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NITROGEN FERTILIZATION ON NUTRITIONAL STATUS AND SEEDLING YIELD OF THREE SUGARCANE VARIETIES

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Abstract

Producing healthy sugarcane seedlings and varieties with high yield potential is the most costly expense in setting up a sugarcane field. This study assessed the effect of nitrogen (N) fertilization on plant nutritional status and seedling yield of three sugarcane varieties: RB835486, RB867515 and SP801816. Therefore, five N doses were used: 0, 40, 80, 120 and 160 kg ha⁻¹. The experimental design was a randomized complete block with four replicates. The study was conducted from September 2015 to March 2016 in the city of Mercês, located in the Zona da Mata Mineira, state of Minas Gerais (MG), Brazil. A soil of medium texture was treated with lime (5.0 t ha⁻¹) and gypsum (1.5 t ha⁻¹), after which it was plowed, harrowed and subsoiled. We applied 100 kg ha⁻¹ of P (229 kg of P₂O₅) and 200 kg ha⁻¹ of potassium to the bottom of the planting furrow. Plant nutritional status was assessed at the end of January 2016, which is the maximum growth phase of sugarcane. In March 2016, the plants were cut close to the soil surface and seedling yield was assessed. There was no effect of nitrogen fertilization on plant nutritional status and seedling yield in the three sugarcane varieties. The plants were well-nourished and the average seedling yield was 65 t ha⁻¹.

Keywords: agricultural management, production system, sustainability.

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