

What Should You Know About Growing OFSP?

Using a few key practices makes production of lots of quality orange-fleshed sweetpotato (OFSP) possible.



■ Undamaged roots harvested with care (credit S. Tumwegamire)

Sweetpotato can yield large amounts of energy-rich, nutritious food during a relatively short cropping season. Growing OFSP is no different from growing white or yellow-fleshed sweetpotatoes.

✦ Produce more sweetpotato

Sweetpotato can grow in tropical, sub-tropical and temperate areas of sub-Saharan Africa. Although average yields on farmers' fields in Africa are low (4-6 tons/ha), sweetpotato can easily yield in excess of 15 tons/hectare under rainfed conditions if key recommended practices are used. Commercial growers in South Africa using best management practices produce 50 tons/hectare.

Factors underlying low sweetpotato yields and recommendations to address them

Factor contributing to low yield	Recommended practice
Use of varieties with low yield potential	Use high yielding varieties
Failure to plant on time under rainfed conditions	Have planting material available when required
Poor quality planting material	Use healthy planting material
Poor cultural practices, including weeding, fertility and water management	Ensure water at establishment and early growth, adequate soil fertility and weed control
Pests (particularly weevil) infestation and rodents	Prevent weevil infestation through use of clean planting material, preventing cracking of the soil by "hilling-up", and timely harvest

✦ Choose the right OFSP varieties

There are many improved and local OFSP varieties, and breeding programs are developing still more. There is wide range in the amount of beta-carotene (pro-vitamin A) in OFSP varieties, which is related to the colour: the more orange, the higher the amount of beta-carotene. Not all varieties produce well everywhere. Some varieties only produce well in a few places and others over large regions. Key features, such as leaf shape, and skin and flesh colours are used to distinguish varieties. It is important to be able to recognize these features, as the same variety often has multiple names. Furthermore, mix-ups can occur during labeling and multiplication. If improved varieties have not been widely tested in your area, evaluate a few different varieties over 2 seasons for both performance and taste



■ **Harvest with care** to prolong shelf-life

before beginning an OFSP dissemination program. Using a variety that does not perform as well as the local variety will lead to low adoption.

✦ **Follow the best cultural practices**

Sweetpotato does best in well-drained sandy loam soils with a pH range of 5.5-7.0. Most farmers plant on mounds or ridges to ensure adequate aeration and space for the growth of storage roots. Good stand establishment at recommended spacing (25-30 cm by 75-100 cm) helps ensure high root yields. OFSP can be profitably intercropped or relay cropped with maize, pigeon pea and other crops. Sweetpotato responds well to soil fertility, but can tolerate lower fertility better than many other crops. To avoid pest build-up, do not plant sweetpotato after sweetpotato. The crop requires adequate moisture during the critical stages of establishment and storage root formation during the first two months after planting, but then is generally drought tolerant. Weed once or more during the early stages of growth, and "hill-up" the soil around the base of the plant to ensure no roots are exposed as they develop.

✦ **Select quality planting material**

In Africa, sweetpotato is mainly planted using stem cuttings from an existing crop, or nursery. Select planting material from healthy and vigorously growing 2- to 3-month-old plants. Cuttings should be 25-30 cm long, obtained from

the vine tip, but the middle part can also be used when planting material is scarce. Planting material from the base of vines should be avoided as this can be weevil infested. Sweetpotato cuttings are quite perishable so should be planted within a day or two of cutting them. One half to two thirds of the cutting should be planted in soil with adequate moisture to ensure good germination.

Know how to recognize virus symptoms and avoid using planting material with symptoms. An alternative to vine production is to use sprouts from storage roots (the Triple-S method) which can produce around 40 cuttings per root.

✦ **Harvest and store with care**

Cracks in the soil indicate when storage roots are large. Sweetpotato can be piecemeal harvested by removing large roots as they form, and leaving the small roots to continue growing. The entire crop may also be harvested at once. Weevil damage and wounds at harvest can lead to rapid postharvest losses due to rots. Removal of vines a week or two before harvest may contribute to "curing" of storage roots, and reduce damage at harvest and subsequent rotting.

Quality sweetpotato roots (whole without cuts and no weevil damage) can be stored in protected pits for several months. If OFSP roots are chipped and dried in the sun, avoid "over drying" them as this will lead to heavy losses of beta-carotene. OFSP dried chips should be stored for a maximum of 2 months.

Grow more nutritious OFSP for Health and Wealth

The Reaching Agents of Change (RAC) Project advocates for increased investment in orange-fleshed sweetpotato food-based approaches to combat vitamin A deficiency (VAD) among children less than five years old and their mothers. RAC also builds institutional capacity to design and implement gender sensitive projects to ensure wide access and utilization of orange-fleshed sweetpotato in selected African countries. Its efforts contribute to the broader Sweetpotato for Profit and Health Initiative (SPHI) which aims to improve the lives of 10 million African families by 2020.

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