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Characteristics of Growth and Yield by Varieties of Sweetpotato (*Ipomoea Batatas* L.) Cultivated in Paddy Field

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[ABSTRACT]

In recent, a demand for sweetpotato cultivation technology to expand the cultivated area of field crops in paddy fields is increasing. This research was carried out to establish suitable varieties and cultivation techniques for mass production of sweetpotato for processing raw materials. For the selection of varieties suitable for cultivation in rice fields for each processing purpose, 12 varieties in 2018 (8 varieties for starch, 4 as dried, chips and beverages), and 6 varieties in 2019 (4 varieties for starch including 'Daeyumi'; chips, semi-dried 'Pungwonmi'; beverage and coloring 'Shinjami') were used. Sweetpotato stems were planted in mid-May and harvested after 120 days to investigate the yield. Results revealed that the yield of sweetpotato (2019) for starch production, varied with variety as 'Gogeonmi' 3,926 > 'Jinhongmi' 3,428 > 'Daeyumi' 2,873 > 'Singeonmi' 2,752 kg/10a. The starch content was 20.2% in 'Daeyumi', 18.2 in 'Gogeonmi', 21.2 in 'Singeonmi', and 20.6% in 'Jinhongmi'. The total amount of starch was higher in 'Daeyumi' (730 kg/10a) and 'Gogeonmi' (731 kg/10a). The yield of chips and edible varieties 'Pungwonmi' was 4,688 kg/10a. The yield of 'Shinjami' of purple variety such as beverages and powder was 3,139 kg/10a. As a result of evaluation sweetpotato yield by waterlogging treatments on different growing stages in paddy fields, the yields of 'Daeyumi' and 'Jinhongmi' varieties treated with waterlogging at the storage root formation stage decreased by 11.8% and 11.7%, respectively, compared to the control. In the case of waterlogging treatment at storage root swelling stage, Both varieties showed the lowest yield reduction at 7.0% and 4.8%, respectively. Based on these results, stable production and substitution effect of processing raw materials can be expected by cultivating sweetpotato varieties suitable for paddy cultivation.

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