ANNUAL REPORT (April-2018-March-2019)

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	83	1340	320	1660
Rural youths	10	95	60	155
Extension functionaries	18	180	24	204
Sponsored Training	10	395	0	395
Vocational Training	02	40	0	40
Total	**123**	**2050**	**404**	**2454**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	85	34.00	--
Pulses	150	60.00	--
Cereals	92	32.4	--
Vegetables	--	--	--
Flower	--	--	--
Hybrid crops- Makhan Grass	16	2.5	--
Fruits	10	4.0	--
Total	**353**	**132.9**	--
Livestock & Fisheries	40	--	45
Other enterprise- H.Sc	30	--	30
Total	**70**	**132.9**	**75**
Grand Total	**423**	**132.9**	**75**

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	07	07	26
Livestock	02	02	20
Other enterprises	02	02	10
Total	**11**	**11**	**56**
Technology Refined			
Crops	--	--	--
Livestock	--	--	--
Various enterprises	--	--	--
Total	--	--	--
Grand Total	**11**	**11**	**56**

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	677	18842
Other extension activities	96	3027
Total	**773**	**21869**

4. Mobile Advisory Services

55 Message Type	Type of Messages						
	Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
Text only	--	--	--	--	--	--	--
Voice only	2139	480	04	11	58	228	2920
Voice & Text both	--	--	--	--	--	--	--
Total Messages	2139	480	04	11	58	228	2920
Total farmers Benefitted	2139	480	04	11	58	228	2920

5. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	---	--
Planting material (No.)	23500	6000.00
Bio-Products (kg)	150	--
Livestock Production (No.)	--	--
Fishery production (No.)	--	--

6. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil- Macro/Micro Nutrient	1020	120090.00
Soil Health Card Issued	1327	
Total – Soil Health Card		120090.00

7. HRD and Publications

Sr. o.	Category	Number
1	Workshops	04
2	Conferences	03
3	Meetings	15
4	Trainings for KVK officials	06
5	Visits of KVK officials	05
6	Book published	--
7	Training Manual-02	02
8	Book chapters	--
9	Research papers	07
10	Lead papers	--
11	Seminar papers	11
12	Extension folder/ Tech Card	07
13	Proceedings	01
14	Award & recognition	01
15	On going research projects	02

PROGRESS REPORT

(April 2018 to March, 2019)

1. General Information about the KVK

1.1. Name and address of the KVK

Address	Telephone		E-Mail
	Office	FAX	
SWAMI KALYAN DEV KRISHI VIGYAN KENDRA, BAGHRA, DISTT.- MUZAFFARNAGAR (U.P.) PIN- 251306	0131-2466362 9411078115		kvkmuzaffarnagar@gmail.com muzaffarnagarkvk@gmail.com

1.2. Name and address of the host organization

Address	Telephone		E-Mail
	Office	FAX	
DIRECTORATE OF EXTENSION S.V.P.Univ. of Agril. & Tech., Meerut.	0121- 2888511	0121- 2888505 2888540	deesvpuat2014@gmail.com

1.3. Name of the Professor & Head

Name	Telephone/ Contact		
	Residence	Mobile	E-Mail
Dr. P.K.Singh	--	09411078115	kvkmuzaffarnagar@gmail.com muzaffarnagarkvk @gmail.com

1.4 . Year of Sanction : December 1995

Location

KVK BAGHRA, MUZAFFARNAGAR, WESTERN PLAIN ZONE (UP)

1.5. Staff Position (as on 1st May 2019) :

S. No	Sanctioned Post	Name of incumbent	Designation	Discipline	Pay Scale Present Grade Pay	Date of Joining	Category
1.	Sr. Scientist & Head	Dr. P.K.Singh	Professor & Head	Agronomy	37400-67000 10000	02.02.95	GEN
2.	Training associate/ Asstt Prof./ SMS	Dr. A. K. Katiyar	Professor	Soil Science	37400-67000 10000	16.01.95	OBC
3.	SMS	Dr. Savita Arya	SMS/Asstt. Prof.	H.Sc.	15600-39100 7000	08.03.96	OBC
4.	SMS	Dr. R.C.Rathi	SMS/Asstt. Prof.	Animal Science	15600-39100 8000	09.12.03	OBC
5.	SMS	Dr. Sripal	SMS/Asstt. Prof.	Plant Breeding	15600-39100 6000	01.07.08	OBC
6.	SMS	Dr. R.C.Verma	SMS/Asstt. Professor	Plant Protection	15600-39100 6000	10.07.08	OBC
7.	Programme Asstt.	Dr. J.K.Arya	Programme Asstt.	Horticulture	9300-34800 4800	22.12.95	OBC
8	Computer Programmer	Sh. A.K Singh	Programme Asstt.,Comp	Computer Application	9300-34800 4800	16.10.99	GEN
9	Acctt./ Suptd	Sh. S.K.Dubey	O.S/Acctt.	--	9300-34800 4200	01.07.92	GEN
10	Stenographer	Sh. Chandra Shekhar	Typist/ Clerk	--	5200-20200 2800	29.03.97	GEN
11	Driver	Sh. Vijendra Singh	Driver	--	5200-20200 2800	22.12.95	OBC
12	Driver	Sh. Mangeram	Driver	--	5200-20200 2800	01.07.98	OBC
13	Supporting Staff	Sh. Ajesh Sharma	Attendant	--	4440-7440 2400	16.01.95	GEN
14	--do--	Sh. Udaiveer	--do--	--	4440- 7440 2400	15.01.96	OBC

1.6. Total land with KVK (in ha) : 0.70 ha.

S.No	Item	Area (ha)
1.	Under Building	0.20
2.	Under Demonstration Units	0.50

1.7. Infrastructure Development :

A). Building

S. No.	Name of the building	Source of fund	Stage		
			Complete		
			Completion date	Plinth area in Sqm.	Sanctioned budget (Rs)
1.	Administrative Building	ICAR	March 1998	510 sqm	15.84 lac
2.	Farmers Hostel	ICAR	31.03.10	300	---
3.	Staff Quarters (6)	ICAR	31.03.08	400 sqm	26.71 lac
4.	Demonstration Unit (2)	ICAR	31.03.08	160 sqm	11.58 lac

B). Vehicles

Type of Vehicle	Year of Purchase	Cost (Rs.)	Total KMS Run	Present Status
Jeep UP12 S 2012	2009	507000.00	217498 KM	Working
Tractor	1996	261685.00	--	Working
Bicycle	1995	2390.00	--	Working
Motorcycle (Hero Honda- UP 12 W 9367)	2010	52000.00	25396 Km	Working

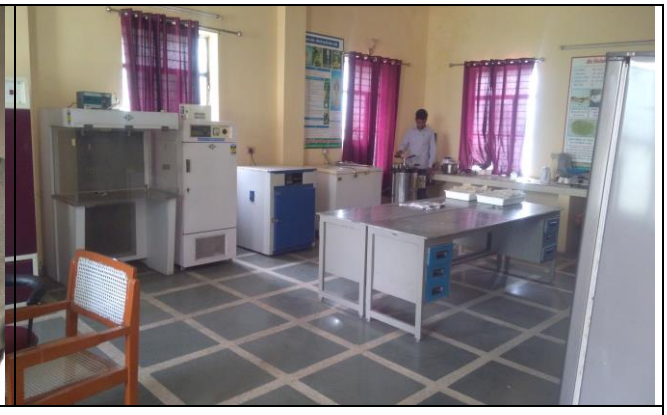
DEMONSTRATION UNITS AT KVK


Honey Processing Unit


Agriculture Technology Information Center

Soil Testing Unit


Vermi Compost Unit

Bio-agent Production Unit


Mushroom Production Unit

Small Scale Nursery

Herbal Garden

Automatic Weather Station

Nutritional Kitchen Garden

c). Equipments & AV Aids

Name of Equipment	Year of Purchase	Cost (Rs.)	Present Status
Equipments			
Weighing Balance with weight	20.05.98	505.00	Working
Sewing Machine	06.02.98	268.00	Working
P.A. Set	30.03.98	6327.00	Working
Water Tank	30.06.97	6200.00	1 Working
Diesel Engine with Alternator	30.03.98	19931.00	Working
Generator	24.03.04	28900.00	Working
Submercible T/Well	31.03.05	35500.00	Working
Soil Testing Laboratory (Furniture, Equipment complete accessories)	2004-05	860000.00	Working
V.C.D.	26.03.04	2450.00	Working
Camera	26.03.04	5800.00	Working
Camera (Digital)	01.02.07	19990.00	Working
Colour T.V.	07.02.04	16990.00	Working
Fax Machine	27.03.04	11000.00	Working
Scanner, C.D. Writer, UPS for Computer	31.03.05	7490.00	Working
Demonstration Material (Digital Poster 10 No., 3 D Models 6 No.)	23.03.04	14570.00	Working
LCD With Memory Card	30.03.07	68125.00	Working
42 CDs (ICAR Literature)	26.10.05	Provided by ICAR	Working
Farm Implements :			
Harrow	30.03.96	8500.00	Condemn
Tiller	30.03.96	10500.00	Working
Ridger	30.03.96	5700.00	Working
Laveller	30.03.96	9000.00	Working
Ridge Maker	30.03.96	4500.00	Working
Bogi	23.09.97	5025.00	Working
Foot Sprayer (Maruti)	14.03.97	1850.00	Working
Napsake Sprayer (Aspee)	14.03.97	865.00	Working
Jubliee Duster (Aspee)	14.03.97	900.00	Working
Harrow (11 disc)	01.08.03	11500.00	Working
Weighing Machine	06.08.04	2880.00	Working
Trolley	30.11.04	61500.00	Working
Zero Till Ferti Seed Drill	30.03.05	22500.00	Working
Raised- bad- planter	31.03.10	55000.00	Working
Soil Micronutrients unit	31.03.10	2480000.00	Working
Honey Processing Unit	31.03.10	760000.00	Working

1.8. A). Details SAC meeting* conducted in the year

Sl. No.	Date	Name and Designation of Participants	Sailent Recommendation	Action taken
1.	11.02.2019	1. Sh. Narendra Kumar, DD Agriculture, MZN 2. Sh. Arvind Kumar Sharma, Dy PD, ATMA , MZN 3. Dr. Chanderbhanu, Scientist, PDFSR, Meerut. 4. Dr. D.K.Singh, Assoc. Professor, Veternary Sc. SVPUA&T, Meerut 5. Dr. U.P.Sahai, Associate Professor, SVPUA&T, Meerut 6. Dr. S.K.Tripathi, Associate Director, SVPUA&T, Meerut 7. Sh.Shailendra,DDM, NABARD, Muzaffarnagar 8. Dr. Harsh Vardhan, VIMCO 9. Dr. J.P.Singh, Joint Director, Sugercane Research, MZN 10.Sh. Rajkumar gautam, DHO, Muzaffarnagar 11. Sh. R.K.Dhuria, DGM Dhanuka 12. Sh. Arun Kumar, SCCDI, Tiawi Suger Mill 13. Sh. Rajeev Kumar, Veternery Officer 14.Sh. Vijendra Singh, SPPA, Muzaffarnagar 15. Sh. K.P.Saini, President 16. Sh. Privardhan Pawar, ABDM, Dhanuka Agritak 15. Five progressive Farmers of Distt & All Scientist & Staff of KVK Muzaffarnagar Total 36 members. .		

	Salient Recommendations	**Action Taken**
1.	The area under Sugarcane variety Cos 0238 which is 90% of covered area must be decreased upto 60%.	KVK in coloboration with Sugarcane Deptt. Will conduct awareness campaign. Accordingly Action Plan prepared.
2.	Formation of SHG in Charthawal block	The Home scientist has included it in Action Plan of 2019-20
3.	Fertilizer management scheduling proforma need to be developed and popularized.	Included in the Action Plan of Soil Science.
4.	Popularization of Soil moisture Indicator (SMI) through field demonstrations.	Included in Action Plan . Six more Soil Moisture Indicator have been procured.
5.	Participatory seed production at farmers field.	Two trainings have been included.
6.	Mushroom need to be popularized as entreprenurship among rural youths.	Rural youth training and Skill development training programme have been included in action plan.
7.	Popularization of Chickpea through CFLD	20 ha CFLD on Chickpea is included in action plan of 2019-20
8.	UMMB needs to be popularized	Training programme and demonstrations have been planned.

2. Details of District

2.1 Major Farming System/ enterprises (based on analysis made by KVK)

- S. Cane based + A.H+ Horticulture
- S. Cane based + A.H+ Vegetable + Floriculture
- A.H + Labour

2.2 Description of Agro climatic Zone & major agro ecological situations

Sl. No.	AES	Characteristics of AES	Major Commodities	Farming System	Blocks
1.	AES-1	More than 95% irrigated, Loam	S.Cane, Wheat, Rice, Jowar, Mango,Guava, Litchi , Frenchbean	S. Cane based + A.H+ Horticulture	Baghra & Sadar
2.	AES-2	More than 95%, Sandy Loam	S.Cane, Wheat, Jowar, Brinjal, Cabbage, Gladiolus, Tuberose,	S. Cane based + A.H+ Vegetable+ Floriculture	Charthawal, Khatauli
3.	AES-3	Low Water table area, Loam & Sandy Loam soil	S. Cane, Wheat, Blackgram, Jowar, Mango	S. Cane based + A.H + Horticulture	Budhana & Shahpur

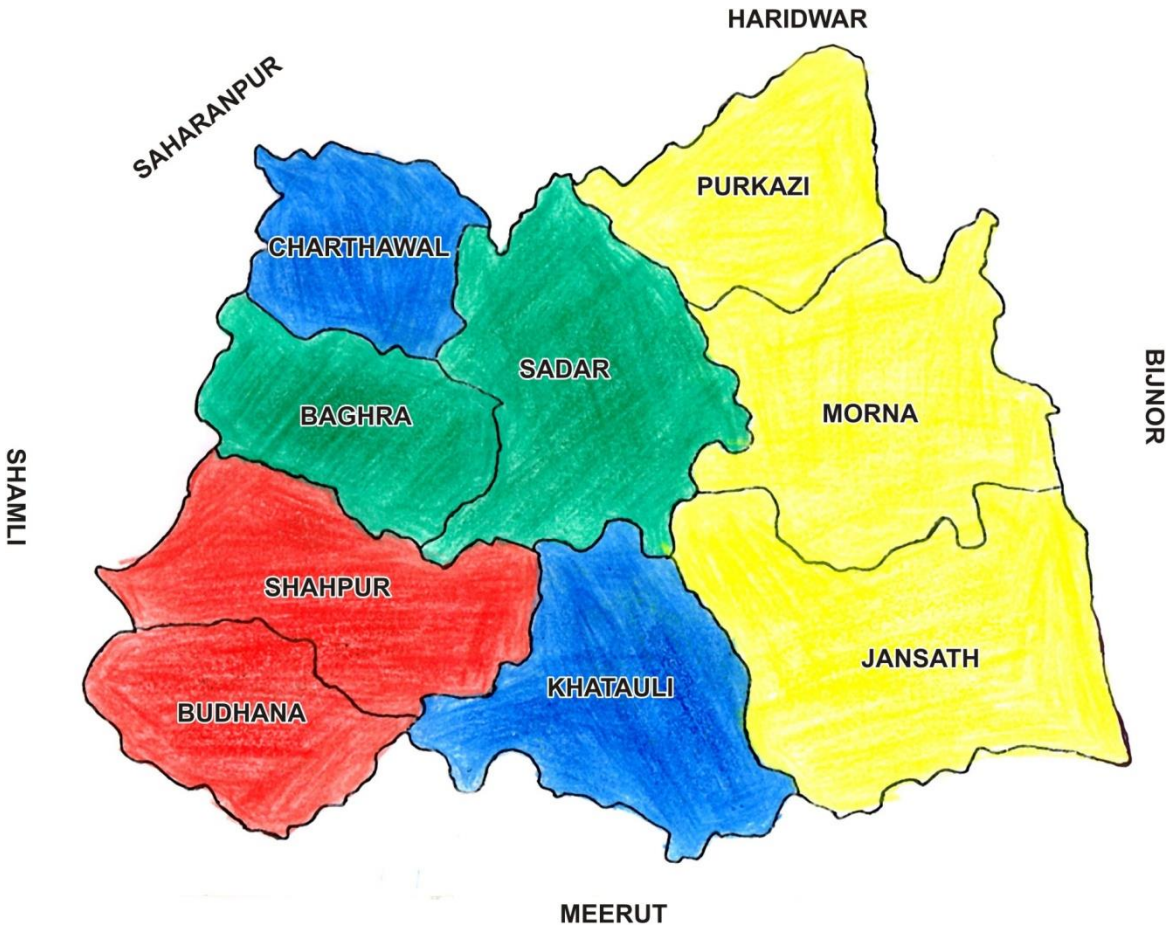
2.3 Soil Type/s

S.No.	Soil Type	Characteristics		Area (ha)
		Soil particle Diameter (mm)	Water holding capacity	
1.	Sandy	2 - 0.2 mm,	Poor	17633
2.	Sandy loam	0.2 - 0.02 mm,	Medium	128334
3.	Loam	0.02 - 0.002 mm	Average	78186
4.	Clay loam	>than 0.002 mm	Good	5126
		Total		**219269**

MUZAFFARNAGAR DISTRICT

(AGRO-ECOLOGICAL WISE MACRONUTRIENT FERTILITY MAP)

Colour	AES	Nitrogen	Phosphorus	Potassium
Yellow	I	Low	Low - medium	Low - medium
Green	II	Low - medium	Low - medium	Low - medium
Blue	III	Low - medium	Low - medium	Low - medium
Red	IV	Low - medium	Low - medium	Low - medium



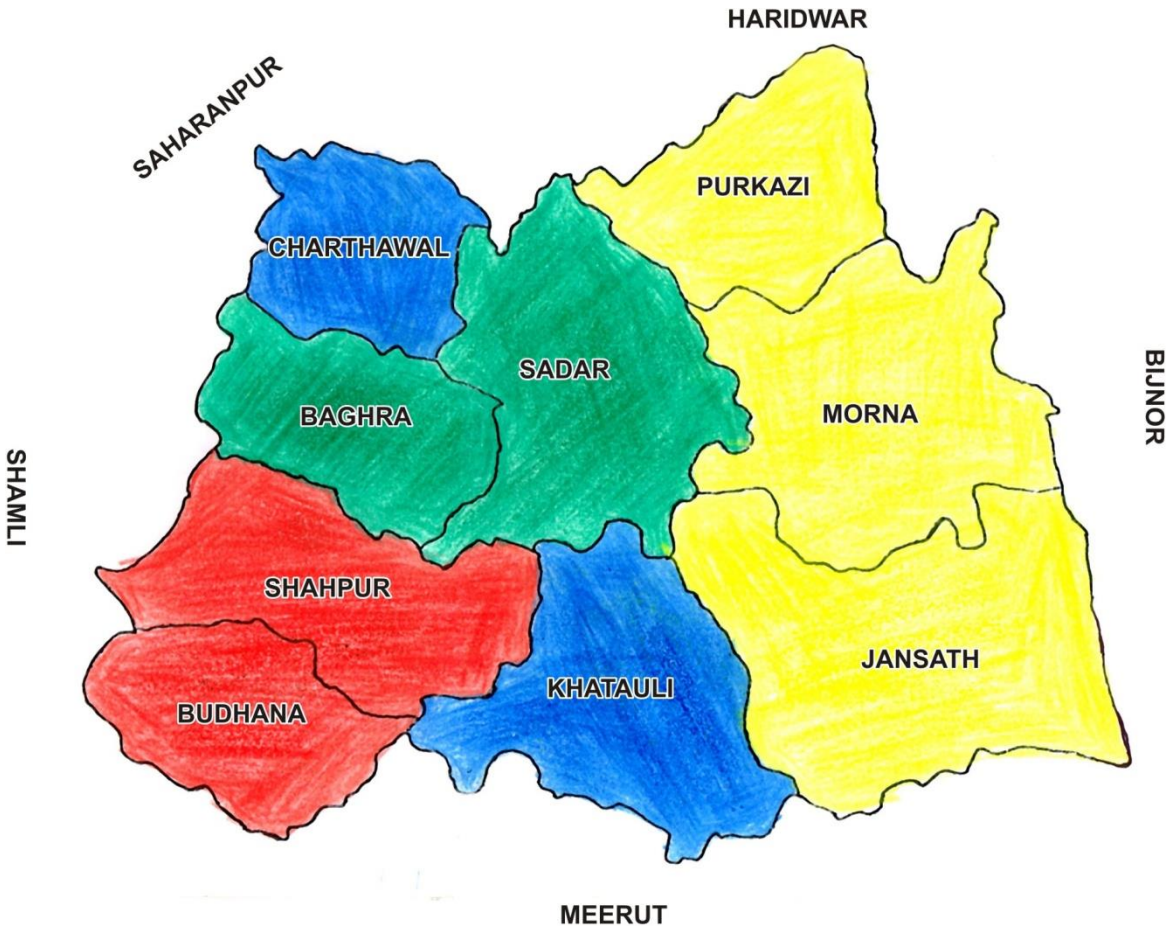
Soil Micronutrient Testing:

Nutrients	Categories		
	Low	Medium	High
Available N (kg ha$^{-1)}$	<280	280-560	>560
Available P(kg ha$^{-1)}$	< 10	10- 25	> 25
Available K (kg ha$^{-1)}$	< 120	120-280	>280

MUZAFFARNAGAR DISTRICT

(AGRO-ECOLOGICAL WISE MICRONUTRIENT FERTILITY STATUS)

Colour	AES	Per cent deficient samples					
		Zn	Fe	Mn	Cu	B	Mo
Yellow	I	92	82	48	35	10	7
Green	II	89	84	52	38	12	5
Blue	III	95	77	46	33	9	6
Red	IV	97	79	47	36	11	4



Micronutrient Tested	Normal Soil Range (ppm)
Zn	>1.2
Fe	>8.0
Mn	>4.0
Cu	>0.4
B	>0.5
Mo	>0.2

2.4. Area, Production & Productivity of major crops cultivated in the district in 2018-19

S.No	Crop	Area (ha)	Productivity (Qt./ha)
1.	Sugarcane	132004.00	812.00
2.	Wheat	80254	41.17
3.	Paddy	11580	23.36
4.	Blackgram	717	5.40
5.	Greengram	100	4.14
6.	Lentil	285	6.91
7.	Gram	270	1074
8.	Pea	360	13.89
9.	Pigeon Pea	37	8.04
10	Mustard	4018	12.35
11	Potato	3260	230.01
12	Cotton	274	1.30
13	Maize	250	15.75

2.5 Weather Data

Month	Rainfall (mm)	Temperature ^{o} C		Relative Humidity (%)
		Maximum	Minimum	
April 2018	3.00	34.7	17.8	51.00
May 2018	10.00	37.8	21.2	45.00
June 2018	64.67	36.0	24.2	61.50
July 2018	439.20	32.8	23.8	79.50
August 2018	226.70	32.7	23.0	72.00
September 2018	352.00	31.9	20.8	79.00
October 2018	32.2	31.0	14.0	67.00
November 2018	12.0	26.2	9.2	65.50
December 2018	47.0	21.4	3.2	73.00
January 2019	28.4	20.2	6.2	67.00
February 2019	57.6	21.7	10.2	71.50
March 2019	4.4	27.0	13.7	55.00

2.6 Production & Productivity of Livestock, Poultry, Fisheries in the district

Category	Population	Production	Productivity
Cows			
Crossbred	35460	413514 liter/day	1800-3178 liter/lactation
Indigenous	133459		1200-2270 liter/lactation
Buffalo	194306	1790140 liter/day	1360-2270 liter/lactation
Sheep		--	--
Crossbred	223	Wool - 11873 kg/ year	--
Indigenous	8478		
Goats	20429	5294 mt	180-544 lit/lactation
Pigs			
Crossbred	10543	12012000 kg meat	--
Indigenous	24856		
Rabbits	281	--	--
Poultry			
Hens			
Desi	54502	163589 kg meat	1.0 kg
Improved	109087		
Ducks	1642	--	--
Turkey	19	--	--
Camel	41	--	--

Fisheries

Category	Area (ha)	Production	Productivity
Fish	1239	40887 qt	30-35

2.7 Details of Operation area/ Villages (2018-19)

S. No.	Taluk	Name of Block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust areas
1.	Sadar	Baghra	Narottampur Haidernagar	Sugarcane	Low yield due to imbalance fertilizer	Balance use of fertilizer
				Wheat	Low yield due to high infestation of weeds	Weed management
				Mustard	Poor yield due to aphid infestation	Insect mgt.
				Mango	Poor yield due to no use of micronutrients	Fertilizer management

				Guava	Poor quality yield due to fruit fly infestation	Fruit fly management
				Cauliflower	Poor yield due to use of local variety	Introduction of HYV
				Brinjal	Poor quality of fruits due to foot & shoot borer	IPM
2.	Khatauli	Khatauli	Bhangela	Sugarcane	High infestation of insect & disease	Insect & disease mgt. through IPM
				Gladiolus	Low yield due to use of local variety and rotten corm	Introduction of HYV Disease mgt.
				Vegetables	Local variety, Imbalance fertilizer application, Infestation of pest	Introduction of HYV IPNM IPM
3.	Jansath	Jansath	Mantodi	Sugarcane	Poor yield due to no use of organic matter	Promoting of organic manure
				Wheat	Low yield due to imbalance use of fertilizer	IPNM in Wheat
				Merigold	Use of local seed High infestation of disease	Introduction of HYV Disease mgt.
				Vegetables	Local variety, Imbalance fertilizer application, Infestation of pest	Introduction of HYV IPNM IPM
				Barseem	Low yield due to local seed	Introduction of HYV
4.	Budhana	Budhana Shahpur	Salakhedi Sohjani Tagan	Sugarcane	Low yield of Sugarcane	Introduction of HYV Balance fertilizer application IPNM & IPM
				Mango	Low yield of Mango	IPNM & IPM Rejuvenation of old orchard Introduction of regular bear variety
				Wheat	Low yield	Water management IPM Weed mgt. Introduction of HYV

				Barseem	Low fodder production	Timely sowing Introduction of HYV
5.	Sadar	Charthawal	Rohana kala Dudhali Badhai Kala	Sugarcane	Low yield due to imbalance fertilizer	Balance use of fertilizer
				Wheat	Low yield due to high infestation of weeds	Weed management
				Mustard	Poor yield due to aphid infestation	Insect mgt.
				Makhan Grass	Low fodder production	Introduction of new Fodder

2.8 Priority Thrust Areas.

Crop/Enterprise	**Thrust area**
Sugarcane	IPNM, SSNM, Weed management, IPM, IDM, Seed production
Wheat	Integrated Nutrient Management, Weed management, IPM, IDM, Seed production, Foliar application of Micronutrients
Rice	IPNM, Weed management, Hybrid rice, IPM, IDM, Seed production
Vegetables	IPNM & IPM
Oilseeds & Pulses crop	Sulphur, Zinc application & IPM
Animals	Endo & Ecto parasite control, Improving fertility

1. Maintenance of soil productivity through soil test based nutrient management.
2. Promoting intercropping modules with Sugarcane
3. Popularizing Bio- pesticides for management of insect pests
4. Promoting quality floriculture as diversification enterprise for extra income generation.
5. Promoting quality vegetable nursery
6. Mineral mixture supplementation among animals for improving fertility
7. Promoting Group Approach of Extension through Women SHGs and Vallabh Krishak Clubs

2.9 Intervention/ Programmes for the doubling the farmers income – during 2018-19 Demonstrations

Before Interventions	Main crop Yield(q/ha)	Inter crop Yield(q/ha)	Equivalent Yield(q/ha)	Cost of cultivation(Rs/ha)*	Net income(Rs/ha)	B.C: Ratio	Remark if any
Intercropping System(Kharif-Rabi-Zaid) -Livestock etc.							
Sugarcane	825.00	--	----	108373.00	159782.00	2.47:1	--

Discussion: Irrigation, Fertilizers, Labour, Land Preparation, Seed, Plant protection (Weed, Pest, disease) *

After Interventions	Main crop Yield(q/ha)	Inter crop Yield(q/ha)	Equivalent yield(q/ha)	Cost of cultivation(Rs/ha)*	Net income(Rs/ha)	B.C: Ratio	Remark if any
Intercropping System(Kharif-Rabi-Zaid) -Livestock etc.							
Sugarcane + Greengram	825.00	8.00	141.58	Main crop 108343.00	151532.00	2.40	Rate of S. Cane@ Rs. 315/ qt & Green Gram @ Rs. 5575/- qt
				Intercrop 18166.00	26434.00		
				Total – 126509.00	**177966.00**		
Sugarcane + Blackgram	825.00	7.25	124.28	Main crop – 108343.00	151532.00	2.37	Rate of Urd @ Rs. 5400/- qt
				Intercrop- 14500.00	21650.00		
				Total – 125843.00	**173182.00**		
Sugarcane + Lentil	825.00	9.00	121.45	Main crop - 104343.00	151532.00	2.36	Rate of Lentil @ Rs. 4250/- qt
				Intercrop – 17850.00	20400.00		
				Total – 126193.00	**171932.00**		
Sugarcane + Mustard	825.00	12.00	152.38	Main crop – 108343.00	151532.00	2.35	Rate of Mustard @ Rs. 4000/- qt
				Intercrop- 22560.00	25440.00		
				Total – 130903.00	**176972.00**		
Sugarcane + Frenchbean	825.00	250.00	793.65	Main crop – 108343.00	151532.00	2.50	Rate of Frenchbean @ Rs. 1000/- qt
				Intercrop – 95150.00	154850.00		
				Total – 203493.00	306382.00		

3.A. Details of target and achievements of mandatory activities by KVK during 2018-19

OFT (Technology Assessment and Refinement)		FLD (Oilseeds, Pulses, Cotton, Other Crops/Enterprises)				
1		2				
Number of OFTs		Achievements		Shortfall		
Targets	Achievement	Crop/Enterprise	No of Demo./ Farmer	Targets		Achievement
12-14	11	Cereals	92	Demo	200	423
		Pulses	150	Area (ha)	100	132.9+ 30 Unit + 45 Animal
		Oilseeds	85			
		Fruits	10			
		Other crops	16			
		H.Sc	30			
		Buffalo/ Cattle	40			
12-14		**Total**	**423**			

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Farmers	100	83	2000	1660	---	773	4000	18842
Rural youth		10	--	155				
Extn. Functionaries		18	--	204				
Sponsored		12	--	445				
Total:	**100**	**123**	**2000**	**2454**	**--**	**773**	**4000**	**21879**

Seed Production (Qtl.)			Planting material (Nos.)		
5			6		
Target	Achievement	Distributed to no. of farmers	Target	Achievement	Distributed to no. of farmers
200 Q.	--	Supplied to Beej Vikas Nigam	20000 No.	23500	67
Total :	**--**		**20000 No.**	**23500**	**67**

Soil Samples (Nos.)			
5			
Target	Achievement	No. of farmers	Amount
1200	1327	1020	120090
Total :	1327	1020	120090

Technology Demonstrated and disseminated through Technology Park

Crop	Technology /Variety
Pigeon Pea	I.P.A 203, P.A 1
Mustard	JSH- 401, NRCDR-02, RH-406, DRNIJ-03, RH- 749, NRCHB-101
Blackgram	Kalagarh, Uttra, PU 31, IPU 94-1, IPU 2-4
Maize	Kanchan,Ashwariya & Shipra
Greengram	IPM 2-3, IPM 2-14, Samrat
Fodder	Makkhan Grass, Cow Pea , Hybrid Napiar Grass, Barseem
Potato	Kufari bahar, Kufari Khyati & Kufri Frysona
Garlic	Yamuna Safed-2(G 50),G-189, Yamuna Safed3(G 283), Yamuna Safad4 (G 323)
Onion	Agri found Light Red
Guawa	Medow orchard of Shweta Variety
Banana	G-9
Other Technologies	Zero Energy Cool Chamber, Nutritional garden, Herbal garden, Vermi Composting ,Shadenet house

TECHNOLOGY PARK

I.A TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmers
Varietal Evaluation	Paddy	Evaluation of High Yielding variety of Paddy	1	3
	Wheat	Evaluation of High Yielding variety of Wheat in timely sown Condition	1	3
		Evaluation of High Yielding variety of Wheat in Late sown Condition	1	3
Integrated Pest Management	Sugarcane	Management of Top Borer through Bio-pesticide(*Trichogramma chilonis*) & Chemical (Cartap hydrochloride 4G).	1	3
INM	Sugarcane	Site Specific Nutrient management	1	5
	Wheat	Site Specific Nutrient management	1	6
Integrated Disease Management	Rice	Sheath blight management through biological & chemical methods.	1	3
Durgery reduction technologies	H.Sc	Assessment of Sugarcane stripper for drudgery reduction and efficiency enhancement of farm women	1	5
Small Scale Income Generation Enterprises	H.Sc.	Assessment of role of SHG for Income generation through preparation of different types of BADIS using vegetable	1	5
Total			**9**	**36**

Summary of technologies assessed under livestock

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Disease Management	Buffaloes	Assessment of clinical and non-clinical treatment for post-calving anoestrous	01	10
Disease Management	Buffaloes	UMMB feeding to Control of Repeat breeding in Boffaloes	01	10
Total			02	20

I.B. TECHNOLOGY REFINEMENT- Nil

I.C. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

INTEGRATED PEST MANAGEMENT

Problem definition : Lower productivity in Sugarcane due to high infestation of Top Borer.

Technology Assessed: Top borer Management in Sugarcane through Bio-pesticide *(Trichocards* & Chemical (Cartap hydrochloride 4G)

Sugarcane is one of the main commercial crop of distt. Muzaffarnagar. It is grown on 201436 ha area out of total 296153 ha area of the distt under 100% irrigated farming situation.The productivity of sugarcane in district is 753.35 q/ha. Approx. 35-40% crop affected by top borer. This is major pest responsible for reduction in yield.The Krishi Vigyan Kendra, Muzaffarnagar conducted On Farm Trial (OFT) during march 2018 to assess the efficacy of various pesticides for management top borer in sugarcane in comparison to farmer's practice (Chloropyriphos 20EC @ 3.5 lt/ha and Phorate @ 25Kg/ha).

Table : Management of Top borer

Technology Option	Top borer Incidence	Yield (qt/ha)	% Increase in yield over farmer's practice	BC Ratio
T1-(Farmers practice) Use of Phorate @ 25 Kg/ha in July Chloropyriphos 20 EC@ 3.5 lit/ha(During Oct)	16%	780.00	--	3.62:1
T-2 Cartap hydrochloride 4G@25Kg/ha (July) and Trichocards @20cards/ha 4 times at interval of 15 days in during Sept. and onwards (Variety – Co- 0238)	04%	920.00	17.94%	4.53:1

Sowing Date- March 2018 **Harvesting Period-Feb-March,2019**

Recommendation:

The result indicated that application of Cartap hydrochloride 4G@ 25Kg/ha in the month of july and Trichocards 20 cards/ha(05 cards each 04 times) during September & October was most effective in controlling top borer infestation which resulted in maximum yield of 920.0 qt/ha. 17.94% increase in yield over farmers practice.

Farmer's Reaction :

1. Application of chemical and bio pesticide together was more effective in controlling of top borer in comparison to chemical alone.
2. Top borer management by trichocards is very economical & eco-friendly.
3. Saving of Rs. 3500-4000/-(50 Kg/ha granular insecticides)

Critical Benefit:

1. Productivity of sugarcane may be increased by 140 qt/ha.

2. Approximately 9870364 qt production in district can be increased with above assessed technology.

DISEASE MANAGEMENT

Problem definition : Heavy incidence of sheath blight in rice resulting in yield loss of 20-25% besides affecting the quality.

Technology Assessed : Sheath blight management by biological & chemical methods.

Rice is grown on 11500 ha area in district Muzaffarnagar. Paddy crop is affected by several diseases from seedling stage to maturity stage. The sheath blight is major disease because the fungi affects during vegetative & reproductive stage and directly reduces the yield. An OFT was conducted during Kharif-2018 to assess various chemical & biopesticides for mgt of the this diseases.

Table Effect of Biological & Chemical to manage of sheath blight

Technology Option	**Disease Incidence (%)**	**Yield (qt/ha)**	**% Increase in yield over farmer's practice**	**BC Ratio**
	Sheath blight			
T1-Farmers practice (no treatment)	19	36.5	--	3.11:1
T2-Tricho-derma @ 5 kg/ha with 100 kg FYM (Before transplanting) + Seed treatment Vitavax @2.5gm/ kg (During nursery sowing)+one spray of Propeconazole 25 EC @ 0.1% (Variety – PB 1509)	04	41.20	12.9	3.51:1
Transplanting Date; July 10, 2018		Harvesting Date: 3 Nov, 2018		

Result :

1. The soil drenching of Trichoderma @ 5.0kg/ha with 100 kg FYM (Before transplanting), Seed treatment Vitavax@2.5gm/kg(Before Nursey sowing) & 01 spray of Propeconazole@ 0.1%(during vegetative growth) was found most effective for mgt of sheath blight diseases of rice.
2. The result of OFT showed that incidence of diseases reduced by 15% for sheath blight which resulted in paddy yield increase of 12.90% by using T2 treatment .

Recommendation: The data given in table shows that in treatment T2 (Tricho-derma @ 5 kg/ha with 100 kg FYM (Before transplanting) + Seed treatment Vitavax @2.5gm/ kg (During nursery sowing)+one spray of Propeconazole 25 EC @ 0.1%. gave maximum yield i.e 41.20 qt/ha. comparison to farmer.

Farmer's Reaction: The combination of Trichoderma as soil drenching, Vitavax as seed treatment and one spray of Propeconazole was effective in controlling sheath blight incidence.

Note: 1. Total area of rice in district Muzaffarnagar approximately 11500 ha.
2. Approximately 30% (3300 ha) area affected by sheath blight of rice.
3. Due to impact of this technology 4.7 qt/ha yield may be increased which will result in additional return of Rs. 16450/- ha .
4. Approximately Rs. 1000/ha cost saving.

VARIETAL EVALUATION

Problem definition: Lower productivity and profitability of Basmati (PB 1)

Technology Assessed : Varietal Evaluation of Basmati varieties PB 1637

An On Farm Trial was conducted in sandy loam soil under irrigated condition for the evaluation of high yielding and disease resistant varieties of Basmati 1637 at three locations in Rice-wheat cropping system during Kharif 2018. The variety Pusa Basmati 1637 recorded highest yield of (43.80 q/ha) . PB 1 637 matured in 130-135 days while PB 1 took 145 days for maturity. PB 1637 has Medium tall plants height but did not lodge at all, while 5% lodging was recorded in PB 1 . PB1637 is resistant for neck blast and leaf blast..

Table : Evaluation of high yielding variety of Paddy

Technology Option	Yield (qt./ha)	% increase in yield	Net income (Rs/ha)	B:C Ratio
T1- Farmers practice - Pusa Basmati 1	39.10	---	50825.0	2.88:1
T2- Pusa Basmati 1637	43.80	12.02	58290.0	3.17:1

Date of Transplanting ;19.07.18 DOH : 30 Oct. 2018

Observation Recorded

Technology Option	Tillers/ hill	No of Penicles /Sqm	Lodging %	Disease incidence (%)		Maturity duration (days)	Plant height (cm)	Head Rice Recovery (%)
				Bakane	Sheath Blight			
T1- Farmers practice - Pusa Basmati 1	10-15	240	5	6	13	145	125	43
T2- Pusa Basmati 1637	15-20	265		--		135	125	45-50

Result :

1. The PB 1637 variety gave 12.02 % more yield in comparision to PB 1
2. PB 1637 matured in 135 days where as PB 1 took 140-145 days for maturity.
3. The net return from PB 1637 was highest (Rs. 58290.0/ha).
4. 22.8% emilose is recorded in this variety.

Farmers Reaction :

1. Due to shorter duration farmers like PB 1637 in comparision to PB1.
2. The eating preference is given by farmers in comparision to PB 1
3. The highest rice recovery was observed (45-50 %)in PB 1637

VARIETAL EVALUATION

Problem identifinition: Lower productivity and profitability of Wheat due to use of old & disease prone variety (PBW- 550).

Technology Assessed: Introduction of timely sown HYV variety of Wheat HD 3086

Wheat is main crop of distt. Muzaffarnagar. Due to lack of technical knowledge like broadcasting method of sowing and use of old variety, the productivity level is low. An On farm trial was conducted during Rabi 2018-19 at three location to evaluate high yielding variety of Wheat under irrigated condition. The variety HD 3086 recorded highest tillers (221/sqm), spike length (10.6) cm, grains /spike (43.0) , yied (42.15 qt/ha) and 1000 grain weight (40.1gm) which increased 10.62 % yield in comparison to check variety PBW 550. HD 3086 was not affected by Yellow rust. Maximum net return of Rs. 56556 .0 /ha was obtained from HD 3086 followed by Rs. 47604.0/ha from PBW 550.

Table : Evaluation of high yielding variety of Wheat

Technology Option	Yield (qt./ha)	Gross Return (Rs/ha)	Net income (Rs/ha)	B:C Ratio
T1- Farmers practice (PBW-550)	38.10	70104.0	47604.00	3.11:1
T2- HD 3086	42.15	77556.00	56556.00	3.69:1

DOS : 12.11.18 ***DOH 19..4.19***

Observation Recorded

Technology Option	Tillers/m^2	Spike length (cm)	No of grains/ spike	1000 grain weight (gm)	Maturity duration (days)	Yellow rust incidence (%)	Lodging %
T1- Farmers practice (PBW-550)	209	9.3	39.6	38.9	150	3-4	4
T2-HD 3086	221	10.6	43.0	40.1	150	Nil	Nil

Result :

1. HD 3086 variety gave highest yield of 42.15 qt/ha with maximum net return Rs. 56556.0 /ha followed by PBW 550 (Rs.47607.00)
2. Variety HD 3086 gave 10.62 % more yield in comparision to PBW 550.

Farmers Reaction :

1. Due to higher yield farmers liked HD 3086.

2. Variety HD 3086 was not affected by yellow rust disease

3. There was no lodging seen in HD 3086.

VARIETAL EVALUATION

Problem identifinition: Lower productivity and profitability in late sown Wheat variety PBW 509

Technology Assessed : Introduction of late sown HYV variety of Wheat DBW 90

About 70% of Wheat area in the district is late sown which results in poor productivity. Some of the farmers sow the crop till end of January. PBW 509 covers about 25% area under late sown but this variety is highly susceptible to yellow rust. An On farm trial was conducted to assess the suitability of newly released variety DBW 90 under late sown condition after Sugarcane crop in irrigated situation. The variety DBW 90 gave highest yield of 38.80 qt/ha with maximum net income of Rs.43296.00 /ha followed by PBW 509.The incidence of yellow rust was recorded 4 % in PBW 509 while DBW 90 did not show any symptom. The 1000 grain weight of DBW 90 was highest i.e 38.40 gm while it was 30.10 gm only in farmers practice.

Table : Evaluation of high yielding variety of Wheat

Technology Option	**Yield (qt./ha)**	Gross Return (Rs/ha)	**Net income (Rs/ha)**	**B:C Ratio**
T1- Farmers practice (PBW 509)	34.40	63296.00	43296.00	3.16:1
T2- DBW 90	38.80	71392.00	52392.00	3.75:1

DOS : 6.12.118 ***DOH : 22.04.19***

Observation Recorded

Technology Option	**Tillers/m^2**	**Spike length (cm)**	**No of grains/ spike**	**1000 grain weight (gm)**	**Maturity duration (days)**	**Yellow rust incidence (%)**	**Lodging %**
T1- Farmers practice (PBW 509)	205	8.1	33.3	32.10	130	2-3	3
T2- HD 3059	211	9.6	38.6	38.60	130	Nil	Nil

Result : DBW 90 variety gave maximum yield 38.80 and net return Rs.52392.0 /ha and also proved resistent against yellow rust.There were no lodging seen during the crop period..
2. Variety DBW 90 gave 12.79 % more yield in comparision to PBW 509

Farmers Reaction :

1. The bold grain size of DBW 90 led to better price in the market.
2. The straw quality was best.
3. Due to higher protein content of 13.8 % in, farmers preferred it for household consumption.

SITE SPECIFIC NUTRIENT MANAGEMENT IN SUGARCANE (Zaid 2018)

Problem definition: Low yield of sugarcane due to area specific nutrient deficiency specially potash and micronutrients.

Technology Assessed: Nutrient management on soil health card basis through basal application and sprayed in standing crop at different stage of crop growth.

Sugarcane is one of the main commercial crop of distt. Muzaffarnagar It is grown on 1.31 lac ha area out of total 2.96 lac ha area of the distt under 100% irrigated farming situation.The productivity of sugarcane in district is 830 q/ha. The reduction in yield of sugarcane is mainly due to area specific nutrient deficiny mainly by Potash, Sulphur, Zinc, ferrous and Boron. The KVK conducted On Farm Trial (OFT) during February (Zaid) 2018 to assess the contribution of nutrients after soil health card basis and area specific recommendation. The farmers of the district are not using nutrients on soil test basis.

Table: Contribution of site specific nutrient management in sugarcane.

Technology option	Yield q/ha	Gross return Rs./ha	Net return Rs./ha	% Yield increase	BC Ratio
T1-Farmers practice (no soil test based nutrient management useing only 125 kg DAP and 375 kg urea per hectare)	847.0	266805.0	201125.0	-----	4.04
T2- FP+ Soil test based apply Potsh125kg, Bentonite sulphur 25 kg, Mono zinc 12.5 kg, Ferrous sulphate 25 kg and granular Boron 5 kg per hectare.	968.0	304920.0	229490.0	14.29	4.06

Recommendation: Nutrients should be used after soil test and area specific.

Magnitude of OFT: 1. Additional saving of Rs. 28365/ha as compare to farmers practice.

2. Area under sugarcane can be reduced to 18675 ha with same production of the district.

3. District productivity can be increased up to 14.29 percent.

4. After adaption of this OFT, additional Sugar production of 18.07 Lac qt from same area.

5. District Muzaffarnagar can produce more 36000 bags of sugar (50) kg from same piece of land.

6. All the experimental sites were sown COS-0238 sugarcane variety.

(Note= Demo. Additional input cost Rs.9750/ha, sugarcane sale price Rs 315/q, District Sugarcane area 1.31 Lac ha, productivity 829.56 q/ha)

SOIL TEST BASED NUTRIENT MANAGEMENT IN WHEAT (Rabi 2018-19)

Problem definition: Low yield of wheat due to area specific nutrient deficiency.

Technology Assessed: Nutrient management on soil health card basis through basal and application in standing crop at different stage of crop growth in late sown Wheat under irrigated farming situation.

Wheat is one of the second main crop of distt. Muzaffarnagar It is grown on 82600 ha area of the distt under 100% irrigated farming situation.The productivity of wheat in district is 41.0 q/ha. The reduction in yield of wheat is mainly due to area specific nutrient deficiny mainly by Potash, sulphur, zinc. The KVK conducted On Farm Trial (OFT) during Rabi 2018-19 to assess the contribution of nutrients after soil test and area specific recommendation. The farmers of the district are not using nutrients on soil test basis.

Table Contribution of site specific nutrient management in sugarcane.

Technology option	Yield q/ha	Gross return Rs./ha	Net return Rs./ha	% Yield increase	BC Ratio
T1-Farmers practice (no soil test based nutrient management useing only 125 kg DAP and 250 kg urea/ hectare)	43.083	79273	46856.00	-------	2.45
T2- FP+ Soil test based apply additional Potsh125kg, Bentonite sulphur 25 kg, Mono zinc 12.5 kg per hectare.	48.683	89577	55360.00	13.00	2.62

Recommendation: Nutrients should be used after soil test and area specific.

Magnitude of OFT: 1. Additional saving Rs. 8505/ha as compared to farmers practice.

2. Area under wheat can be reduced to 12960 ha with same production of the district.

3. District productivity can be increased up to 16.50 percent.

4. All the experimental site was sown DBW-71 wheat variety.

(Note= Demo. Additional input cost Rs.4500/ha, wheat sale price Rs 1840/q, District wheat area 82600 ha, productivity 41.0 q/ha)

LIVE STOCK

Problem definition: Higher incidences of post-calving anoestrous.

Technology Assessed: Evaluation of clinical and non-clinical treatment for post-calving anoestrous in Buffaloes.

The trial was conducted during December 2018 on 10 post calving anoestrus buffaloes (buffaloes do not show oestrus between 3-4 months after calving in second to fifth lactation) at six location village wise, to evaluate the remedial measures for curing post calving anoestrus.

Table: Effect of minerals mixture+ Vetmate cure/minimize the post-calving anoestrous

Technology Option	**No.of Animals**	Per cent Responced & conceived
T1- Farmers practice (Use of choker and common salt)	--	--
T2- Mineral mixture supplementation @ 50 g/ /day/ animal for 75 days	5	80 % responded &conceived , 20% neither responded nor conceived,
T3- T_2 + Vetmate (Gonadotrophin hormone) inj @ 2 ml (72 hrs before AI) after 75 days of calving.	5	100 % responded & 80% conceived, 20% not concieved

Result :

1. In treatment one i.e.T1 which is farmers practice (feeding of choker & common salt), no animal responded or conceived.

2. In the treatment T2 i.e. nonclinical remedies (feeding of minerals mixture@ 50gm/day/animal up to 75 days) four buffalo 80% responded (60% i.e.three conceived & 20% i.e. one not conceived)one buffalo neither responded nor concieved.

3. In treatment T3 i.e. clinical remidies {feeding of T1 + T2+ inj. Vetmet 2ml (72 hrs before NS/AI) All five buffaloes (100%) responded & four i.e.(80%) conceived but one, not conceived i.e. (20%).

Recommendation :

1.Present trial revealed that in T1 the conception rate was 0%, in T2 (nonclinical) 80% responded & conceived, 20 % neither responded nor conceived.

2. In T3 (clinical trial) 100% responded and 80 % conceived, 20% not concieved.

Farmers Reaction :

1. The A.H. Deptt. should organize regular camps in the villages to tackle anoestrous problem.
2. The mineral deficiency and poor nutrition is a major problem among animals due to imbalance nutrition/feeding application in buffaloes.
3. The anoestrous problem is also due to lack of diversity in feed &fodder,monotonus nature of forage (i.e sugarcane tops & Sorghum) & lack of pasture.

LIVE STOCK

Problem definition: Higher incidences of repeat breeding in Buffaloes.

Technology Assessed: UMMB feeding to control repeat breeding in buffaloes.

The trial was conducted during March 2018 on 10 repeat breeder buffaloes (buffaloes show oestrus but not conceive even after 6-7oestrous.) at six location village wise, to evaluate the remedial measures for curing repeat breeding.

Table: Effect of UMMB feeding / licking + Exinot in cure/minimize the incidence of repeat breeding.

Technology Option	**No.of Animals**	Per cent Responced & conceived
T1- Farmers practice (Use of choker and common salt)	--	---
T2- Feeding of UMMB (feeding/licking of UMMB @ 2 Kg Block for 15 days/animal up to 90 days)	5	40% buffaloes conceived
T3- T2+ Exinot syp. (before UMMB feeding) in five buffaloes.	5	60% buffaloes conceived

Result :

1. In treatment one i.e.T1 which is farmers practice (as usual feeding of choker & common salt normally) each buffalo responded but no one conceived.
2. In the treatment T2 i.e. feeding of UMMB (feeding/licking of UMMB @ 2 Kg Block for 15 days/animal up to 90 days) five buffaloes.only 40% buffaloes vonceived (as per PD result).
3. In the treatment T3 i.e. T2+ Exinot syp. (before UMMB feeding) in five buffaloes. 60% buffaloes conceived (as per PD result).
4. Besides above results.A 25% gained in milk production also observed.

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Home Science

Problem definition: Low income of farm women due to lack of participation in decision making in income generating activities

Technology Assessed: Assessment of role of SHG for Income generation through preparation of different types of BADIS using vegetable .

The trial was conducted during Rabi 2018-19 in 5 Self Help groups, in village Haidernagar.Badis were prepared using conventional method but with a little alteration.Soyabean floor ,green leafy vegetables and tomato paste was added to the paste of black gram floor to increase economic value and nutritive value,five SHG consisting 50 members prepared 10 Kg badi each group,economic value will be calculated and benefit cost ratio will be assessed.

Table: Assessment of role of SHG for Income generation through preparation of different pulses and vegetable BADIS

Technology Option	No of trials	Per cent acceptability and health benefits
T1- Farmers practice (Use of plain badi uing black gram daal)	--	20 percent women accepted the badis prepared using conventional method
T2- Preparation of Badis using different pulses and vegetables	5	80 Per cent accepted nutritious Badis due to good taste and better nutritive value.

Recommendation : Present trial revealed that in T1 economic value and nutritive value of Badis was less where as in T2. 80 Percent consumer accepted nutritious Badis due to good taste and better nutritive value. Where as 20 % liked old Badis due to taste developed over the time. Nutritious badis were more profitable as having high value.

Farmers Reaction :

1. The taste of the Badi was improved.
2. Value of badis was more compared to conventional badis so it will be economically more beneficial for the group.
3. The mineral deficiency and poor nutrition is a major problem among rural people,use of budies fortified with green leafy vegetables and tomato is helpful in combating malnutrition.

Badi Paste

Making of Badi

Final Product

Home Science

Problem definition: Low work efficiency, injury and high drudgery in sugarcane stripping

Technology Assessed : Assessment of increase in efficiency & reduction in drudgery through sugarcane stripper

Women are a vital part of their family, district as well as Indian economy. Over the years, there is a gradual realization of the key role of women in agricultural development and their vital contribution in the field of agriculture, Aside from raising children, women are expected to work in kitchen, maintain the homestead and assist in crop and animal production, 48 per cent of India's self-employed farmers are women, Drudgery can be defined by its time-consuming,repetitive and arduous nature,.Sugarcane is the main crop of western Uttar Pradesh,especially Muzaffarnagar.Sugarcane harvesting is done mainly by frarm women,which is a tedious work CIAE Bhopal developed a tool for stripping sugarcane.keeping in mind the thought that reducing drudgery in difficult activities is more important than saving time.

Technology Option	**No of trials**	**Per cent acceptability**
T1- Farmers practice (Use of hand knife for cutting and strtipping sugarcane)	--	Cutting and stripping of 100 canes per hour --
T2-Use of Sugarcane Striper for striping of Sugarcane	5	Cutting and stripping of 110 canes per hour

Farmers Reaction :

1. 20 percent Woman liked Sugarcane Striper for striping of Sugarcane,there were two reasons for not accepting the new tool.
   a.Two tools needed ,one for cutting the cane and another for stripping
   b.Farm women are not habitual to handle new tool so they took longer time in striping the cane

2.The percent increase in output was 10 for the Sugarcane Striper

OFT PHOTOGRAPHS

Mgt. of Sheath Blight in Paddy

Mgt. of Top Borer in S. Cane

OFT on Pusa Basmati 1637

SSNM in Sugarcane

Field of HD 3086

HD 3059

OFT on INM in Wheat

Repeat breeding in Buffaloes

II CLUSTER FRONTLINE DEMONSTRATION (PULSES)

a. List of technologies demonstrated during previous year (2018-19) and popularized during 2017-18 and recommended for large scale adoption in the district

S. No.	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
				No. of villages	No. of farmers	Area in ha
1	Varietal improvement – Green gram	IPM 2-3	Kisan Gosthi, Field & Extension functionaries training	11	225	250
2	Varietal improvement –Black gram	PU 31	Kisan Gosthi,Field, Extension functionaries training	8	150	115
3.	Varietal improvement- Lentil	PL 8	--do--	9	25	10
4.	Varietal Improvement of Gram	GNG 1581	---do -----	9	25	10

b. Details of CFLDs implemented during 2018-19 under NFSM

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ Demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
	Pulses									
1.	Green gram	Varietal evaluation	IPM 2-3	Zaid 2018	20.0	20.0	--	50	50	--
1.	Black gram	Varietal evaluation	HYV – PU 31	Kharif 2018	20.0	20.0	--	50	50	--
2.	Horse gram	Varietal evaluation	GNG 1581	Rabi 2018	10.0	10.0	--	25	25	--
3.	Lentil	Varietal evaluation	HYV – PL 8	Rabi 2018	10.0	10.0	--	25	25	--

c. Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Green gram IPM 2-3	Zaid 2018	Irrigated	Sandy loam	M	M	L	Mustard	10-30 march 2018	10 to 30 June 2018	--	--
Blackgram- PU 31	Kharif 2018	Irrigated	Sandy loam	M	M	L	Jowar	15-30 July 2018	10 to 20 Oct. 2018	--	--
Lentil – PL 8	Rabi 2018-19	Irrigated	Sandy Loam	M	M	L	Paddy	1-15 Nov. 2018	25- 28 March 19	--	--
Horse gram GNG 1581	Rabi 2018-19	Irrigated	Sandy loam	M	M	L	Paddy	22 Oct to 5 Nov 2018	15 March to 4 April 2019	--	--

Technical Feedback on the demonstrated technologies

S.No	Feed Back
	Pulses- Mung Bean (IPM 2-3)
1	No occurrence of yellow mosaic virus
2	Less vegetative growth than check.
	Pulses – Blackgram (PU 31)
1.	No occurrence of yellow mosaic virus
2.	Less vegetative growth than check.
	Pulses – Lentil (PL 8)
1.	Maturiety Stage is 130 Days
2.	Low water requirement.
	Pulses- Gram (GNG 1581)
1	No occurrence of wilt
2	Low water Requerment crop

Farmers' reactions on specific technologies

S. No	Feed Back Pulses – Green gram (IPM 2-3)
1	Bold grain size led to better price in the market.
2	Yield increased 32.87 % in comparison to local variety
	Feed Back Pulses – Blackgram (PU 31)
1.	Bold grain size led to better price in the market.
2.	Yield increased 57.39 % in comparison to local variety
	Pulses – Lentil (PL 8)
1.	Due to no rain during Nov. & Dec., The crop growth was good.
2.	20 % of crop damaged by Niel gai
	Pulses – Gram (GNG 1581)
1.	Due to no rain during Nov. & Dec., The crop growth was good.
2.	NO symptoms of any disease were shown

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days –Black gram	04	--	--	--
2	Field days - Lentil	01	21.2.19	50	--
3	Field days -Gram	01	18.2.19	50	--
4	Farmers Training for conducting CFLD	03	--	135	--

Performance of Frontline Demonstrations :

Crop	Thematic Area	Technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Green gram	Varietal evaluation	HYV	IPM 2-3	50	20.0	11.20	9.15	10.17	7.7	32.87	16400	45570	29250	2.79	15800	34410	18210	2.12
Black gram	Varietal evaluation	HYV	PU 31	50	20.0	10.80	7.30	9.05	5.75	57.39	15620	50680	35060	3.24	14350	32200	17850	2.24
Lentil	Promotion of Pulses	HYV	PL 8	25	10.0	13.60	10.25	11.92	8.34	42.98	16300	53342	37042	3.27	15800	37321	21521	2.36
Gram	Varietal evaluation	HYV	GNG 1581	25	10.0	23.20	16.15	19.67	15.45	27.34	16400	90875	74475	4.54	16800	71379	54579	3.24

Performance of technology (Green Gram)

Traits	**IPM 2-3**	**Narender mung 1**
Maturity Duration (days)	60-65days	65-70 days
YMV incidence	Nil	4.0percent
1000 grain weight	25-30 gm	22-25 gm
Black gram	**PU 31**	**Type 9**
Maturity Duration (days)	85-90 days	90 days and above
YMV incidence	Nil	7.0 %
1000 grain weight	25-30 gm	22-25 gm
Lentil	**PL -8**	**local**
Maturity Duration (days)	90	90 days and above
Disease incidence	Nil	3.0 %
1000 grain weight	25-30 gm	22-25 gm
Horse Gram	**GNG 1581**	**local**
Maturity Duration (days)	145 days	145 days and above
wilt	Nil	6.0 %
1000 grain weight	28-35 gm	25-30 gm

FLD PHOTOGRAPH

CFLD on Mung Variety IPM 2-3

CFLD on Urd Variety PU 31

CFLD on Lentil Variety PL 8

CFLD on Gram Variety GSG 1581

CLUSTER FRONTLINE DEMONSTRATION (Oilseeds)

a. Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated during previous year and popularized during 2018-19 and recommended for large scale adoption in the district

S. No	Crop/ Enterprise	Thematic Area	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
	Oilseeds						
1.	Mustard RH 749	Varietal evaluation & integrated crop management	Introduction of HYV, Line sowing , Insect & pest management	Front Line Demonstration , Field day, Training , Availability of quality seed at govt. seed store , Intercropping with sugarcane, Increasing MSP of Oilseed crop	42	625	1105

b. Details of FLDs implemented during 2018-19 (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ Demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
	Oilseeds									
1.	Mustard	Varietal evaluation	Variety RH 749	2018-19	30.0	30.0	--	75	75	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Oilseeds											
Mustard	2018-19	Irrigated	Sandy loam	M	M	L	Paddy and Jawar	10-30 October 2018	1-10 March 2019	--	-

Technical Feedback on the demonstrated technologies

S.No	Feed Back
1.	No occurrence of any disease
2.	Attractive vegetative growth than check.
3.	More pods on its branches.

Farmers' reactions on specific technologies

S. No	Feed Back
1.	Bold grain size led to better price in the market.
2.	Yield increased 37.84.% in comparison to local variety

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	04	--	200	--
2	Farmers Training	01	3	40	--

Performance of Frontline demonstrations

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Mustard	Varietal Evaluation	varietal	RH 749	75	30.0	21.25	18.45	19.85	14.40	37.84	16225	83370	67145	5.13	15800	60480	44680	3.82

Performance of technology

Traits	RH 749	shatabdi
Maturity Duration (days)	140-145	140-145
Disease occurance	Nil	-
Lodging tendency	3-5.0%	7.0%

CFLD on Mustard Variety RH 749

Details of FLD implemented on Cereals & Other Crops :

Sl. No	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ Demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ ST	Others	Total	
A.	**Cereals**									
1.	Paddy	Varietal Demo DOT : 15.07.18 DOH : 27.10.19	High Yielding Variety PB 1637 F.P : PB 1121	Kharif 2018	2.4	2.4	--	12	12	--
2.	Paddy (PPB 1509)	Weed Control DOT : 2.07.18 DOH : 28.10.19	Weed control through Bispyribac Sodium (Nomino Gold) @ 200 ml/ha **F.P :** Mannual Weed control	Kharif 2018	4.0	4.0	--	10	10	--
3.	Paddy (Pusa Basmati-1121)	Insect Pest Management DOT : 20.07.18 DOH : 18.11.18	Use of Chlorantraniprole 0.3G@ 18kg/ha for mgt. of stem borer **Farmer's Practice:** Use of Monocrotophos @1.5lt/ha or Furadon@25kg/ha.	Kharif 2018	6.0	6.0	02	13	15	--
4.	Paddy (PB-1)	INM	Foliar NPK @5.0 kg/ha + Mono Zinc @ 12.5 kg/ha + Sulphur granular @ 25.0 kg/ha **F.P : No application S+ NPK foliar use only 5 kg mono Zn**	Kharif 2018	4.0	10.0	--	10	10	--
5.	Wheat (HD 2967)	INM	Soil health card based nutrient managemeny Sulphur granular basal @ 25.0 kg/ha and Mono Zinc on standing crop @ 12.5 kg/ha **F.P : No application S+ & use only 5 kg mono Zn**	Rabi 18-19	4.00	4.0	--	10	10	--
6.	Wheat	Varietal (timely sown) DOS- 14.11.18 DOH- 12.4.19	WH 1105 F.P : PBW 502	Rabi 2018-19	4.0	4.0	--	10	10	

7.	Wheat	Varietal (Late Sown) DOS- 5.12.18 DOH- 22.4.19	HD 3059 F.P : PBW 590	Rabi 2018-19	4.0	4.0	--	10	10	
	Oilseeds									
8.	Mustard	Application of Sulpher	Application of Sulpher F.P. No use of sulpher	Rabi 2018	4.0	4.0	-	10	10	
	Commercials Crops									
9.	Guava	IPM Installed at flowering stage June 20-30, 2018, Harvesting duration July- August, 2018	Use of Fly traps @10 traps/ha **F.P :** Use of Monocrotophos or Profenophos or Triazophos @1.5 lt/ha.	Kharif 2018	4.0	4.0	--	10	10	--

Performance of FLD on Cereals & Other Crops :

Category & Crop	Thematic Area	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	Other Parameters	
					Demo			Check		Demo	Check
					High	Low	Average				
Cereals											
Paddy	Varietal	PB 1637	12	2.4	43.15	36..70	39.92	33.60	18.80	No of Tillers/hill 15-20 No of Penicle/sqm 270	No of Tillers/hill 12-15 No og Penicle/sqm 240
Paddy	Weed Control	PPB 1509	10	4.0	45.60	40.80	43.20	37.00	16.75	**Type of weed-** Digitaria ciliaris ratz, Scripus sectaceus, Cyperus iria **Weed Count/sqm** : 2.48	**Type of weed-** Digitaria ciliaris ratz, Scripus sectaceus, Cyperus iria **Weed Count/sq m** : 14.32
Paddy	Insect	PB-1121	15	6.0	43.12	36.20	39.66	34.60	14.62	Stem borer	Stem borer

	Management									Incidence-4%	Incidence-13%
Paddy	INM	PB-1	10	4.0	43.65	40.35	41.85	38.45	10.03	Khaira disease not occurred No of tillers 23	04 % Khaira disease No of tillers 20
Wheat	INM	HD-2967	10	4.0	48.0	46.4	47.38	43.35	9.33	Tillers 20-25 Grains are bold and shining	No of tillers 19-21
Wheat	Varietal	WH1105	10	4.0	43.00	37.00	40.00	35.10	13.96	No of Tillers/sqm 215 Grains/spike-41 Lodging % - nil	No of Tillers/sqm 206 Grains/spike-35 Lodging % - 3
Wheat	Varietal	HD 3059	10	4.0	39.00	36.00	37.50	33.10	13.29	No of Tillers/sqm 208 Grains/spike- 37 Lodging % - nil	No of Tillers/sqm 202 Grains/spike-33 Lodging % - 3
Oilseeds											
Mustard	INM	RH 406	10	4.0	21.40	18.15	19.77	17.50	12.97	**Grain size was bold and attractive**	**Grain size was medium**
Commercials Crops											
Guava	IPM	Use of Fly traps @10 traps/ha for mgt of fruit fly.	10	4.0	325	270	297.5	220	35.2	Fruit fly incidence-5%	Fruit fly incidence-27%

Economics of Demonstration :

Category & Crop	Thematic Area	Name of the technology	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
			Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Cereals										
Paddy	Varietal	PB 1637 F.P: Pusa 1121	22300.0	69860.0	47560.0	3.13:1	21000.0	58800.0	37800.0	2.8:1
Paddy	Weed Control	Weed control through Bispyribac Sodium (Nomino	24000	73440.0	49440.0	3.06:1	25000.0	62900	37900	2.51:1

		Gold) @ 200 ml/ha, **F.P :** Mannual Weed control								
Paddy	Insect Management	Use of hlorantraniprole 0.3G@ 18kg/ha for mgt. of stem borer **Farmer's Practice:** Use of Monocrotophos @1.5lt/ha or Furadon@25kg/ha.	41500	138810	97310.0	3.33	39600.0	121100	81500	3.05
Paddy	INM	Foliar NPK @5.0 kg/ha + Mono Zinc @ 12.5 kg/ha + Sulphur granular @ 25.0 kg/ha **F.P :** No application S+ NPK foliar use only 5 kg mono Zn	36935	106705	69769.0	2.89	34820.0	97015	62194	2.79
Wheat	INM	Soil health card based nutrient managemeny Sulphur granular basal @ 25.0 kg/ha and Mono Zinc on standing crop @ 12.5 kg/ha **F.P** : No application S+ & use only 5 kg mono Zn	32688	87188	54500	2.67	31788.0	79764	47976	2.51
Wheat	Varietal	WH 1105 F.P : PBW 502	23310	73600.0	50290.0	3.15:1	22500.0	64584.0	42084.0	2.87
Wheat	Varietal	HD 3059 F.P : PBW 590	21300	69000.0	47700.0	3.23 :1	21000.0	60904.0	39904.0	2.90
Oilseeds										
Mustard	INM	Application of sulpher	22000	83034.0	61034.0	3.77:1	21000.0	73500	52500.0	3.5 :!
Commercials Crops										
Guava	IPM	Use of Fly traps @10 traps/ha , **F.P :** Use of Monocrotophos or Profenophos or Triazophos @1.5 lt/ha.	42600	1041250	998650.0	24.44	46700.0	770000.0	723300.0	16.48

Farmer's Reaction/Technical Feed back of FLD :

Crop/ Enterprises	Name of Technology	Technical Feedback on Demonstrated technology	Farmer's Reaction on Technology
Cereals			
Paddy	PB 1637 F.P: Pusa 1121	Due to more tillers/hill It gave more yield in comparision to check variety Pusa 1121	• Non Lodging and short duration crop

Paddy	Weed control through Bispyribac Sodium (Nomino Gold) @ 200 ml/ha **F.P :** Mannual Weed control	The chemical was effective only when 2-3 cm of water was standing in Paddy field.	• The chemical weed control was very effective in comparison to manual weeding as it is cost effective
Paddy	Use of Chlorantraniprole 0.3G@ 18kg/ha for mgt. of stem borer **Farmer's Practice:** Use of Monocrotophos @1.5lt/ha or Furadon@25kg/ha.	• Granular form of insecticide was more effective in comparison to other insecticides like Cartap Hydrochloride , Furadon, Forate etc. • Other insects ie leaf folder also managed.	• Only one application is easy in comparison to 2-3 application of other insecticides. • Cost effective in comparison to liquid form.
Paddy	Foliar NPK @5.0 kg/ha + Mono Zinc @ 12.5 kg/ha + Sulphur granular @ 25.0 kg/ha F.P : No application S+ NPK foliar use only 5 kg mono Zn	• Khaira symptoms were controlled • No of Tillers were increased as toe per hill • Yield was increased 10.03 %	• Sulpur granular applied as basal • Foliar application of NPK at 55 and 70 days were appropriate. • Mono Zinc broadcast along with second dose of Urea was effective. • Colour of crop were more greenish
Wheat	Soil health card based nutrient managemeny Sulphur granular basal @ 25.0 kg/ha and Mono Zinc on standing crop @ 12.5 kg/ha F.P : No application S+ & use only 5 kg mono Zn	• Karnal bunt and Yellow rust were controlled • Yield was increased 13.0 %	• Sulpur granular applied as basal • Mono Zinc broadcast along with second dose of Urea was effective.
Wheat	WH1105 F.P : PBW 502	No of tillers / sqm more in comparison to local variety (PBW 502)	• Yellow rust not observed • Minimum lodging in comparison to all other varieties
Wheat	HD 3059 F.P : PBW 590	No of tillers / sqm more in comparison to local variety (PBW 590)	• Yellow rust not observed • Minimum lodging in comparison to all other varieties
Oilseeds			
Mustard	INM	Grain size was obtained bold	•
Commercials Crops			
Guava	Use of Fly traps @10 traps/ha **F.P :** Use of Monocrotophos or Profenophos or Triazophos @1.5 lt/ha.	• Very effective technology • Insect incidence is below ETL (5%)	• The fruit fly infestation reduced by 22% in comparision to chemical control (Profenophos @ 2.0ml/lt). • The fruit quality was good . • Very safe and ecofriendly technology.

FLD PHOTOGRAPH

Demo on Paddy PB 1617 variety

Weed management in Paddy

Mgt of Stem Borer in Paddy crop

Mgt. of Fruit fly in Guava

INM in Paddy Crop

INM in Wheat crop on Soil test basis

Sulpher Application in Mustard Crop

Varietal Demonstration of timely sown wheat WH 1105

Varietal Demonstration of late sown wheat DBW 90

Demonstrations of Wheat Sponsored by (NFSM) Front Line Demonstration :

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	
						Demo			Check		
						High	Low	Average		Demo	Check
Wheat	ICM	NRW Vs with Rotavator	HD 3086	10	4.0	50.70	43..30	47.00	42.30	11.11	--
Wheat	INM	NRW Vs Bio Fertilizer (Azotobactor + PSB)	DBW 173	5	2.00	48.30	42.80	45.55	41.45	9.89	--

Economics of demonstration (Rs.)				Economics of check (Rs.)			
Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
22400	86480.0	64080.0	3.86:	22400.0	77832.0	55432.0	3.47:1
23000	83812.0	60812.0	3.64	22400.0	76268.0	53868.0	3.40:1

Price of grain – Rs. 1840 / qt ,

Technical Feedback on Demonstrated technology :

1. The crop sown through rotavator was more prone to lodging in comparison to seed drill sowing.
2. Both the varieties HD 3086 & DBW 173 performed well in terms of yield in comparison to check varieties.PBW 502 & 590 respectively.

Farmer's Reaction on Technology :

1. During month of Feb & March there was unseasonal temperature arise affected all the wheat varieties.
2. The Food quality of both the varieties was better than other varieties.

FLD PHOTOGRAPH

FLD on Other Enterprises : Making of Tomato puree/sauce to avoid post harvest losses.

Category	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Value Addition	Making of Tomato puree/sauce to avoid post harvest losses.	10	10	shelf life of Puree/ Sauce 365 days	shelf life of Raw Tomato 2-3 Days	--	Availability of tomato in preserved form 365 days	Availability of tomato seasonal	100	200	100	2:1	00	00	00	00

Farmers Reaction: Due to excess production of tomatos in rabi season farmers get very low price in market,leads to wastage of fruit at large.To avoid the loss, value addition of tomatoes is done by making tomato puree and tomato sauce .By preserving tomatoes in peak season ,it will be available for consumption round the year and get higher price in market as well.

FLD on Other Enterprise: Kitchen Gardening :

Category and Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units	Yield (Kg)		% change in yield	Other parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Kitchen Garden	---	Kitchen garden Management	10	10	448.50	21 kg	202	Availability of fresh vegetables	Very Less Availability	350	1180.00	830.00	33:1	75.00	550.00	475.00	7:1

Farmers Reaction : Farm Women were very happy and general health of family members became better, as the family consumed fresh and organic vegetables in sufficient amount throught the year. With a little expenditure on seeds and saplings they got vegetables of much more value. Most of the women said they got self satisfaction by growing their own vegetables. Other benefit obtained that neighbouring female also got motivated and setup their own kitchen garden.

FLD on Other Enterprise: Amchoor making from mango(RAW)

Category	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Value Addition	Making of Amchoor to avoid post harvest losses.	10	10	Amchoor shelf life 12 months	Amchoor shelf life 3 months	--	Color and quality of Amchoor of high grade	Color and quality of Amchoor of low grade	120	220	100	2:1	120	175	55	1.5:1

Farmers Reaction: In summer season before the mango matures,lot of raw mangoes fall from tress,that time market value of raw mango is very low and farmers faces a huge loss,to overcome the loss mango can be preserved in dried form and can be used round the year.It has good market value as well.

FLD on Livestock :

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Cattle																	
Buffalo Calf	Disease mgt.	Anthelmintic Banminth @2 tab. / Calf once	15	30	Cured (endo-parasite)	--	90% cured & survived	10 % mortality	70 % mortality								
CB cow	Disease mgt.	Anthelmintic Exinot @ 30 ml vial once	10	20	Cured (ecto & endo-parasite)	---	80% Ecto-endo parasite cured	20 % infestation	50 % infestation	Majority of cattle again infected with ecto parasite.							
CB cow	Fodder mgt.	Urea treated wheat straw(65lit water+4kg urea+1qu wheat straw)	05	05	Increased in milk yield	---	7.72% increased in milk yield	5% concentrate ration reduced	No change in concentrate feeding	260.00	780.00	520.00	3:1	200.00	500.00	300.00	2.5:1

Farmer's Reaction:

Category	Thematic area	Name of the technology demonstrated	Technical Feedback on Demonstrated Technology	Farmer's Reaction on Demonstrated Technology
Cattle				
Buffalo Calf	Disease mgt.	Anthelmintic Banminth @2 tab. / Calf once	The observations recorded after one month of medication revealed that out of 30 medicated calves 27 no. calves cured & survived .ie.90% & rest died (All three calves were male). No change was found on 25.10.18.	Farmers adopted technology but poor attention to male calf rearing.
CB cow	Disease mgt.	Anthelmintic Exinot @ 30 ml vial once	The observations recorded after one month of medication revealed that out of 20 medicated CB cow, 16 no. were found worm negative i.e.80 % (fecal sample testing based) & ecto parasitic infestation also cured upto 80%.	Cross bred cattle are highly sensitive for ecto parasitic infestation.
CB cow	Fodder mgt.	Urea treated wheat straw(65lit water+4kg urea+1qu wheat straw)	Feeding of treated wheatstraw @of 0.50kg per day per animal for ist fifteenth day& than one kg,two kg ,four kg up to 75days.the average gain in milk yield was 7.72%	Farmer's reaction was not positive because the milkman said that the milk is urea added/synthetic.

FLD on Demonstration details on crop hybrids *(Details of Hybrid FLDs implemented during 2017-18)*

Crop	Technology demonstrated	Hybrid Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)			
					Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average						
Fodder (Makkhan Grass)													
Makkhan Grass	Introduction of new green forage crop	Makkhan Grass	10	1.33	1998	1500	1755	--	--	29080	260920	231840	8.9:1

FLD on Demonstration details on crop hybrids *(Details of Hybrid FLDs implemented during 2018-19)*

Crop	technology demonstrated	Hybrid Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)			
					Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average						
Vegetables													
Cauliflower	Varietal	GS--75	06	1.2	188	182	185	147	25.85	87500	222000	134500	2.53:1

Performance of FLD (Hybrids) on different Parameters :

Crop	Tech Demons.	Farmers Practice	Date of Sowing	Date of Transp lanting	Date of harves-ting	No of Picking		Yield /Picking (q/ha)	
						Demo	Check	Demo	Check
Vegetables									
Cauliflower	GS-75	Local	10.09.18	11.10.18	10.03.19	06	05	30.80	29.40

III. Training Programme

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Crop Diversification	--	--	--	--	--	--	--	--	--	--
Seed production	07	132	--	132	8	--	8	140	--	140
Integrated Crop Management	--	--	--	--	--	--	--	--	--	--
Integrated nutrient management	--	--	--	--	--	--	--	--	--	--
Production of organic inputs	--	--	--	--	--	--	--	--	--	--
Microirrigation	--	--	--	--	--	--	--	--	--	--
Others (crop water management)	--	--	--	--	--	--	--	--	--	--
Total	**07**	**132**	**--**	**132**	**8**	**--**	**8**	**140**	**--**	**140**
II Horticulture										
a) Vegetable Crops										
Off season vegetables	--	--	--	--	--	--	--	--	--	--
Nursery raising	--	--	--	--	--	--	--	--	--	--
Others-	4	72	--	72	8	--	8	80	--	80
b) Ornamentals										
Others	1	18	--	18	2	--	2	20	--	20
e) Tuber crops										
Production and Management technology										
(f)Spices										
Production and management technology	1	17	--	17	3	--	3	20	--	20
GT (a-g)	**6**	**107**	**--**	**107**	**13**	**--**	**13**	**120**	**--**	**120**
III Soil Health and Fertility Management										
Soil fertility management	01	20	-	20	--	-	-	20	-	20
Integrated water management	--									
Integrated Nutrient Management	01	20	-	20	--	-	-	20	-	20
Production and use of organic inputs	--	--	--	--	--	--	--	--	--	--
Management of Problematic soils	--	--	--	--	--	--	--	--	--	--
Micro nutrient deficiency in crops	01	20	-	20	--	-	-	20	-	20
Nutrient Use Efficiency	--	--	--	--	--	--	--	--	--	--
Balance use of fertilizers	01	20	-	20	--	-	-	20	-	20
Total	**04**	**80**	**-**	**80**	**--**	**-**	**-**	**80**	**-**	**80**
IV Livestock Production and Management										
Dairy Management	--	--	--	--	--	--	--	--	--	--
Animal Nutrition Management	01	20	--	20	--	--	--	20	--	20
Disease Management	03	55	--	55	05	--	05	60	--	60
Fodder & Fodder technology	01	20	--	20	--	--	--	20	--	20
Total	**05**	**95**	**--**	**95**	**05**	**--**	**05**	**100**	**--**	**100**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	01	--	18	18	--	2	2	--	20	20
Design and development of low/minimum cost diet	--	--	--	--	--	--	--	--	--	--
Designing and development for high nutrient efficiency diet	02	--	36	36	--	04	04	--	40	40
Minimization of nutrient loss in processing	--		--	--		--	--		--	--
Gender mainstreaming through SHGs	--	--	--	--	--	--	--	--	--	--

Storage loss minimization techniques	--	--	--	--	--	--	--	--	--	--
Value addition	02	--	36	36	--	04	04	--	40	40
Income generation activities for empowerment of rural Women	--	--	--	--	--	--	--	--	--	--
Location specific drudgery reduction technologies	--		--	--		--	--		--	--
Adulteration in Milk Products	--		--	--		--	--		--	--
Women and child care	01		18	18		02	02		20	20
Total	**06**		**108**	**108**		**12**	**12**		**120**	**120**
VII Plant Protection										
Integrated Pest Management	02	36	--	36	04	--	04	40	--	40
Integrated Disease Management	01	16	--	16	04	--	04	20	--	20
Others (pl specify)- Production of Bio control agents & Bio pesticides	01	17	--	17	03	--	03	20	--	20
IPM in Orchard	--	--	--	--	--	--	--	--	--	--
Total	**04**	**69**	**--**	**69**	**11**	**--**	**11**	**80**	**--**	**80**
GRAND TOTAL	**32**	**483**	**108**	**591**	**37**	**12**	**49**	**520**	**120**	**640**

Farmers' Training including sponsored training programmes (off campus)

Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
I Crop Production										
Crop Diversification	--	--	--	--	--	--	--	--	--	--
Seed production	06	112	--	112	08	--	08	120	--	120
Integrated Crop Management	--	--	--	--	--	--	--	--	--	--
Integrated nutrient management	--	--	--	--	--	--	--	--	--	--
Production of organic inputs	--	--	--	--	--	--	--	--	--	--
Weed mgt.	--	--	--	--	--	--	--	--	--	--
Microirrigation	--	--	--	--	--	--	--	--	--	--
Others (Crop water management)	--	--	--	--	--	--	--	--	--	--
Total	**06**	**112**	**--**	**112**	**08**	**--**	**08**	**120**	**--**	**120**
a) Vegetable Crops										
Production of low value and high valume crops	2	32	--	32	8	--	8	40	--	40
Off-season vegetables	2	35	--	35	5	--	5	40	--	40
Intercropping	--	--	--	--	--	--	--	--	--	--
Export Potensial Vegetables	--	--	--	--	--	--	--	--	--	--
Others	1	17	--	17	3	--	3	20	--	20
b) Fruits	--	--	--	--	--	--	--	--	--	--
Layout and Management of Orchards	3	52	--	52	8	--	8	60	--	60
Cultivation of Fruit	2	36	--	36	4	--	4	40	--	40
f) Spices										
Others (pl specify)- Intercropping	1	17	--	17	3	--	3	20	--	20
GT (a-g)	**11**	**189**		**189**	**11**	**--**	**11**	**220**		**220**
III Soil Health and Fertility Management										
Soil fertility management	02	40	-	40	--	-	-	40	-	40
Integrated water management	--	--	--	--	--	--	--	--	--	--
Integrated Nutrient Management	02	40	-	40	--	-	-	40	-	40
Production and use of organic inputs	--	--	--	--	--	--	--	--	--	--
Management of Problematic soils	--	--	--	--	--	--	--	--	--	--
Micro nutrient deficiency in crops	02	40	-	40	--	-	-	40	-	40
Nutrient Use Efficiency	--	--	--	--	--	--	--	--	--	--
Balance use of fertilizers	02	40	-	40	--	-	-	40	-	40

Total	**08**	**160**	**-**	**160**	**--**	**-**	**-**	**160**	**-**	**160**
IV Livestock Production and Management										
Dairy Management	02	38	--	38	02	--	02	40	--	40
Animal Nutrition Management	--	--	--	--	--	--	--	--	--	--
Disease Management	04	76	--	76	04	--	04	80	--	80
Feed & fodder technology	01	20	--	20	--	--	--	20	--	20
Total	**07**	**134**	**--**	**134**	**06**	**--**	**06**	**140**	**--**	**140**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	01		18	18	--	02	02		20	20
Design and development of low/minimum cost diet	01		18	18		02	02		20	20
Designing and development for high nutrient efficiency diet	--	--	--	--	--	--	--		--	--
Minimization of nutrient loss in processing	01	--	18	18	--	02	02		20	20
Gender mainstreaming through SHGs	01	--	18	18	--	02	02		20	20
Storage loss minimization techniques	01		18	18		02	02		20	20
Value addition	02		36	36		04	04		40	40
Income generation activities for empowerment of rural Women	--		--	--		--	--		--	--
Location specific drudgery reduction technologies	02	--	36	36	--	4	4		40	40
Rural Crafts	--	--	--	--	--	--	--	--	--	--
Food Hygeine	01	--	18	18	--	02	02		20	20
Total	**10**		**180**	**180**		**20**	**20**		**200**	**200**
VII Plant Protection										
Integrated Pest Management	04	68	--	68	12	--	12	80	--	80
Integrated Disease Management	04	70	--	70	10	--	10	80	--	80
Bio-control of pests and diseases	01	17	--	17	03	--	03	20	--	20
Total	**9**	**155**	**--**	**155**	**25**	**--**	**25**	**180**	**--**	**180**
GRAND TOTAL	**51**	**750**	**180**	**930**	**50**	**20**	**70**	**820**	**200**	**1020**

Farmers' Training including sponsored training programmes – CONSOLIDATED (On + Off campus)

Thematic area	**No. of courses**	**Participants**								
		Others			**SC/ST**			**Grand Total**		
		Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
I Crop Production										
Crop Diversification	--	--	--	--	--	--	--	--	--	--
Seed production	13	244	--	244	16	--	16	260	--	260
Integrated Crop Management	--	--	--	--	--	--	--	--	--	--
Integrated nutrient management	--	--	--	--	--	--	--	--	--	--
Production of organic inputs	--	--	--	--	--	--	--	--	--	--
Weed mgt.	--	--	--	--	--	--	--	--	--	--
Microirrigation	--	--	--	--	--	--	--	--	--	--
Others (Crop water management)	--	--	--	--	--	--	--	--	--	--
Total	**13**	**244**	**--**	**244**	**16**	**--**	**16**	**260**	**--**	**260**
II Horticulture										
a) Vegetable Crops										
Production of low value and high volume crops	4	72	--	72	8	--	8	80	--	80
Off Season vegetables	2	32	--	32	8	--	8	40	--	40
Nursery Raising	2	35	--	35	5	--	5	40	--	40
Export potensial vegetables										
Other	1	17	--	17	3	--	3	20	--	20
b) Fruits										

Layout and Management of Orchards	3	52	--	52	8	--	8	60	--	60
Cultivation of Fruit	2	36	--	36	4	--	4	40	--	40
Others										
C) spices										
Ornamental	**2**	**34**	**--**	**34**	**6**	**--**	**6**	**40**	**--**	**40**
Other	**1**	**18**	**--**	**18**	**2**	**--**	**2**	**20**	**--**	**20**
e) Tuber crops										
Production and management technology										
Total (e)										
GT (a-g)	**17**	**296**	**--**	**296**	**44**	**--**	**44**	**340**		**340**
III Soil Health and Fertility Management										
Soil fertility management	03	60	-	60	-	-	-	60	-	60
Integrated water management	--	--	--	--	--	--	--	--	--	--
Integrated Nutrient Management	03	60	-	60	-	-	-	60	-	60
Production and use of organic inputs	--	--	--	--	--	--	--	--	--	--
Management of Problematic soils	--	--	--	--	--	--	--	--	--	--
Micro nutrient deficiency in crops	03	60	-	60	-	-	-	60	-	60
Nutrient Use Efficiency	--	--	--	--	--	--	--	--	--	--
Balance use of fertilizers	03	60	-	60	-	-	-	60	-	60
Soil and Water Testing	--	--	--	--	--	--	--	--	--	--
Others (pl specify)- Biofertilizer	--	--	--	--	--	--	--	--	--	--
Total	**12**	**240**	**-**	**240**	**-**	**-**	**-**	**240**	**-**	**240**
IV Livestock Production and Management										
Dairy Management	02	38	--	38	02	--	02	40	--	40
Animal Nutrition Management	01	20	--	20	--	--	--	20	--	20
Disease Management	07	131	--	131	09	--	09	140	--	140
Others (pl specify) Fodder Production	02	40	--	40	--	--	--	40	--	40
Total	**12**	**229**		**229**	**11**		**11**	**240**		**240**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	02		36	36	--	04	04	--	40	40
Design and development of low/minimum cost diet	01		18	18		02	02		20	20
Designing and development for high nutrient efficiency diet	02		36	36		04	04		40	40
Minimization of nutrient loss in processing	01		18	18		02	02		40	40
Storage loss minimization techniques	01		18	18		02	02		40	40
Value addition	04		72	72		08	08		80	80
Location specific drudgery reduction technologies	02		36	36		04	04		40	40
Credit Mgt through SHG	--		--	--		--	--		--	--
Women and child care	02		36	36		04	04		40	40
Total	**16**		**288**	**288**		**32**	**32**		**320**	**320**
VII Plant Protection										
Integrated Pest Management	06	104	--	104	16	--	16	120	--	120
Integrated Disease Management	05	86	--	86	14	--	14	100	--	100
Bio-control of pests and diseases	01	17	--	17	03	--	03	20	--	20
Production of Bio Control agents & Bio Pesticides	01	17	--	17	03	--	03	20	--	20
Total	**13**	**224**	**--**	**224**	**36**	**--**	**36**	**260**	**--**	**260**
GRAND TOTAL	**83**	**1233**	**288**	**1521**	**107**	**32**	**139**	**1340**	**320**	**1660**

Training for Rural Youths including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Vermi-culture	--	---	--	--	--	--	--	--	--	--
Seed Production	01	15	--	15				15	--	15
Post Harvest Technology	--	---	--	--	--	--	--	--	--	--
Dairying	01	15	--	15	--	--	--	15	--	15
Mushroom Prod.	02	33	--	33	07	--	07	40	--	40
Nursery raising techniches of cucurbitaceous in low tunnel polyhouse	01	9	--	9	1	--	1	10	--	10
Value addition	01	--	11	11	--	04	04	--	15	15
Post Harvest Technology	--									
Tailoring and Stitching	01		09	09	--	06	06	--	15	15
Rural Crafts	02		23	23	--	07	07	--	30	30
Poultry Production	--	---	--	--	--	--	--	--	--	--
TOTAL	**9**	**72**	**43**	**115**	**8**	**17**	**25**	**80**	**60**	**140**

Training for Rural Youths including sponsored training programmes (Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Vermi-culture	--	---	--	--	--	--	--	--	--	--
Dairying	--	---	--	--	--	--	--	--	--	--
Seed Production	--	---	--	--	--	--	--	--	--	--
Nursery Management of Horticulture crops	--	---	--	--	--	--	--	--	--	--
Training and pruning of orchards	--	---	--	--	--	--	--	--	--	--
Nursery management in Horticultural crops	--	---	--	--	--	--	--	--	--	--
Poultry Production	01	14	--	14	01	--	01	15	--	15
TOTAL	**01**	**14**	**--**	**14**	**01**	**--**	**01**	**15**	**--**	**15**

Training for Rural Youths including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Vermi-culture/Compost	--	---	--	--	--	--	--	--	--	--
Dairying	01	15	--	15	--	--	--	15	--	15
Seed Production	1	15		15				15		15
Mushroom Prod.	02	33	--	33	07	--	07	40	--	40
Nursery raising techniches of cucurbitaceous in low tunnel polyhouse	01	9	--	9	1	--	1	10	--	10
Poultry Production	01	14	--	14	01	--	01	15	--	15
Small scale processing										
Value Addition	01	--	11	11	--	04	04	--	15	15
Tailoring and Stitching	01		09	09	--	06	06	--	15	15
Rural Crafts	02		23	23	--	07	07	--	30	30
TOTAL	**10**	**86**	**43**	**129**	**9**	**17**	**26**	**95**	**60**	**155**

Training programmes for Extension Personnel including sponsored training programmes (on campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others	--	--	--	--	--	--	--	--	--	--
TOTAL										

Training programmes for Extension Personnel including sponsored training programmes (off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	04	40	--	40				40		40
Low cost and nutrient efficient diet designing	02	--	13	13	--	01	01	--	14	14
INM	04	60	-	60	-	-	-	60	-	60
House Hold Food Security	01	10	--	10	--	--	--	10	--	10
Manegment of mango orchard	01	15	--	15				15	--	15
Medow gardening of guava	01	15	--	15				15	--	15
Livestock feed & Fodder Prod.	04	36	--	36	04	--	04	40	--	40
Application of Bio Pesticides	02	24	--	24	06	--	06	30	--	30
Women and Child care	01		09	09		01	01		10	10
TOTAL	**20**	**200**	**22**	**222**	**10**	**02**	**12**	**210**	**24**	**234**

Training programmes for Extension Personnel including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	04	40	--	40				40		40
Low cost and nutrient efficient diet designing	02	--	13	13	--	01	01	--	14	14
INM	04	60	-	60	-	-	-	60	-	60
Soil test based fertilizer use										
Livestock feed & Fodder Prod.	04	36	--	36	04	--	04	40	--	40
Manegment of mango orchard										
Medow gardening of guava										
Application of Bio Pesticides	02	24	--	24	06	--	06	30	--	30
House Hold Food Security	01	10	--	10	--	--	--	10	--	10
Women and Child care	01		09	09		01	01		10	10
TOTAL	**20**	**200**	**22**	**222**	**10**	**02**	**12**	**210**	**24**	**234**

Table. Sponsored training programmes

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management (CRM)	02	50	--	50	--	--	--	50	--	50
Increasing production and productivity of crops	O1	45	--	45	--	--	--	50	--	50
Production and value addition										
Fruit Plants Under NHM	01	75	--	75	--	--	--	75	--	75
Bee Keeping(ASCII)	01	14	--	14	06	--	06	20	--	20
Spices crops										
Others (pl. specify)- Mushroom Growers (ASCII)	01	16	--	16	04	--	04	20	--	20
Seed Prod. – PPVFRA, IIWBR	01	90	--	90	10	--	10	100	--	100
Disease mgt.(NICRA)	03	51	--	51	09	--	09	60	--	60
Training Under ARYA Project (Broilar farming)	**01**	**13**	**--**	**13**	**07**	**--**	**07**	**20**	**--**	**20**
GRAND TOTAL	**10**	**354**	**0**	**354**	**36**	**0**	**36**	**395**	**0**	**395**

TRAINING PHOTOGRAPHS

On Campus PF Training

Off Campus PF Training

Off Campus Training Programme

Off Campus EF Training programme.

PF Training (OFF Campus)

On Campus Rural GirlsTraining

On Campus Rural Youth Training programme on Seed production

On Campus Training Programme

SPONSORED TRAINING PROGRAMME

CRM Workshop

NFL Farmers Training

Broilar Farming Training under ARYA

Farmers Training under ATMA

Training under Crop Residue Management

IFFCO Sponsored Training on 06.02.19

Vocational Training Under Skill India programme

IV. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	01	2909	11	2920
Diagnostic visits	146	711	03	714
Field Day	19	689	36	725
Group discussions	04	78	--	78
Kisan Ghosthi	26	4265	280	4545
Film Show /Radio Talk	6	--	--	--
Self -help groups	02	28	--	28
Kisan Mela	10	3664	112	2776
Exhibition	--	--	--	--
Scientists' visit to farmers field	01	3679	--	3679
Plant/animal health camps	02	212	09	221
Farm Science Club Meeting	35	558	04	562
Ex-trainees Sammelan	--	--	--	--
Farmers' seminar/workshop	--	--	--	--
Method Demonstrations	10	10	--	10
Celebration of important days	05	390	60	450
Special day celebration	01	45	--	45
Exposure visits	05	204	--	204
Others (pl. specify)	--	--	--	--
Farmers Visit to KVK	01	1870	15	1885
Total	**677**	**19312**	**530**	**18842**

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	--
Extension Literature	01
News paper coverage	22
Popular articles	04
Radio Talks	06
TV Talks	--
Animal health camps (Number of animals treated)	221
Others (pl. specify)- Book Chapter/Book /Training manual	

Mobile Advisory Services

No. of KVKs	No. of SMSs sent	No. of farmers benefited
KVK Baghra Muzaffarnagar	---	----

EXTENSION ACTIVITIES

Swach Bharat Abhiyan at KVK Campus

Field Day

Exposure Visit

Animal Health Camp (27.10.18)

Diagnostic Visit

International Soil Health Day

Scientific Advisory Committee Meeting

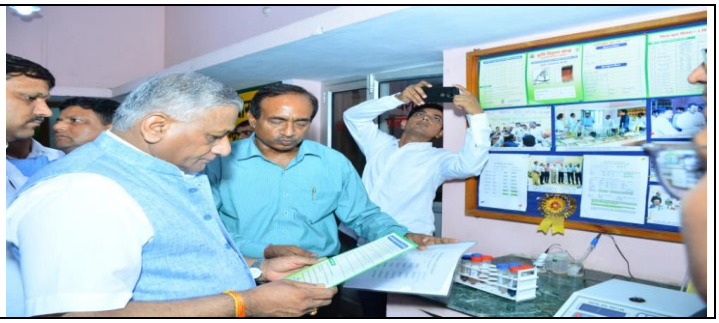
Farmers Scientist Interaction

OTHER EXTENSION PROGRAMME

1. Kisan Kalyan Karyasala (02.05.18) :

Hon'ble Surya Pratap Shahi, Agriculture Minister , UP, Dr. Sanjeev Kumar Baliyan Ex Minister of State (Agriculture) & Sh. Vijay Kashyap, Local MLA

2. KVK Review Meeting (28.07.18) :



3.Workshop on Nematodes (15.05.2018)

4. Kisan Mela & Gosthi under Crop Residue Management :

5.Coverage of KVK Activities :

8. Award & Recognization of KVK :

Best KVK Professional Award 14 NOV. 2018, Gangtok Sikkim

9. Exposure Visit :

Exposure Visit to Pusa Krishi Vigyan Mela New Delhi

Exposure Visit of frmers at SVPUA&T Meerut

10. Participation of KVK in Exhibition :

All India Agriculture Fair at SVPUA&T, Meerut 8-10 Oct. 2018

VI. PRODUCTION OF SEED/PLANTING MATERIAL AND BIO-PRODUCTS

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (qt)	Value (Rs)	Number of farmers
Cereals	--	--	--	--	--	--
Fodder Crops	--	--	--	--	--	--
Total						NSC

Production of planting materials by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Vegetable seedlings						
	Cabbage	G Ball 65	--	2000	1000.00	10
	Brinjal	Navkiran	--	7500	3000.00	25
	Onion	ALR	--	14000	2000.00	32
Total				**23500**	**6000.00**	**67**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilisers				
	Vermi- Compost		Used in Crop Cafeteria	--
	Worms		Used in Vermi Compost unit	--
Total				

Production of Bio-Products :

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio-pesticide				
	Trichoderma Viridi	50.00	--	--
	Beauveria bassiana	50.00	--	--
	Metarrhizium anisoplae	50.00	--	--
Total		**150.00**		

Honey Processed

Particulars	Name of the Product	Quantity Kg	Processing Charge @ Rs. 12/ kg	No. of Farmers
Honey Processing	Honey	1869.67	22436.00	06

VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Macronutrient	284	280	85	8520
Micronutrient	1043	740		111570
Total	**1327**	**1020**	**85**	**120090**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Name of KVK	Number of SACs conducted
KVK Baghra, Muzaffarnagar (UP)	1. (11.02.2019)

IX. NEWSLETTER

Name of News letter	No. of Copies printed for distribution
Krishi Panchang 2018	

X. PUBLICATIONS

Category	Number
Research Paper	07
Technical bulletins – 02	6000
Technical reports	08
Abstract	11
Popular Articles	02
Extension literature-07	16000
Total	**22028**

DETAILS OF PUBLICATION :

Research Papers Published in Journals

Name	Year	Title	*Name ofJournal*
R.K.Naresh, SP Singh, RK Gupta, Arvind Kumar, Ashok Kumar, RS Rathore, SS Dhaliwal, Vivak Kumar, Vivek, P.K.Singh, SP Singh, Nihal Chandra Mahajan and yogesh Kumar	2018	Long Term effect of Tillage and residue management on Soil aggregation, soil Carbon sequestration and energy relations under rice-wheat cropping system in Typic Ustochrept soil of Uttar Pradesh	Journal of Pharmacognosy and Photochemistry 2018: 7(1) 237-247
Savita Arya,Satya Prakash,Sarita Joshi,Kirti M.Tripathi	2018	Household Food Security through kitchen gardening in Rural Areas of Western Uttar Pradesh ,India	**International Journal of Current Microbiology and Applied Sciences, ISSN: 2319-7706 Volume 7No 02(2018)pp 468-474**
Kirti M Tripathi, J.P.Sharma, S.K.Dubey, U.S. Gautam, Razia Praveen and Savita Arya	2018	Participatory Diagnosis of Durdegery Perceived by the Women Farmers : A Micro level analysis	**Journal of Community Mobilization and Sustainable Development vol . 13(2), 301-307, May-Aug. 2018**
Sarita Joshi, Savita Arya, K.M Tripathi, Vinita Singh & S.K.dubey	2018	Nutrition education and its impact-A study of Wstern UP	**Journal of Community Mobilization and Sustainable Development vol . 13(3), 466-476,Sept.-Dec. 2018**

A. K. Katiyar S. S. Dhaka	2018	Effect of insecticides on the population of leaf folder and predators in scented rice in Tarai region of Uttar Pradesh	Annals of Agricultural Research new series 39(4)430-434.
A. K. Katiyar S. S. Dhaka	2018	Field evaluation of some bio-rational insecticides against yellow stem borer and predators in paddy.	Progressive Research-An International, 13(Special) 379-382.
Anil Katiyar Shyam Singh	2018	Front line demonstration to improve productivity of soybean growers	Progressive Research-An International

Abstracts presented in National/International Seminar Seminar

P.K.Singh, R.C.Verma and J.K.Arya	2018	Entrepreneurship development through bee keeping Arya initiative, pp 34, International Conference on Sustainability of Smallholder Agriculture in Developing Countries under Changing Climatic Scenario,	Agricon
A.K. KATIYAR; P.K. SINGH; R.C. VERMA PRAMOD KUMAR	2018	Nutrient management for target yield of sugarcane	*International ConferenceSustainability of Smallholder Agriculture in Developing Countriesunder Changing Climatic Scenari. At Kanpur 14-17 February 2018, 3.3.76(P)*
A.K. KATIYAR	2018	Exploiting the production potential of groundnut by improved nutrient management in light- textured soil	*International ConferenceSustainability of Smallholder Agriculture in Developing Countriesunder Changing Climatic Scenari. At Kanpur 14-17 February 2018, 3.3.82(P)*
A.K. Katiyar; S.S. Dhaka Arjun Singh Jat	2018	Management of pod bores in vegetables by IPM module	*2nd International Conference on Food & Agriculture 201829-Mar-2018 to 31-Mar-2018 Dhanbad Jharkhand*
RC Verma PK Singh AK Katiyar	2018	Evaluation of mustard varieties for yield performance and economics under farmers field situation in Muzaffarnagar	*2nd International Conference on Food & Agriculture 2018 29-Mar-2018 to 31-Mar-2018 Dhanbad Jharkhand,77pp*
A.K. Katiyar; S.S. Dhaka	2018	Management of pod bores in vegetables by IPM module	*2nd International Conference on Food & Agriculture 2018 29-Mar-2018 to 31-Mar-2018 Dhanbad Jharkhand,91pp*
A.K. Katiyar Arjun singh	2018	Nano fertilizers: Need of future agriculture	*International Conference on Global Research Initiative for Sustainable Agriculture. 28-30 October at Rajasthan Agriculture Research Institute Jaipur. 165pp*
A.K. Katiyar	2018	Effect of Organic and inorganic fertilizer sources on nutrients on yield of Mustard crop.	*International Conference on Global Research Initiative for Sustainable Agriculture. 28-30 October at Rajasthan Agriculture Research Institute Jaipur. 148pp*
Savita Arya,Sarita Joshi,KirtiM.Tripathi,Vinita Singh	2019	**"Self Help group- A Tool for RuralWomen Empowerment",**	Souvenir &Abstracts ,National Conference On **Identification Convergence,Implementation,&ExtensionOf Science-Tech-research For Sustainable Development,**20-21 April 19
Sarita Joshi,Gajendra Pal,Vinita Singh &Savita Arya	2019	**"Enhancing Income of Potato Growers through Value Addition:A Study Based on ON FARM TRIAL(OFT)in Baghpat District",**Sarita Joshi,Gajendra Pal,Vinita Singh &Savita Arya	Souvenir &Abstracts ,National Conference On **Identification Convergence,Implementation,&ExtensionOf Science-Tech-research For Sustainable Development,**20-21 April 19
"Savita Arya,Sarita Joshi,Kirti M.Tripathi,Vinita Singh,	2019	**"Awareness Level Of Rural Communities on Food**	Souvenir &Abstracts ,National Conference On **Identification Convergence,Implementation,&ExtensionOf Science-Tech-research For Sustainable Development,**20-21 April 19

Item	Title
Training Manual	**PPVFRA Booklet – 500**
Techanical Bulletin-02	Skill India Programme on Mushroom Cultivation - 3000
	Skill India Programme on Honey Production - 3000
Extension Literature- 07	Crop Resudue Management Literature- 16000

Technical Reports	KVK Progress Report 18-19 Action Plan 19-20 SAC Report 2018 Deen Dayal Updhaye National KVK Award Report 2018, Mahendra Samridhi Award Report 2018, Dhanuka Kisan Award 2018 NICRA Progress Report & Action Plan Report
Radio Talk	लहसुन और प्याज की उन्नत खेती
	मृदा परीक्षण के आधार पर उर्वरक प्रबन्ध
	गेंहू एवं जौ में सिचाई प्रबन्ध
	मटर में रोग प्रबन्धन

XI. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM: Nil

XII. INTERVENTIONS ON DISASTER MANAGEMENT/UNSEASONAL RAINFALL/ HAILSTORM/ COLD WAVES ETC

XIII. DETAILS ON HRD ACTIVITIES :

Workshop/Seminar /Symposia/Winter/Summer School Attended:

Name of Scientist	Name of Programme	Place	Duration	Date
Dr. P.K.Singh	Group Meeting of CRM Project	NASC, New Delhi	01 Day	6 July 2018
	Zonal Workshop of KVKs	SVPUA&T, Meerut	02	23-24 Aug. 2018
	National Extension Education Congress 2018	Gangtok, Sikkim	03 Day	15-17 Nov, 2018
Dr. Anil Katiyar	In-situ paddy residue management through machinery	ATARI Zone I PAU Ludhiana		9-10 Aug 18
	Workshop on Quality improvement in production of Basmati rice for export	APEDA Meerut and SVP Univ.	1 Day	23 Aug. 17
	In-situ paddy residue management through machinery	ATARI Zone I PAU Ludhiana	2 days	9-10 Aug 18
	HRD Training	SVP Univ. Meerut	2 days	11-12 March 19
	HRD Training	SVP Univ. Meerut	2 days	15-16 March 19
Dr.Savita Arya	National Seminar on Trends, Ethical Considerations and Innovations in Research	Swami Vivekanand Subharti University	01	16 May 2018
	Empowerment of Small and Marginal Women Farmers through Agri Entreprenurship	IIFSR, Modipuram	10	6-15 July 2018
	Training on Food & Nutritional Security of the Rural Households- Role of Women	MANAGE Hyderabad	04	27-30 August 2018
	Human Resourse Development Training for KVK Scientists	SVP U A& T,Meerut	02	15-16 March 2019
Dr. R.C.Rathi	Human Resourse Development Training for KVK Scientists	SVP U A& T,Meerut	02	15-16 March 2019
Dr. Shripal	Review of progress Report and Action plan NICRA	ATARI,Kanpur	1day	8 June 2018
	Review meeting of CFLD	Banda Agriculture Univ.	2days	9-10 Oct. 2018
Dr. R.C. Verma	National Extension Education Congress 2018	Gangtok, Sikkim	03 Day	15-17 Nov, 2018
Dr. J.K.Arya	National Extension Education Congress 2018	Gangtok, Sikkim	03 Day	15-17 Nov, 2018
Sh. A.K.Singh	Zonal Workshop of KVKs	SVPUA&T, Meerut	02	23-24 Aug. 2018

XIV. Case Studies/Success Stories

Case Study- I

Situation analysis/Problem statements :

Village Haidernagar is situated about 2 KM from Block Baghra. Population of village Haidernagar consists of all the caste and category. The village has two Primary Schools and two Anganwadi Centers. People belonging to Backward class ,Jogi. they have no land holding and work as a labor in others fields. Women of this community also do their household work or work as a labor .Hence these community people belongs to economically weaker section .

Plan, Implementation and Support:

Home Scientist from KVK Muzaffarnagar conducted Practicing farm women training in their locality and came to know the condition, and felt the need to form a SHG for their empowerment. Meetings were organized one after another among them and focus of those meetings was to make them aware of advantage of Self Help Groups, NABARD schemes, credit linkages as well as other Government schemes. Other local concerns of those women were also discussed .The discussion in three meetings with them helped in motivating them in setting up the Self Help Group.

Out Put:

Sixteen women of that village got motivated with the idea of startng Self Help Group and they elected Smt Ravita W/Sh Nempal as their President and Durga Women Self Help Group was formed. The Bank Account in the name of Durga Women Self Help Group was opened in Punjab National Bank, Baghra on 24 April 2014.Each member of the group decided to deposite Rs 200 per month.

Out Come:

Today the group has saving of Rs.252400/.the group also has an internal loaning of Rs 238000/.After formation of SHG the group members started a small cottage industry with the help of a NGO. They got the raw material for making brooms from NGO, Financial assistance was provided by NABARD. All the group members got the training and started making brooms with Rs 12 per broom making charge. In 2018 District Magistrate of Muzaffarnagar , Sh Rajeev Sharma passed an order to all the Primary and Junior high School of the district regarding school uniforms to be given to the students will be stitched and supplied by SHG members. Durga Women Self Help Group got the order and supplied uniform in both the schools of village Haidernagar. In this order the group members earned good profit (Rs 20000-22000) .

Impact:

They earned good income which helped them in meeting their daily needs as well as education and medical service to their children. I feel worth mentioning here, Mrs Ravita ,president of the group belongs to a very poor family has a five years old daughter suffering from Muscular Dystrophy disease, she was not able to give her enough medical care due to financial crisis but now she is getting her daughters treated at Dehradun. After being linked with Self Help Group the women have developed a better understanding on a wide range of issues which has brought about a positive change in their thinking and behavior . They have become stronger both socially as well as economically .as a result of growth of these women other women of their community also got motivated and four more Self Help Groups have formed in last five years.

	
SHG members Interaction with Gen,V K Singh	**SHG members meeting with DDM, NABARD**

SUCCESS STORY - 3

Mushroom Production for Self Employment

Sandeep Saini S/O Rajesh Kumar a marginal farmer of Village- Kaakda, Block- Shahpur, District- Muzaffarnagar. He visited KVK in the year 2015 regarding some plant protection problem of his sugarcane crop. He shared to the scientist of plant protection discipline that he had been practicing sugarcane wheat cropping system since long time in his 1.0 ha of land but the total income from his small holding was not enough to meet out the family requirements. Scientist advised to start Mushroom Cultivation as a small scale business to enhance his earnings. He visited the Mushroom Production unit of KVK and curiously asked about its technical know how. Shri Sandeep Saini requested the training programme on mushroom production technology. Considering the request, scientist organized a six day training for RY and two days training programme under Attracting & Retaining Youths in Agriculture (ARYA) project at Krishi Vigyan Kendra. Sandeep Saini sincerely participated in training programmes and learnt the technical issues of mushroom production. The training programmes covered the all topics of cultivation technologies of particular reference to production of Button Mushroom, Oyster Mushroom and Milky Mushroom (Substrate preparation, Spawning, Crop Management with biotic and abiotic factors, Harvesting and Post Harvest Managent and Marketing etc)

Economics of Button Mushroom Production of Single Cycle(3.0 Months)

S.N	Inputs	Quantity	Cost(Rs.)	Amount(Rs.)
Compost & Casing Preparation				
1.	Wheat Straw	20 qt	300/qt	6000.00
2.	CAN/Am.Nitrate	60 Kg.	12/Kg	720.00
3.	Urea	20 Kg	05/Kg	100.00
4.	MOP	20 Kg	05/Kg	100.00
5.	SSP	20 Kg	06/Kg	120.00
6.	Gypsum	200 Kg	2.5/Kg	500.00
7.	Wheat Bran	100 Kg	15/Kg	1500.00
8.	Carbendazim	1.0 Kg	700/Kg	700.00
9.	Neem Oil	1.0 Lt	100/Kg	100.00
10.	FYM	8.0 Qt	150/Qt	1200.00
11.	Formaline	5.0 Lt	60/Lt	300.00
12.	Packaging , Transport & Other Expences			5000.00
13.	Labours- 40 Mandays @ Rs. 200/-			8000.00
Total Expenditure (Rs.)				24340.00

Total Production from 40 qtl of Substrates : 750 Kg

Gross Income :Rs.- 750X70= Rs. 52500/-

Net Income : Rs. 52500-24340= Rs. 28160/-

Beginning Experience:

After completion of training programme mentally equipped with technical know how of the enterprise. Sh Saudeep Saini started button mushroom production unit at his village- Kaakda, Muzaffarnagar with 2.0 ton of wheat straw (40 qtl compost). The first harvest was very less but it enhanced day by day in favorable conditions of mushroom. So enhanced the confidence of entrepreneur for next year. Next year KVK

scientists supported him technically at his production unit and grower had obtained good production. He sold his mushroom in local market of Muzaffarnagar with average @ Rs. 70/ Kg. But after two successful flushes of yield, the production declined and he faced the problem of turning the colour white buttons to brown resulting quality deterioration.

Identification of Problems and Possible Solutions:

Scientists visited his unit many times to identify the causes of problems and advised him to avoid overwatering and to maintain indoor possible environmental conditions ie Unit hygienic condition, Ventilation, Carbon dioxide concentration & Caking and Ruffling etc.

Ultimately by the KVK intervention and sincere effort of Sh Sandeep Saini after end of the mushroom crop approximately 750 kg produced from one cycle of 3.0 months. Scientists estimated economics of mushroom production.

Sh. Sandeep Saini could gain an additional income of Rs. 28160/- with a CB ratio 1:2.16 in three months. His wife was also involved with him in his work so they reduced the labor costs.

Impact:

Basically this was an entrepreneur's own success under the guidance of KVK scientists. Sh Sandeep Saini kept his enterprise name " RM MUSHROOM UNIT". The idea was to raise the income of farmer by taking advantage of diversified agriculture system. Position of entrepreneur has significantly uplifted in terms of improved socio-economics status with the following details-

Impact on Socio-economic Status on Sh Sandeep Saini:

Particulars	Before Enterprise	After Enterprise
Annual Income	**Rs.125000.00**	**Rs. 180000.00**
Motor Vehicle	**No**	**Yes**
House Status	**Below Average**	**Medium**
Education for Children	**Govt School**	**Private School**
Living Standard	**Poor**	**Medium**

The farmer family not only captured the scope for gainful employment round the year, but also ensured good income and higher standard of living even from small holding.

Technology Expansion:

The success story of Sandeep Saini encouraged other farmers of the village and other village. They realized that there was immense scope for income generation from the small scale enterprises ie Mushroom Production. Thereafter a number of farmers from Kaakda and nearby villages contacted to KVK for training. The Scientists conducted various vocational training programmes for rural youths. Farmers were trained technically as well as advised to establish a strong marketing network for absorbing their produce to avoid their exploitation

LINKAGES

Functional linkage with different organization

The KVK has very strong linkage with different line departments and stake holders. The KVK is involved in technical backstopping of the line departments officials and regular participation in the programmes and vice versa. The linkages with stake holders are as under.

Name of Organization	Nature of Linkage
Deptt. of Agriculture	Diagnostic survey, training, gosthi/Seminar/ Farmers Fair
Deptt. of Horticulture	Participation in meeting/demonstration/training/ Farmers Fair
Cane Deptt. & Sugar industries	Gosthies & Trainings
NABARD	Technical Support to Kisan Clubs
Basmati Export Development Foundation	Awareness of rice growers for export
NHM	Soil Testing of beneficiaries, Capacity building & Nursery management
IFFCO, KRIBHCO	Trainings/Gosthi
SBI, PSB PNB & Distt. Cooperative Bank	Trainings/Gosthi & distribution of loan in the operational area
DOMR, Bharatpur Rajasthan	Demonstration/Field Day
Animal Husbandry Deptt.	Trainings & Circulation of Extn. Material
NGO	Trainings/Gosthi

1. **Details of linkage with ATMA : Nil**

2. **Linkage with NHM**

Programme	Nature of Linkages	No of Programmes	No of Farmers
Training of Farmers	Transfer of new Horticultural technology	04	100

3. **Linkage with State Govt. (DCO & BSA)**

Programme	Nature of Linkages	No of Programmes	No of Farmers
Farmers Training	Transfer of technology	--	--

Performance of instructional farm 2018-19 :

Name of crop	Date of sowing	Date of harvesting	Area (ha)	Details of production			Amount (Rs.)	
				Variety	Type of produce	Qty.	Cost of inputs	Net income
Dhaincha for green Manuring	23.07.18	01.10.18	6.00	Local	Green Manuring	Green Manuring	30143.00	--

Utilization of Training Hall facilities :

Months	Name of Deptt.	No. Prog. Conducted	Amount Deposited
May 2018	PNB, RESTI Morna	01	10000.00
May 2018	Director Sugarcane Research Institute	01	1000.00
Aug. 2018	Sumimoto Chemicals India Pvt. Ltd.	01	1000.00
Oct. 2018	CRM Training - KVK	02	20000.00
Jan 2018	Bal Vikas Pariyojana, MZN	01	2000.00
March 2018	National Fertilizers Ltd.	01	2000.00
March 2018	Bal Vikas Pariyojana, MZN	01	2000.00
	Total	**08**	**38000.00**

Note: The revenue generated from training hall during 2018-19 is

Utilization of hostel facilities :

Months	Title of the training course/Purpose of stay	No. of trainees stayed	Trainee days (days stayed)	Amount Deposited
15.09.2018	Recording of KVK Activities for DD Savera prog.	04	01	440.00
	Total	04	01	440.00

FINANCIAL PERFORMANCE

Details of KVK Bank Account

S. No.	Bank account	Name of Bank	Location	Account Number
1.	With Host Institution	SBI ,SVPUA&T, MZN	Meerut	30853163857
2.	With KVK	SBI Baghra, MZN	Baghra	11730183435

Utilization of K.V.K Funds during the year 2018-19

S.N.	Heads	Budget Sanctioned (Rs. in lakh)	Actual Expd. (Rs. in lakhs)	Balance (Rs. in lakhs)
A	**Recurring Items**			
1	Pay and Allowance	148.00	147.67	0.33
2	Traveling Allowance	1.20	1.13	0.07
	HRD	0.30	0.34	-0.04
3	**Contingencies**			
a	Stationery & other Expenditure for office running	0.80	0.77	0.03
b	POL/Repair of Vehicle/Tractor	1.20	0.89	0.31
c	**Vocational Training**			
	i) Meals for trainees	0.60	0.67	-0.07
	ii) Training material	0.30	0.29	0.01
	iii) Frontline demonstration Except oilseeds & pulses	0.80	0.99	-0.19
	iv) On-Farm Testing	0.50	0.31	0.19
	v) Training of Extension Functionaries	0.45	0.44	0.01
	vi) Library Maintenance	0.05	0.01	0.04
	vii) Maintenance building	0.00	0.0	0.00
	vii) General Contingency	3.50	2.19	1.31
	Total A	**157.70**	**155.73**	**2.27**
B	**Non-Recurring Items**			
1	Works (Main building)	0.00	0.00	0.00
2	Bio Metric Attandence	0.00	0.00	0.00
	Total B	0.00	0.00	0.00
	Total (A+B)	**157.70**	**155.73**	**2.27**

Status of Revolving Fund (Rs. in lakhs)

Financial year	Opening balance	Income	Expenditure	Closing Balance
2014 - 15	402630.00	621923.00	563049.00	461503.00
2015 -16	461503.00	642784.00	645032.00	459255.00
2016-17	459255.00	598569.00	484447.00	572977.00
2017-18	572977.00	710053.00	605122.76	677907.71
2018-19	677907.71			

***Rs. 8.00 laks Fixed Deposit , ** Rs, 1 Lac spent on renovation of ADM Building**

VIP VISIT

Sh. Surya Pratap Shahi, Agriculture Minister (UP Govt.)

Dr. Sanjeev Baliyan, Hon'ble MP on 02.05.18

Hon'ble MOS External Affairs, Gen (Dr.) V.K.Singh Visit on 28.07.18

Sh. Kapil Dev, Hon'ble MLA on 02.05.18

Sh. Vijay Kashyap, Hon'ble MLA on 02.05.18

Smt. Anchal Tomar, ZPA on 02.05.18

Sh. Anant Dev, IPS, SSP Muzaffarnagar on 21.07.18

DM Muzaffarnagar on 21.04.2018 & 28.07.18