

Contribution of Orange Flesh Sweetpotato Varieties to the Recommended Daily Allowance of Pro-vitamin A, Iron and Zinc

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Abstract

Orange fleshed sweetpotato (OFSP) has extreme high β -carotene contents in storage roots and can significantly reduce vitamin A deficiency (VAD). Owing to OFSP varieties sweetpotato is considered as the first biofortified crop in the frame of the HarvestPlus efforts to alleviate hidden hunger. The object of our contribution is to illustrate the contribution of OFSP varieties, comprising farmer and modern varieties, to the recommended daily allowance of pro-vitamin A, iron and zinc. In total 26 OFSP varieties were used in this study, namely, six OFSP farmer varieties (Ejumula, Zambezi, Carrot-C, Kakamega, KMI61, and Abuket-1) and three modern OFSP varieties (SPK004/6/6, SPK004/6 and Naspot_5/50) from Uganda, 15 modern OFSP varieties recently released in Mozambique (Tio Joe, Namanga, Bela, Lourdes, Ininda, Irene, Cecilia, Erica, Delivia, Melinda, Amelia, Sumala, Esther, Jane and Gloria), and two modern OFSP varieties from Peru (Benjamin and Arne). The contribution of all OFSP varieties to the RDA of pro-vitamin A is large and surpasses 50% even with low intakes of 25 to 50g OFSP per day. The contribution to the RDA of iron and zinc is significant (around 20%), but only with high intakes of more than 200g OFSP per day. In conclusion OFSP is a vehicle to alleviate VAD wherever sweetpotato is eaten and breeding OFSP merits investments in

nearly all parts of the developing world. Breeding for higher iron and zinc concentrations in sweetpotato storage roots merits consideration only in those countries where sweetpotato is eaten as a staple.