

Assessment - Plant Protection

1	Title	Management of Sweet Potato weevil in sweet potato
2	Problem diagnose/ identified	Heavy loss of tubers & low market value due to tuber damaged by weevil (<i>Cylas formicarius</i>)
3	Details of technologies selected for assessment	Use of Malathion for set dipping, Spraying of malathion and Soil application of <i>Beauveria bassiana</i> and Installation of Water trap T1- Farmers practice : No use of insecticide or any plant protection measures T2- Recommended practices : 1. At the time of planting Vine dip into malathion 0.05 % 2. Soil application of <i>Beauveria bassiana</i> on bund at 30 & 60 days after planting 3. Installation of Water trap @ 16 per Acre
4	Source of technology	Dr. B .S. K. K. V. Dapoli
5	Production system	Irrigated vegetable crop
6	thematic area	Integrated Pest Management
7	Performance of the Technology with performance indicators	Results showed that use of insecticide & bio agents decrease the loss of tubers and increase the good quality of tuber yield (13.9 T /ha), B:C ratio was 1:2.40 and Incremental Cost Benefit ratio was 1 : 6.38
8	Final recommendation for micro level situation	Malathion @ 0.05 % should be use at planting for vine dipping. Also use the bio-agents like <i>Beauveria bassiana</i> @ 6.75 Kg / ha. Installation of water trap @ 16 per acre. This decreases the per cent infestation of Sweet potato weevil damage and increase the market value of tubers.
9	Constraints identified and feedback for research	Unavailability of bio agents i.e. <i>Beauveria bassiana</i> in local market.
10	Process of farmers participation and their reaction	Farmers are ready to use insecticide like malathion and also ready to apply bio agents & trap when they shown result.

11). Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Sweet Potato	Irrigated	Loss of good quality tubers and market value due to sweet Potato weevil damage	Management of sweet potato weevil	20	1. Local practices 2. Set dipping in Malathion @ 0.05%, Soil application of <i>Beaveria bassiana</i> @ 6.75 Kg/ha. Installation of Water trap	Yield, B:C ratio	T1 : 10.5 T/ha T2: 13.9 T/ha	18.96 % increase in yield than Local	By application of <i>Beaveria bassiana</i> & Use of water trap, very less infestation of weevil was observed. Therefore marketable tubers get more.

Technology Assessed	Production per unit		Net Return (Profit) in Rs. / unit	BC Ratio	Incremental Cost Benefit Ratio
	Tuber Yield (T/ha)	Fodder Yield (T/ha)			
11	12	13	14	15	16
1. Local Practice	10.5	4.1	67,708/-	1 : 2.8	-
2. Treatment	13.9	4.5	98,114/-	1 : 3.39	-

Market Price of 1 Kg Tuber is Rs. 10/- (10500 x 10= Rs. 1,05,000/- Return from Local Practice)

(13900 x 10= Rs. 1,39,000/- Return from Treatment)

Cost of cultivation of local practice Rs. 37,500/- and Treatment is 40,945/-

Market Price of 1 Kg Fodder is Rs. 3/- (4000 Kg x Rs 2/- = Rs 8,000/-)

Discipline: Horticulture

OFT: I.

- a. Title : Raising Chilli seedling in Protray
- b. Objectives : i) To minimize the seedling period in nursery
ii) Early establishment of transplanted seedling in field
iii) To increase the good quality of seedling
iv) To minimize the mortality of seedling
- c. Problem identified & its intensity system field. : Mortality of seedling observed at the transplanting time in drip irrigation
- d. Description of micro-farming situation : Rabi season from October to May. Humid climate, Medium black soil condition.
- e. Interventions planned : 1. Preparation of nursery site.
- f. Treatments :
T1- Farmers practice: : Raising of seedling on raise bed method
T2- Recommended treatment : 1. Use of plastic protray technology for raising chilli seedling.
- g. Source of technology : IIHR

h. No. of farmers : 5

f. Observations/parameters of study :

1. Seed required per ha.
2. No of pickings.
3. Yield per hectare.

11). Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
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Chilli F1 Hybrid 4884	Irrigated	Mortality of Seedling observed in transplanting time in drip irrigation system field Excess seed/unit area required for raising hybrid chillies.	Raising Chilli seedling in Pro-trays	5	T1.Local practices. Raised bed method T2. Use of plastic portray technology for raising chilli seedling	Seed Rate gms/ha. Percent Survival No of pickings Yield q/ha	T1 – 240gr T2 - 165gr T1 – 73% T2 97% T1 - 6 T2 - 7 T1 – 132.2 T2 - 143.5	Survival of seedling is higher therefore Seed rate reduced by 31.25% First early picking 10days & one extra picking than the check 8.5 % increase in yield	Due to healthy seedling good establishment of crop within short period so receive early picking than raised bed method
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Technology Assessed	Production Yield Qtl/ha	Cost of Production/ha	Gross Return Rs/ha	Net Return (Profit) in Rs. /Ha	BC Ratio
11	12	13	14	15	16
1. Local Practice	132.2	175000	489140	314140	1 : 2.79
2. Treatment Use of Pro tray	143.5	175000	530950	355950	1 : 3.03

Selling rate for green chilli Rs. 37 /Kg