) and b) the mycorrhizal inoculation (inoculated and non inoculated). A randomized complete block design with six replicates was used for each treatment.

The hybrid Pride A6012G3 2 800 CHU was sown late in June due to very rainy weather at the beginning of the 2011 season. The fertilizer consisted of 146 kg ha⁻¹ of nitrogen, 33 kg ha⁻¹ of potassium and either 0 kg ha⁻¹ (0P) or 26 kg ha⁻¹ (100P) of phosphorus.

The herbicide spraying and usual maintenance according to the recommendations for the area were followed throughout the season.

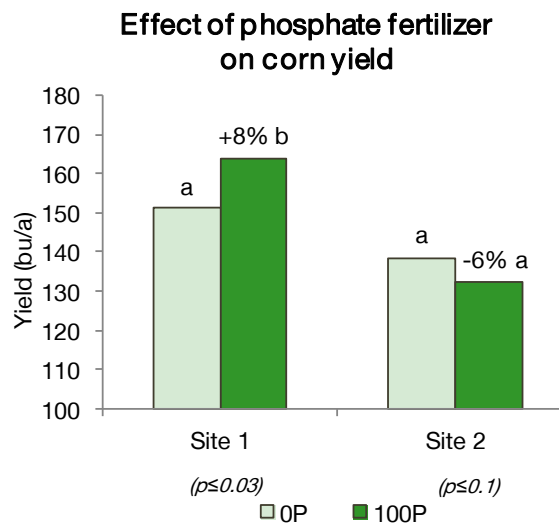
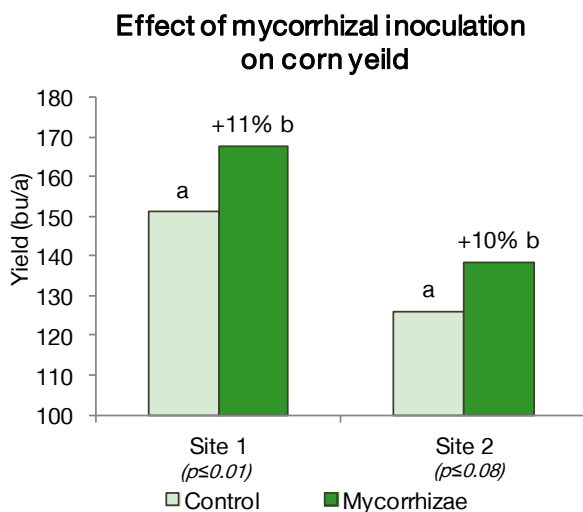
Yields were measured at harvest and analysed with an analysis of variance (ANOVA).

RESULTS

The climatic conditions were unfavorable in the early season. Over 200 mm of rain fell in May in this area, delaying planting until June. In July, drought affected development, but conditions improved in August.

The mycorrhizal inoculation increased yields by 11% at site 1 ($p \leq 0.01$) and by 10% at site 2 ($p \leq 0.08$), whether phosphorus had been added or not.

The phosphorus fertilizer increased yields by 8% ($p = 0.03$) at site 1, whereas a non-significant decrease of 6% was recorded at site 2.



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