

Organic production of yams

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YAMS, (*Dioscorea* spp.) are food security crops valued as high energy tuberous vegetables with good taste and medicinal uses. Among edible yams, Asiatic yams viz., greater yam (*Dioscorea alata*) and lesser yam (*Dioscorea esculenta*) are common intercrops in coconut gardens. African white yam (*Dioscorea rotundata*), an introduction to India from Nigeria has high yield potential (35-40 tons per hectare), high dry matter production, good cooking quality, acceptable tuber quality, novel taste and flavor and wide adaptability in different agro-climatic situations of India. The dwarf statured white yam var. Sree Dhanya, developed by ICAR-CTCRI, deserves special mention as it can be popularized in our homesteads as a vegetable due to its non trailing nature. Organic production techniques would definitely help to promote yams as a vegetable in the kitchen gardens and homesteads. Protocols for organic production of yams are described here.

Plant greater yam anthracnose disease resistant varieties like Sree Keerthi, Sree Swathy or tolerant varieties like Sree Nidhi and Sree Karthika. Plant organically produced tuber pieces of 250-300 grams size for white yam and greater yam and medium sized tuber of 100-150 grams size for lesser yam. Apply farmyard manure (FYM) at the rate of 15 tons per hectare (1.2 kilograms per plant) in pits at the time of planting. Apply neem cake at the rate of 1 ton per hectare (80-85 grams per pit) in pits at the time of planting. Apply biofertilizers, *Azospirillum* at the rate of 3 kilograms per hectare, mycorrhiza 5 kilograms per hectare and phosphobacteria 3 kilograms per hectare for greater yam and lesser yam and trailing genotypes of white yam. Apply *Azospirillum* at the rate of 3 kilograms per hectare and mycorrhiza at the rate of 5 kilograms per hectare for dwarf white yam at the time of planting. Inter-sow green manure cowpea seeds at the rate of 20 kilograms per hectare between yam mounds and incorporate green matter at 45-60 days. The green matter addition from the green manure will be at the rate of 15-20 tons per hectare. Apply ash at the rate of 1.5 tons per hectare (120 grams per plant) at the time of incorporation of green manure.



Protocols



Seeing is believing!



Advantages

- Higher yield (+9% over conventional)
- Safe and quality tubers (+7% dry matter, +6% crude protein, +K, +Ca & +Mg over conventional)
- Soil health (+0.46 unit pH, +14% organic C, +34% K, +12.39% Ca, + 14.78% water holding capacity over conventional)
- Higher income (greater yam, lesser yam & white yam Rupees 498940, 55620, 187620 per hectare respectively)



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