Soll solarization I A non-chemical approach of weed management in vegetables and high value crops

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SUCCESS STORY - 4



Dr. Satyendra Yadav

SL	PARTICULARS	DETAILS
1	NAME OF THE FARMER	DR. SATYENDRA YADAV
2	ADDRESS	
	(i) VILLAGE	Amkhera
	(ii) POST	Amkhera
	(iii) TEHSIL	Jabalpur
	(iv) DISTRICT	Jabalpur
	(v) STATE	Madhya Pradesh
3	CONTACT DETAILS	09425156062/09301491922
4	DETAILS OF FARM (SIZE, WATER AVAILABILITY ETC.)	110 acres with irrigation facilities (tube well)
5	MEMBERSHIP IN SELF-HELP GROUP, PRODUCERS, COOPERATIVE SOCIETY / COMPANYETC.	Krishi Sahkari Sakh Samiti,Suhagi, Kisan Credit card,central bank,jabalpur. Krishna Krishi Utpad group(SHG), Jabalpur
6	NAMES OF THE CENTRAL SECTOR/STATE SCHEMES UTILIZED BY THE FARMER AND THE PERIOD	Technology generated by Directorate of Weed Science Research, ICAR, Jabalpur being adopted since last five years

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SL	PARTICULARS	DETAIL	S
7	TECHNOLOGIES / GOOD AGRICULTURAL PRACTICES/ FACILITIES / BENEFITS OBTAINED WITH DETAILS	Soil solarization in vegetables nursery and high value crops (The field is irrigated and brought to fine tilth. The transparent polyethylene (TPE) is laid close to the soil surface and sides are tucked in soil to prevent any heat loss. This is best practiced in summer months (April-June) when solar radiation is high, the sky is clear and the land is vacant. Duration of 3-6 weeks is sufficient.	
8	DETAILS OF RESULTS OBTAINED DUE TO THE ADOPTION OF TECHNOLOGIES (RESULTS ACHIEVED)	Improved/ Present production technologies	Traditional/ past production practices
(I)	TECHNIQUES ADOPTED FOR WEED MANAGEMENT	Soil solarization	No solarization
(11)	BENEFITS	Gives excellent control of many weeds in kharif and rabi seasons. Control many soil borne pathogens responsible for causing root rot, wilt etc. Has proved effective against parasitic weeds. Obtained healthy seedlings. Ecologically safe and environmentally friendly method.	Due to attack of pests, mortality of vegetable seedlings to the tune of more than 50 per cent was observed due to which huge failure of plantation was recorded and what so ever plants remained for plantation were found very weak for f u r t h e r development.
(111)	NATURAL RESOURCES SAVED/CONSERVED LIKE SOIL, WATERETC.	Saves energy as the requirement of secondary tillage operation is eliminated. Conserved soil moisture.	Did not save natural resources.

SL	PARTICULARS	DETAILS	
(IV)	PRODUCT QUALITY IMPROVEMENTPRODUCT QUALITY IMPROVEMENT	Found improved quality and healthy nursery with adequate plant population for plantation.	
9	MARKETING STRATEGY ACCESS TO MARKET (THROUGH PRIVATE, COOPERATIVE, CONTRACT FARMINGETC.)	Produce, obtained is marketed through local means and SHG etc.	
10	FACTORS CONTRIBUTING TO SUCCESS	 Soil solarization involves covering the soil with transparent polyethylene (TPE) films which would trap the heat inside, resulting in raising of soil temperature to the lethal level to many soil pathogens, nematodes and weed species. 	
		 Soils mulched with transparent plastic films also contained higher levels of soluble mineral nutrients. Nitrate- nitrogen also significant increased. 	
		 Extending the solarization period usually to four weeks or longer enables control of weeds at deeper layers. 	
11	ANY OTHER RELEVANT INFORMATION	 It is possible to reduce the cost by re- using the plastic in the same or different years and by resorting the thinner films. Savings on land preparation and pest control (cost on herbicides, insecticides and fungicides) in each season/ year and increased crop yield are to be taken into account. 	
		 Many rainy and winter season annuals as well as parasitic weeds like broomrape (Orobanche spp.) are effectively controlled by soil solarization. 	





Solarized nursery



Non-Solarized nursery

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