EVALUATION OF SWEET POTATO GERMPLASMS IN RELATION TO YIELD AND QUALITY

Dr. Md. Ashabul Hoque*

Executive summery

The research was conducted in the research field of Sher-e-Bangla Agricultural University, Dhaka, Bangladesh during the period from November 2017 to March 2018 to evaluate 10 sweet potato germplasms for the characters of yield and nutritional quality. The experiments were arranged in a Randomized Complete Block Design with three replications. Morpho-physiological, yield and quality parameters include length of vine (cm), number branch/ plant, SPAD value of leaf, number of tubers per plant, total weight of tubers/plant, yield, dry weight, total sugar content and β-carotene content were studied. The highest vine length was observed in BARI SP- 12 (72.45 cm). The highest and the lowest chlorophyll was observed in BARI SP- 9 (41.38 SPAD unit) and BARI SP- 5 (32.51 SPAD unit), respectively. The highest number of tubers/plants was observed in BARI SP-10 (7.11) which was similar to BARI SP- 7 (6.99) and followed by BARI SP- 5 (6.66) but there was no significant difference between BARI SP- 7 and BAPI SP- 5 varieties. This might be due to the variation of genetic makeup of the different sweet potato genotypes. The highest weight of tuber/plant was observed in BARI SP- 10 (2.58 kg), but BARI SP-6 gave the highest yield (25.52 t/ha) and statistically simillar to BARI SP-7, BARI SP-9, BARI SP-10 and BARI SP-12. Higher amount of sugar is present in BARI SP-6 (23.30 %). Carotene content is an important parameter of sweet potato which is precursor of vitamin A which has anti-cancer effect and reduces night blindness. Among the varieties BARI SP-12 (1.18%) has shown the highest amount of carotene content. The lowest amount of carotene was found in BARI SP- 3 (0.04 %). Finally, it may conclude that different sweet potato varieties show different result because of their different genetic makeup. Different varieties have different criteria with different purposes.

* Professor, Dept. of Agricultural Botany, Sher-e-Bangla Agricultural University, Dhaka-1207