



A success story on elephant foot yam (EFY) cultivation in homestead waste land

S. Shil, L.C. Patel and D. Nath

Krishi Vigyan Kendra, Divyodaya, KHOWAI (TRIPURA) INDIA

(E-mail: spd020@yahoo.co.in)

Carbohydrate rich foods are considered as protein saving food as people can live healthy only having carbohydrate without protein and fat. Elephant foot yam is a tuber crop which riches in carbohydrate. Now- a-days climate is changing gradually and with this changed climate we have to have some alternative crops which can grow under such stress condition and Elephant foot yam is crop which can grow under such condition. Success story of one farmer from Khowai district of Tripura have been presented in this paper. He obtained a yield of 3.64 t from 0.08 ha with a net profit of Rs. 62009.00 by selling the produce at Rs. 25.00 per kg. He sold as fresh vegetable purpose as well as seed purpose and also used some for his own consumption purpose.

Success stories on production of cereals, important fruits and vegetables are well documented but minor tuber crop like elephant foot yam (EFY) is not gaining ground. Elephant foot yam is traditionally cultivated on commercial scales in the states of Andhra Pradesh, Tamil Nadu, Kerala and West Bengal. The statistics on area, production and yield of this crop are not available in the literature (Srinivaand and Ramanathan, 2005). Locally available wild plants of EFY are highly acrid and cause irritation in throat and mouth due to excessive amount of calcium oxalate present in them. In India, the cultivation of elephant foot yam is slowly spreading to other states like Bihar, Uttar Pradesh and through the approach of DKVK in Khowai District of Tripura also. The most popular variety for commercial cultivation in India is "Gajendra", which is a local selection from Kovuur area of Andhra Pradesh. This crop also offers excellent export potential from India, since it is not generally cultivated commercially in other countries.

Secrete of popularity : The crop is gaining popularity due to its shade tolerance, easiness in cultivation, high productivity, less incidence of pests and diseases, steady demand and reasonably good price. Tubers are mainly used as vegetable after thorough cooking. Chips are made of starch-rich tubers. Tender stem and leaves are also used for vegetable purpose. Tubers contains calcium (50-56mg/100g), protein 1.7-5.0%, carbohydrate 18-24%, fibre 0.8%, water 72-79%, It also contain omega-3 fatty acids

(Maity, 2011).

Climate and soil : Elephant foot yam grows well in warm humid climate. In fertile loamy soils, it gives good tuber yield as pure crop as well as intercrop. Generally it is raised as rainfed but is grown as irrigated crop also. It grows well in variety of soils but a well drained sandy loam or sandy clay loam soil with neutral soil reaction is ideally suited for the crop.

Varieties : Sree Padma- Developed at CTCRI, Thiruvananthauram, Gajendra – Developed at APAU, Hyderabad

Success story of Tripura farmer : The village Boltali is situated in Purba Ramchandra Ghat Gram Panchayat, Khowai Block at Khowai district of Tripura. It is 30 km away from the main Assam- Agartala highway. The nearest railway station is Teliamura connecting route to Agartala. This village is located 7 km away from Khowai, the district headquarter. There was a pitched road passing through the village that connects Teliamura and Khowai. The major crops cultivated in the village are paddy, local potato, local maize, ginger etc. during kharif and coriander, carrot, radish, cauliflower, cabbage, sweet potato, chilli in homestead level during rabi season. The main water source is tube well. Source of irrigation are mainly overflow, hand pump, bore well and pond. Over flow is mainly found in low land undulated area and hand pump in undulated and hilly. Bore well and pond is found in the semi plain area of the village. There are no proper irrigation facilities in the village Most of the farmers are using power tiller for paddy cultivation. The major livestock population includes local poultry, cattle and pig. Rearing of pig is common in the village.

Chandra Kr. Debbarma is the name of the farmer who belongs to Village Boltoli, Khowai, Tripura. He belongs to Tribal Community and is having some waste land around his home stead. He has started growing Elephant Foot Yam variety "Gajendra" utilizing this waste land under the technical guidance of DKVK with the joint efforts of CTCRI, Kerala during April to December, 2013. Planting material *i.e.* variety "Gajendra" was supplied by



Table 1 : Expenditure and Income of Elephant foot yam cultivation in Boltoli (Tripura)

Sr. No.	Item of cost	Expenditure		Income	
		Total cost (in Rs. per ha)	Yield (t/ha)	Total value (Rs. Per ha)	
1.	Seed tuber @ 6 t/ha	240000	45.5	1137500	
2.	Land and pit preparation & planting @ Rs. 5.0/pit	60000			
3.	Decomposed cow dung @ 18 t/ha	9000			
4.	Chemical fertilizer – NPK @ 40:60:50 kg/ha	3400			
5.	Intercultural operation including mulching, weeding, earthing up etc.	35000			
6.	Harvesting	15000			
Total		362400	45.5	1137500	

CTCRI. Within a year he obtained a yield of 45.5 t/ha and the area under cultivation was 0.08 ha.

Readers may be interested to know the techniques he has adopted. The techniques of Elephant Foot Yam cultivation adopted by him are mentioned below:

- Planting was done in the month of April
- Pit Size: 45 x 45 x 45 cm
- Spacing in between pit: 90 x 90 cm
- Fertilizer applied in following doses:

Well decomposed cow dung @ 1.5 kg / pit

Fertilizer applied @ 40 kg N, 60Kg P, 50 kg K Per ha in the form of urea, SSP and muriate of potash

- Before planting

big size seed tubers are cut in four pieces in such a way that each cut corm bears a portion of central bud. Cut corms are smeared with cow dung slurry and allowed to dry in partial shade to avoid



rotting.

- Straw mulching is also adopted after planting
- Grown as rainfed crop.
- Harvesting was done in the month of December, 2013 when the crop is completely withered and fallen.

So, from the above table it is cleared that one EFY grower can earn net profit of Rs. 775100 per hectare with a benefit cost ratio of 3.14. In such economics,

farmer's own labour and local available inputs have also been considered in cost of cultivation. Now, coming to Mr. Debbarma depicting what actual total benefit he had

received through utilizing his backyard waste land area of 0.08 ha. He has invested only Rs. 272.00 in cash as cost for chemical fertilizer for such small area for EFY cultivation. He had got



required seed tuber in free of cost. The applied cowdung and straw for mulch had been sourced from his own side without any cash investment. He also invested his own labour for land preparation, pit making, planting, intercultural operation and harvesting. Yield obtained by Mr. Debbarma from his 0.08 ha land was 3.64 t/ha with gross income amounting Rs. 91000.00. Considering



all involved cost including his own contribution also both in cash and kind, he has earned net income of Rs. 62008.00 by growing EFY in 0.08 ha land

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