

**EVALUATION OF SWEET POTATO  
(*Ipomoea batatas*) VARIETIES IN SANDY  
REGOSOL DURING DRY SEASON**

By

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## ABSTRACT

Sweet potato (*Ipomoea batatas* (L.)) is a high starchy tuber crop and it is used as a staple food in many countries. Sweet potato could be used as a substitute for cereals. It is produced with low input supplies and it gives some amount of food when other crops are affected by environmental conditions. Therefore, Sweet potato plays a role as an insurance crop in farmers' field. Sweet potato is a popular crop in the Batticaloa district and is grown in sandy regosol soils. The farmers in this district usually cultivate local varieties, which are inherently with low yields, poor quality and susceptible to sweet potato weevil (*Cylas formicarius fabricius*). These varieties in most cases failed to produce tubers when grown during the dry seasons. On the whole unavailability of suitable varieties of sweet potato forms a serious limitation in the expansion of the crop. In view of the above seen facts, evaluations of sweet potato varieties were carried out to identify the potential varieties for this production environment.

Six sweet potato varieties received from the Department of Agriculture (DOA) were tested on light sandy soil (regosol) during the dry season at the Agronomy farm, Eastern University located in the agro ecological region DL<sub>2</sub>. The experiment was in RCBD and managed, in accordance to recommended practices of the DOA, studied the yield and yield related characters. The data gathered were statistically analysed to determine the level of significance.

Among six tested sweet potato varieties, the variety Gannoruwa white produced the highest tuber yield (15.25 mt/ha) and it had significantly higher Harvest Index (41.6) than the other varieties. The variety Renaweema and Wariapola white

and third respectively in yield. The Gannoruwa white and Wariapola white were short duration (4-4½ month) crops, but they were found susceptible to sweet potato weevil. Therefore marketable yields of these varieties were highly affected by the attack of weevil (more than 40 %).

Ranaweema had minimum percentage of weevil attack compared to other tuber-produced varieties, therefore it is considered less susceptibility to sweet potato weevil attack. The Marketable yield of the variety (8.7 mt/ha) was almost equal to the Gannoruwa white because of low weevil attack.

The variety Wariapola red did not set tubers under the experimental condition. As far as the total biomass is concerned, Ranaweema produced the highest quantity (39.6 mt/ha), which was statistically equal to that of Gannoruwa white.

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