

Sweet Potato: A Successful Crop in Nuapada District

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Orissa is primarily an agrarian society and she is bestowed with divergent fertile lands and suitable climate for field and horticultural crops. In spite of this, rice is the predominant crop occupying 75% of gross-cropped area and producing just 1.93 tons per hectare. The major reasons attributed for low productivity in this part of the country are cultivation of rice in uplands under rainfed conditions, low moisture holding capacity of sandy/sandy loam soils, uneconomic size of land holdings, low use of fertilizer and unscientific way of cultivation. Low productivity coupled with inappropriate support price for paddy renders farmers to suffer starvation. Disparity in food availability and food accessibility especially due to lack of purchasing power of part of the population in other parts of the state also leads to starvation death.

A systematic planning in agriculture and horticulture sectors therefore becomes imperative to bring suitable food security to Orissa. Food security can be achieved through increased availability of the food and increased accessibility of nutritional foods to the poor people. In this context Watershed Mission, Orissa has initiated number of programmes to enhance livelihoods of rural poor in Western Orissa under Western Orissa Rural Livelihoods Programme (WORLP) in collaboration with different research institutions/farms. One such programme is crop



diversification. Introducing and expanding area under drought tolerant and nutritional rich crops which are easily adapted to edaphically and agro-climatic conditions of Orissa.

WORLP in collaboration with Regional Centre of Central Tuber Crops Research Institute, Bhubaneswar demonstration trials are laid out in Bolangir and Nuapada districts to assess the suitability of sweet potato.

Sweet potato is an important tropical food crop with versatile utility. The tubers are used as a subsidiary food after boiling, baking and frying. Tubers also form an industrial raw material for the production of starch, alcohol, pectin etc. and the surplus as well as culled tubers can be used fresh or dehydrated in rations for livestock. Sweet potato vine is a valuable source of green fodder and lasts throughout the off-season. Sweet potato is potentially capable of producing more edible

energy per unit area per unit time. Thus, with the cornucopia of uses, vast production potential and wide agro-climatic adaptability if sweet potato can fit into the cropping systems of rainfed areas it becomes most suitable answer to the dry land farmers.

In Nuapada district, Pandaripani village, a demonstration trial was conducted in Mr. Mahjis field. The high yielding sweet potato variety Samrat was planted in 200 square meter area in sandy loam soil on 11.7.2003. The field was prepared by making ridges and furrow at 60 cm interval. The height of the ridges was approximately 30 cm. 20 cm length of sweet potato vines were vertically planted on the ridges with 20 cm interval after treating the vines in the solution of 1.5 ml of Monocrotophos in one litre of water (as a preventive measure against insect pest). Sufficient compost and 1 kg urea, 3 kg super phosphate and 1 kg muriate of potash were applied immediately after planting. Weeding cum earthing up was carried out 30 and 60 days after planting. A fertilizer dose of 1 kg urea and 1 kg muriate of potash was given as top dressing 30 days after planting for 200 square meter areas. At 60 days after planting, monocrotophos 1.5 ml per one litre of water was sprayed against sweet potato weevil. A sex pheromone trap (supplied by Regional centre of CTCRI, Bhubaneswar) was installed in the centre of the field to trap sweet potato weevil. Every day the trapped sweet potato weevils were collected and killed and then buried in the soil. Every alternate day the soap solution in the pheromone trap was changed. The crop was harvested 120 days after planting on 11.11.2003 in presence of the villagers.

Each plant produced approximately 650 g and amounting 950kg from 200 square meter areas. The farmer's family consumed 50 kg of tubers and another 50 kg of tubers were distributed to their neighbours. The remaining 850 kg of tubers were sold in Nuapada market @ Rs.5/- per kg and got the returns of Rs.4250/-. The total expenditure involved is about Rs.500/-. The net profit is about Rs. 3750/-.

The villagers were given samples of sweet potato tubers for organoleptic evaluation for taste and other qualities. Villagers expressed that it is good in taste, sweet, boils quickly and non-fibres. Also evaluated sweet potato vines as green fodder by feeding the vines to cows and buffaloes to find out the palatability and animal acceptance in presence of village farmers. The harvested vines were fed to cows and buffaloes. The animals easily relished the vines and the farmers rightly convinced that sweet potato could be used as green fodder. Sweet potato vines can also be used as dry fodder.

Thus, sweet potato is a versatile crop and it can be successfully and profitably grown in sandy loam soil under rainfed conditions of Orissa.

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