Management of *Parthenium hysterophorus* using Mexican beetle

SUCCESS STORY - 5

Sunil Kaurav

SL	PARTICULARS	DETAILS
1	NAME OF THE FARMER	SHRI SUNIL KAURAV
2	ADDRESS	S/o Shri Bhaiya Ji Kaurav
	(i) VILLAGE	Khairi
	(ii) POST	Chinchli
	(iii) TEHSIL	Gadarwara
	(iv) DISTRICT	Narsinghpur
	(v) STATE	Madhya Pradesh
3	CONTACT DETAILS	09827780322 / 957790-226655
4	DETAILS OF FARM (SIZE, WATER AVAILABILITY ETC.)	20 Acre area on road side and near the crop fields
5	MEMBERSHIP IN SELF-HELP GROUP, PRODUCERS, COOPERATIVE SOCIETY / COMPANY ETC.	Member of different societies operating in the tehsil
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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7	**TECHNOLOGIES / GOOD AGRICULTURAL PRACTICES/ FACILITIES / BENEFITS OBTAINED WITH DETAILS**	Management of *Parthenium hysterophorus* locally called Gajar Ghas in non-crop area was done successfully by releasing of host specific Parthenium eating Beetle *Zygogramma bicolorata* obtained from DWSR, Jabalpur free of cost.

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	Mexican beetle (*Zygogramma bicolorata)*	Manual Uprooting
(II)	TECHNIQUES ADOPTED FOR WEED MANAGEMENT	After releasing of Mexican beetle in the Parthenium infested area, it started feeding on Parthenium which caused reduction in Parthenium vigour. Beetle also laid eggs from which soon tiny larvae emerged and eat Parthenium growing point thus checked the Parthenium growth. After about two month, the whole Parthenium infested area was found attacked by the beetle. Continuous attack of adult and	• Traditional practice was to uproot Parthenium which was costly and laboursome. Uprooting was not possible always due to harmful effects of Parthenium causing skin allergy besides asthmatic and many other problems. The seeds of Parthenium entered in the cropped field from the Parthenium infested non-cropped area and reduced the crop productivity.

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		larvae of the bioagent caused complete defoliation of the Parthenium in the area. Next year, larvae and adults of the bioagents were found attacking Parthenium which was germinated after monsoon rains. The attack of the beetle was so severe that Parthenium was defoliated in large area. The beetles from Parthenium of non-cropped area entered in the adjoining field of Jowar and defoliated Parthenium amidst the crop. Due to this technology, the density and growth of Parthenium was significantly reduced by the action of bioagents in large area not only in non-cropped area but also in cropped fields on sustainable basis where.	• Use of herbicide like metribuzine and glyphosate are very costly affair particularly in non cropped situation.

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		While in the area where the bioagents were not released, density and growth of Parthenium was high and Parthenium infestation was not checked. The infestation of Parthenium was also high in crops fields.	
(III)	NATURAL RESOURCES SAVED/CONSERVED LIKE SOIL, WATER ETC.	Saved biodiversity in the farm of environmental safety and sustainability	Loss of biodiversity which creates many problems like health hazards etc.
(IV)	PRODUCT QUALITY IMPROVEMENT	Maintained the biodiversity.	Deteriorated growth of the plants suppressed by the Parthenium
9	**FACTORS CONTRIBUTING TO SUCCESS**	Parthenium was a great problem in the area but after releasing the Mexican beetles by DWSR, Jabalpur the Parthenium problem was reduced drastically not only in the released area but also in the adjoining area. Farmers were also facing health problems particularly of skin allergy. The labours were not ready to uproot Parthenium due to skin allergy problems. Soon after releasing of beetles, other farmers of the area also realized the effect of the technology given by DWSR. Many farmers collected the beetles from the infested area and released the same in and around their fields. This caused rapid spread of the bioagent in large area and subsequently the reduction in the density of Parthenium and reduction in health problems of farmers.	

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10	ANY OTHER RELEVANT INFORMATION	• Some relatives and farmers from other villages also saw the results of biological agents on Parthenium in Chinchli village. They took interest and collected the bioagents from the same village and releases were made in adjoining areas. Subsequently, they informed the establishment of the bioagent in their area and killing of Parthenium in large area. This is a free technology. At the time of population build-up of beetle, particularly during rainy season, farmers and interested persons may collect the beetles and may release on the Parthenium infested area. • In Sonpur village of Jabalpur also, a release of about 500 beetles against Parthenium was made during 2000-2001 met tremendous success. • Replacement plants like Cassia spp and others are going to be the other viable method of control.

Zygogramma bicolorata

Parthenium field before the attack of beetle

Same field after beetle's attack