Annual Progress Report format- 2022-23

DBT - Biotech- KISAN Hub Project

Title of the Project- Establishment of Biotech- KISAN Hub at ICAR- NIBSM, Raipur

Institute/SAU- ICAR - National Institute of Biotic Stress Management & Indira Gandhi Krishi Vishwavidyalaya - KVKs

Background information: Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) is a Department of Biotechnology, Ministry of Science and Technology initiative that empowers farmers, especially women farmers. It aims to understand the problems of water, soil, seed and market faced by the farmers and provide simple solutions to them.

The Scheme is for farmers, developed by and with farmers, it empowers women, impacts locally, connects globally, is Pan-India, has a hub-and spoke model and stimulates entrepreneurship and innovation in farmers.

Introduction: There is a need for direct linkage between science laboratories and farms it is now imperative that the Indian scientist understand the problems of the local farmer and provide solutions to those problems.

Likewise, it is necessary to expose farmers to the scientific solutions available by bringing him to the scientific environment/laboratory. This close interaction and need based research will allow innovative solutions and technologies to be developed and applied at farm level.

Objectives: To adopt and disseminate the biotech intervention to farmers under Biotech - KISAN project

Objective wise activities as per action plan

Sr. No.	Objective	Technology Intervened
1.	Popularization of improved rice varieties such as drought tolerant, BHP resistant varieties, nutri-rich varieties (developed through biotechnological approaches).	Cultivation in rain-fed shallow lands with MTU-1010 variety.
2.	Demonstration of low-cost protected cultivation if vegetable such as colored capsicum, cucumber and tomato.	• To provided and demonstrated drip irrigation system with ventury and mulching film 30 micron to establish the high tech vegetable production. • To provided and demonstrated the improved vegetables varieties, such as Tomato (var. Arka rakshak F_1 & Arka samrat), and Cucumber (var. Krish).
3.	Demonstration of scientific goat farming with the introduction of Sirohi, Jamunapari, Black Bengal and Barbari breeds.	Demonstration of scientific goat farming with the introduction of sirohi breeds.

1. Inputs provided to farmers

Sr.no.	Inputs details	Quantity/farmer	No. of farmers benefited	Village
1.	Rice (MTU-1010)	50 no. (30kg/bag)	50	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
3.	Pigeon pea seed (Rajiv Lochan)	20 (8kg/bag)	20	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
3.	Weedicide (Bispyribac-sodium 10% SC (Pretilachlor 50% EC)	50	50	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
4.	Green gram (shikha)	10 (4kg/bag)	10	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
5.	Black gram (urd)	10 (4kg/bag)	10	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
6.	Chick pea (RVG-202)	04 (30kg/bag)	04	Sonsaytola,
7.	Onion (Bhima shakti)	30 (1kg/bag)	30	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
8.	Sprayer	40 no.	40	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
9.	Horticultural tools kit	40 no.	40	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
10.	Goat (Sirohi breed)	5+1 (Female+ Male)	08	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha
11.	Drip System Installation	01	01	Sonsaytola,
12.	Tomato (Arka rakshak F_1 & samrat) seed	30 gm.	08	Sonsaytola, Mangatola, Kodutola, Bhadsena Semharbandha

1. Module-wise interventions carried out

Module	Intervention	Villages covered	Area covered (ha)/ Animal (No.)	Number of Households covered
Crop based module	We provided problem specific varieties such as drought tolerant, nutri- rich rice variety, insect and disease resistant varieties of rice to the farmers.	05	20 ha.	50
	Transplanting and line sowing method of paddy	05	20 ha.	50
	Conducted training on cultivation practices of pigeon pea (Rajiv Lochan) on rice bund condition	05	-	50
	Organized training programme on safe handling and spraying of weedicide Pretilachlor 50 EC 500 ml/acre pre-emergence herbicide for transplanted rice and for DSR Post Emergent, Bispyribac Sodium 10% SC.	05	20 ha.	50
Horticulture based module	To provide drip irrigation system with ventury and plastic mulching film 30 micron to establish the high tech vegetable production.	01	0.04 ha.	01
	To provided and demonstrated the improved vegetables varieties, such as Tomato (var. Arka rakshak F_{1} & samrat)	04	1.6 ha.	08
	Conducted demonstration and training on insect pest management.	05	20 ha.	50
	Conducted demonstration and training on integrated weed management	05	20 ha.	50
Livestock based module	Conducted demonstration of scientific goat farming with the introduction of sirohi breeds.	05	5+1 (female+male)	08
	Proper vaccination schedule for goat raring	05	5+1 (female+male)	08

2. Farmer-Scientist Interface

2.1 Farmers Training

Sl. No.	Training name	Subject	Date	Place	No. of farmers benefited
1.	Training on Backyard poultry (Kadaknath & Vanraja)	Livestock module	04.01.2022	Sonsaytola	50
2.	Training on installation of trichocards	Crop+NRM module	06.01.2022	Sonsaytola	50
3.	Training on vaccination programme of chicks	Livestock module	10.01.2022	Semarbandha	50
4.	Training on poultry shed management	Livestock module	12.01.2022	Bhadsena	50
5.	Training on feed management of chicks	Livestock module	17.01.2022	Kodutola	46
6.	Training on Soil solarisation & soil treatments with bio fertilizer	Horticulture module	07.02.2022	Lodutola	50
7.	Training on seedling treatment of tomato with bio fertilizers	Crop+NRM module	09.02.2022	Bhadsena	50
8.	Training on vaccination & health management of chicks	Livestock module	25.02.2022	Bhadsena	50
	Training on IPM on chickpea	Crop+NRM module	28.02.2022	Sonsaytola	50
9.	Training on fertigation in vegetables crops	Horticulture module	02.03.2022	Kodutola	50
10.	Training on caring of new born kids of goat	Livestock module	04.03.2022	Mangatola	50
11.	Training on IPM on pea	Crop+NRM module	05.03.2022	Mangatola	50
12.	Farmers Scientist interaction meet programme	-	07.03.2022	Kodutola, Magatola, Sonsaytola, Bhadsena, Semarbandha	50
13.	Training on caring of poultry during hot summer	Livestock module	10.03.2022	Sonsaytola	50
14.	Training on post harvest management of vegetables	Horticulture module	11.03.2022	Sonsaytola	50
15.	Training on caring of goat during	Livestock module	16.03.2022	Mangatola	50

	hot summer				
16.	Training on urd seed sowing with seed drill	Crop+NRM module	16.03.2022	Sonsaytola	50
17	Training on insect & disease management of rice	Crop+NRM module	11.07.2022	KVK Rajnandgaon	30
18	Training on weed management of Rice	Crop+NRM module	12.07.2022	KVK Rajnandgaon	30
19	Training on Drip irrigation managements	Horticulture module	13.07.2022	KVK Rajnandgaon	30
20	Training on Scientific vegetable cultivation	Horticulture module	14.07.2022	Chaudabag Vegetable Nursery Kumhari Raipur	30
21	Celebration of ICAR foundation Day	-	16.07.2022	Sonsaytola	50
22	Training on application of pesticides by Drone	Crop+NRM module	07.09.22	Sonsaytola	50
23	Training on improved Seed distribution of onion and chickpea	Crop+NRM module	21.11.22	Surgi	12

2.2 Number of direct & indirect farmers beneficiaries

Farmers beneficiaries							
Direct (50 no)				**Indirect (250 no)**			
SC	**ST**	**W**	**Other**	**SC**	**ST**	**W**	**Other**
2	**18**	**2**	**28**	**10**	**90**	**90**	**60**

2.5 Media Coverage

Sl. No.	News topic	Place	News paper name	Date	Photograph
1.	Nay Sal Me kisano ko diya PM kisan samman nidhi	Surgi	Dainik Bhaskar	04.01.2022	 04-01-2022 नए साल में किसानों को दिया पीएम किसान सम्मान निधि
2.	Kisano ko sikhai gai prasanskaran evam paikeging taknik	Sonsayt ola	Nai Duniya	18.01.2022	
3.	Model fasal sahit udyanini ka liya jayaja	Sonsayt ola	Dainik Bhaskar	14.03.2022	 मॉडल फसल सहित उद्यानिकी का लिया जायजा

Good quality Photograph with caption in JPG


Exposur visit of DBT farmers at ICAR New Delhi under Pusa Mela 2022 on dated 17-18 Oct.2022


Visited activities of DBT Biotech Kisan Hub by Dr. M.J. Chandra Gouda, Mentor Biotech Kisan Hub Chhattishgarh on dated 03.03.2022


Visited activities of DBT Biotech Kisan Hub & Spraying of pesticide by drone at farmers field by Dr. S.R.K. Singh, Director ATARI Jabalpur on dated 07.09.2022


Celebration of ICAR foundation Day at Sonsaytola on dated 16.07.2022


Training on Insect & disease management under DBT 11-12 july 22


Training on scientific vegetable cultivation under DBT 13-14

Seed distribution programme of onion & chickpea under DBT- Biotech Kisan Hub on dated 21.11.22

Outcome: Explain the outcome with figures.

Year	Crops/ Unit	No. of farmers	Area (ha.)	Average (yield q/ha)		Yield increase (%)
				Demonstrations plot with improved cultivar	Farmer practice with Local cultivars	
2022-23	Paddy (MTU-1010)	50	20	50	30	66.66

Earlier they got 30 q /ha. production of rice due to adoption of traditional technologies such as use of traditional varieties, broad casting method of sowing, no application of weedicide and insecticides, but after introduction Biotech - KISAN Hub project they got more production 45-50 q per hectare as compare to local cultivars and 66.66 % change observed in production level of MTU-1010 in year 2022-23.

Impact of scientific interventions:

SN.	Year	No. of adopted farmers	No. of farmers adopted technology			% change in transplanting methods of rice	Remark
			Transpla-nting	Direct Seeded Rice through seed drill	Broad casting		
1	At the time of project start	50	9	0	41	-	After the start of this project, farmers were adopted line sowing and transplanting and getting more benefits in comparison with
2	2020-21	50	27	0	23	200	

3	2021-22	50	46	2	2	70.37	earlier. Maximum farmers were adopted the traditional method of sowing, but after the implementation of this project, the farmers started line sowing and transplanting method. In last three years of experiment 200, 70.37 and 2.173 percent respectively in first, second & third year changes observed in the way of sowing by the farmers.
4	2022-23	50	47	2	1	2.173	

Outcome: Explain the outcome with figures.

Sl. No	Crops/ Unit	Achievement		Average (yield q/ha)		Yield increase (%)
		Number	Area (in ha.)	Demons-trations units	Local (Existing practice)	
1.	Tomato (Arka Rrakshak)	08	1.6	556.67	169.34	228.72
2.	Cucumber (Krish)	08	1.6	728.00	439.32	65.71

Before they got 169.34q /ha, 439.32 q/ha production of tomato and cucumber respectively with local varieties but after installation of drip system, plastic mulching and improved varieties (Arka Rakshak and Krish) they got 556.67q/ha,728.00q/ha production of tomato and cucumber and in case of tomato 228.72% and for cucumber 65.71% change in production level observed.

Senior Scientist & Head
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