



Evaluation of the commercial productivity of new materials obtained from sweet potato crosses

Avaliação da produtividade comercial de novos materiais obtidos de cruzamentos de batata doce

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ABSTRACT

In most of the countries where sweetpotato is grown, it is a food produced by small-scale farmers with limited resources and peripheral soils. Under these conditions, the amount of the crop and the commercial availability of tubers are associated with the sum of small yields. However, the production potential per area achieved by small producers is below the average obtained by large producers in developed countries. In this respect, it is important to emphasize that there is a window of possibilities for the small producer to achieve higher yield with the adoption of improvements in relation to crop management, as well as in the availability of seed-branches generated from cultivars from genetic improvement. In this sense, the work aimed to evaluate the commercial production of new materials obtained from promising sweet potato crosses. The experiment was conducted in randomized blocks with 10 treatments (one commercial cultivar (SCSXXX Ituporanga and nine new materials (17162, 17025, 17107, 17052, 17125, 18205, 18114, 18401, kati_roxa)), three replications and seven plants per plot, being the five central plants evaluated for the commercial production characteristic. To separate the materials, analysis of variance and Tukey's test of means at 5% probability of error were performed using the R computer application. There was a significant effect for the treatments, six of the nine new materials were superior in relation to the cultivar and two did not differ from it. The material 17162 was the one that produced more commercially ($75.15 \text{ ton}\cdot\text{ha}^{-1}$) differing from the other materials (between 35.88 and $55.47 \text{ ton}\cdot\text{ha}^{-1}$). The commercial cultivar had a production of $31.67 \text{ ton}\cdot\text{ha}^{-1}$, not differing from the materials kati_roxa and 18401 (30.94 and $27.45 \text{ ton}\cdot\text{ha}^{-1}$, respectively). The new materials obtained from sweet potato crosses showed promise in relation to the evaluation of commercial productivity, it was considered commercial tubers all those that presented weight between 50gr to 500gr, a criterion that meets both the demand of urban and rural consumers. Urban consumers seek smaller tubers on the shelves, to consume in an individual meal, and also for the current size of families, while rural consumers seek larger tubers also used for animal feed.

Keywords: Potato ipomea, Genetic variability, Selection, Diversity.