

STRATEGIES TO ENHANCE COMMUNITY-BASED SWEETPOTATO SEED SYSTEMS FOR SUSTAINABLE LIVELIHOODS IN ODISHA, INDIA

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1. Background

Sweetpotato is an important crop grown under rain-fed conditions and largely produced, consumed in Odisha state of east India. Odisha's total sweetpotato production is highest in the country but its productivity (t/ha) is low. Availability of quality planting material on sustainable basis is a major challenge for the farming communities. Strategies need to be worked out to make quality planting material available all through the year in the farming conditions.

Objectives:

- To improve the community managed nursery systems of sweetpotato by demonstrating the advantages of improved practices over traditional practices for vine multiplication
- To analyse the feasibility of preserving the sweetpotato vines using different approaches/methods before main planting.

2. Materials and Methods

Main strategies were worked out for sustainable production of planting material in Odisha state of east India. Community managed nurseries were established all the year round following improved practices for vine multiplication over traditional methods. The improved methods of preserving and multiplying vine material included shade/net houses, drip irrigation, furrow method of planting and wide ridge methods. Traditional methods included multiplying in open swamps, canal beds, tree shades and in back yards. Pay-back method to farmers who produce the quality planting material under protected conditions and encouraging more farmers to take up for vine multiplication implementing improved practices were followed.

3. Results

Improved vs Traditional practices

Improved practices

Improved nursery management is beneficial to conserve the useful and preferred varieties during adverse climatic conditions, production of quality planting material with proper management, quick multiplication, protection of plant material from animals, better price when sold due to quality of planting material and assured quantity of planting material available all the year round.



Multiplication with cost effective shade houses/ net houses under protected conditions, especially to minimize water losses from plants during summer season.



Drip irrigation for multiplication in the external environment.



Trench method of planting under protected shade houses or nurseries maintained in farm conditions with live-fencing.



Wide ridges accommodating more plants in low lands for quick multiplication which were planted with cuttings having just 2-3 nodes

Traditional practices

Some traditional methods of nursery making are feasible and easy, but there are general risks like plants being dried up sans regular irrigation, managing poor quality planting material, risks of cattle grazing etc... Some of the traditional methods followed in Odisha are depicted below.



Traditional method on mounds occupying large spaces, more water consumed and slow multiplication process.



Grown under tree shades with no protection and poor growth of plants



Home backyards, canal beds and swamps with little protection for nurseries as cattle grazing is a major problem

4. Discussion and Conclusion

Necessary nursery/multiplication technologies are provided to conserve the useful planting material during unfavorable climatic conditions/ off season having minimum risk of loss of quality planting material as well as assured income from nurseries through pay-back method. Some easy traditional methods of raising plant material under protected conditions in low lands, canal irrigated sites with assured irrigation, shady places, multiplication through inter-cropping with Mango, Coconut, Oil Palm and Cashew crops are some of the important strategies if proper management is followed. Farmer-farmer approach and involvement of self-help groups help to initiate scaling- up operations for plant material production, improving local seed systems and for fetching better incomes.

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