Date: 14.02.2023

To,

The Network Coordinator,
AINP on Soil Arthropod Pests,
Rajasthan Agricultural Research Institute,
Durgapura, Jaipur – 302018.

Sub: Information of Success Stories by AINP on SAP, Kolhapur center...

R/Sir,

In response to above email, please find attached herewith, the information of Success Stories by AINP on SAP, College of Agriculture, Kolhapur center.

This is submitted for the favour of information please.

Thanking you,

Yours faithfully,
Sd/-
(U. B. Hole)
PI, AINP on SAP &
Professor of Entomology
College of Agriculture
Kolhapur

Attached: As above

SUCCESS STORY: 2020-2021

An important role is being played by AINP on Soil Arthropods, College of Agriculture, Kolhapur, MPKV, Rahuri in depicting and popularizing the importance of *Metarhizium anisopliae* for white grub management in sugarcane crop. It is as follows:.

1. Village Kotoli, Asurle, Porle, Tal. Panhala, Dist Kolhapur during 2020-21

Kotoli, Asurle, Porle are sugarcane growing villages in Panhala taluka having red soils. Amar Shivram Angtekar, Anil Pandurang Turambekar are progressive farmers from these villages. Panhala taluka has 14,200 hectare area under sugarcane crop. Demonstrations on 30 hectare land was given to the farmers on the 'Management of white grub using *Metarhizium* in collaboration with Reliance Foundation and Agriculture Department, Government of Maharashtra.

The staff members of Department of Entomology, College of Agriculture, Kolhapur arranged 'Kisan Melavas' in villages Kotoli, Asurle, Porle, to demonstrate use of *Metarhizium anisopliae* for white grub management. Earlier the farmers used to chemical pesticides like Lesenta (Fipronil 40% + Imidacloprid 40% WG), Dantotsu (Clothianidin 50% WDG). After conducting the trials with *Metarhizium*, the farmers noticed that *Metarhizium* is efficient in managing the white grubs as well as its effect is long lasting. Also, in comparison to the chemical pesticides mentioned above, it is very economic and about 20-25% increase in the yield was observed.

10,000 kg *Metarhizium* formulation has been sold by Department of Entomology, College of Agriculture, Kolhapur to the Department of Agriculture and farmers of Kolhapur district for managing white grubs in sugarcane.

The results revealed that white grubs population ranged from 9.67 to 10.33 grubs per $100m^2$ during pre-treatment. During post-treatment, lowest number of 2.67 to 5.67grubs per $100m^2$ were recorded in *Metarhizium*, enriched FYM treated plots, which was significantly superior to all farmers practice. The clump mortality was found to be decreased as 6.48 to 9.11 as against 14.46 to 17.08in farmers practice.

The treatment with *Metarhizium* enriched FYM, recorded 96.45 and 99.57 t/ha yield, respectively; while farmers practice recorded 68.96 to 73.45 t/ha

Thus, the results showed that soil applications of 250 kg of *Metarhizium*, enriched FYM per hectare two times (June and July) effectively reduced the grub population of *L. lepidophora* by 60–85% leading to reduced plant damage and increased yield by 30– 40%. This treatment was better than the insecticidal application in the management of white grubs on the banks of river which will minimize risk of water pollution in river.

SUCCESS STORY: 2021-2022

1. Village Banage, Tal. Kagal, Dist Kolhapur during 2021-22

Banage is a typical sugarcane growing village having black and red soils. Hindurao Baburao Chopade has 10 acre area under sugarcane crop. Wells are the main sources of irrigation. All the farmers from this village grow sugarcane on more than 200 acres of land. Infestation of white grub is about 30%. A collaborative demonstration on 10 acres of field for the management of white grub was conducted by this project along with Sadashivrao Mandlik Sugar Factory, Hamidwada.

The staff members of Department of Entomology, College of Agriculture, Kolhapur arranged 'Kisan Melavas' in villages Belvale Budruk, Hanbarwadi during 01.8.2022 to 06.8.2022 to demonstrate use of *Metarhizium anisopliae* for white grub management. Earlier the farmers used to use chemical pesticides like Lesenta (Fipronil 40% + Imidacloprid 40% WG), Dantotsu (Clothianidin 50% WDG). After conducting the trials with *Metarhizium*, the farmers noticed that *Metarhizium* is efficient in managing the white grubs as well as its effect is long lasting. Also, in comparison to the chemical pesticides mentioned above, it is very economic and about 20% increase in the yield was observed.

9,000 kg *Metarhizium* formulation has been sold by the Department of Entomology, College of Agriculture, Kolhapur to the Department of Agriculture and farmers of Kolhapur district for managing white grubs in sugarcane.

Untreated control plot infested with white grub

Impact of FLD's on use of *Metarhizium anisopliae* for white grub management

Sr. No.	Treatment and dose	Initial clumps and cane population / 100 m^2				No. of clump mortality (DAT)				% Protection over control	Yield (t/ha)	No. of grubs / 100m^2		
		No.of clumps	No.of clumps damaged	% Damage	No.of canes / clump	40	60	80	Mean			Before	After	% Reduction over FP
1	Kotoli,	70	11	15.71	539	8	10	11	9.11	45.01	96.45	10.33	5.67	58.08
	FP*	71	10	14.08	543	12	16	22	15.65	0	68.96	9.33	10.67	0
2	Asurle	72	12	16.67	554	7	9	10	8.41	49.24	97.32	9.67	5.33	57.85
	FP	72	11	15.28	549	10	15	20	14.46	0	71.18	10.00	11.67	0
3	Porle	71	11	15.49	543	6	8	9	7.80	52.88	98.72	10.33	3.33	80.74
	FP	72	10	13.89	540	11	17	23	17.08	0	72.82	10.00	11.33	0
4	Banage	71	12	16.90	547	5	7	10	6.48	60.85	99.57	9.67	2.67	85.36
	FP	72	11	15.28	559	9	14	19	16.56	0	73.45	10.33	11	0

* FP: Farmers practice