ANNUAL REPORT (April-2017-March-2018)

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	93	1620	240	1860
Rural youths	12	115	60	175
Extension functionaries	20	228	34	262
Sponsored Training	19	600	0	600
Vocational Training	--	0	0	0
Total	**144**	**2563**	**334**	**2897**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	125	50.00	--
Pulses	200	79.85	--
Cereals	70	28.00	--
Vegetables	24	4.17	--
Flower	5	1.00	--
Hybrid crops- Makhan Grass	10	1.30	--
Fruits	15	4.00	--
Total	**449**	**168.32**	
Livestock & Fisheries	33	--	60
Other enterprise- H.Sc	15	--	15
Total	**48**	**--**	**75**
Grand Total	**597**	**168.32**	**75**

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	09	09	27
Livestock	02	02	10
Other enterprises	02	02	10
Total	**13**	**13**	**47**
Technology Refined			
Crops	--	--	--
Livestock	--	--	--
Various enterprises	--	--	--
Total	--	--	--
Grand Total	**13**	**13**	**47**

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	582	22051
Other extension activities	--	--
Total	**582**	**22051**

4. Mobile Advisory Services

55 Message Type	Type of Messages						
	Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
Text only	--	--	--	--	--	--	--
Voice only	2100	600	30	12	400	229	3421
Voice & Text both	--	--	--	--	--	--	--
Total Messages	2100	600	30	12	400	229	3421
Total farmers Benefitted	2100	600	30	12	400	229	3421

5. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	256.45	442808.00
Planting material (No.)	22800	10275.00
Bio-Products (kg)	150.00	0.00
Livestock Production (No.)	--	--
Fishery production (No.)	--	--

6. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil- Macro/Micro Nutrient	2445	143970.00
Soil Health Card Issued	2445	0.00
Total – Soil Health Card	**2445**	**143970.00**

7. HRD and Publications

Sr. o.	Category	Number
1	Workshops	03
2	Conferences	09
3	Meetings	10
4	Trainings for KVK officials	14
5	Visits of KVK officials	26
6	Book published	--
7	Training Manual	500
8	Book chapters	--
9	Research papers	14
10	Lead papers	--
11	Seminar papers	13
12	Extension folder/ Tech Card	4600
13	Proceedings	01
14	Award & recognition	02
15	On going research projects	03

PROGRESS REPORT

(April 2017 to March, 2018)

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 August 2018) :

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.	SMS	Dr. A. K. Katiyar	SMS/ 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	Farm Manager	Sh. Sanjeev Kumar	Farm Manager	Agronomy	9300-34800 4600	23.01.04	OBC
10	Acctt./ Suptd	Sh. S.K.Dubey	O.S/Acctt.	--	9300-34800 4200	01.07.92	GEN
11	Stenographer	Sh. Chandra Shekhar	Typist/ Clerk	--	5200-20200 2800	29.03.97	GEN
12	Driver	Sh. Vijendra Singh	Driver	--	5200-20200 2800	22.12.95	OBC
13	Driver	Sh. Mangeram	Driver	--	5200-20200 2800	01.07.98	OBC
14	Supporting Staff	Sh. Ajesh Sharma	Attendant	--	4440-7440 2400	16.01.95	GEN
15.	--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	182619 KM	Working
Tractor	1996	261685.00	18800 hours	Working
Bicycle	1995	2390.00	--	Working
Motorcycle (Hero Honda- UP 12 W 9367)	2010	52000.00	22399 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.	06.12.2017	1. Dr. S.K.Sachan, Director Extension, SVPUA&T, Meerut 2. Dr. Mohan Lal, Professor & Head, (Agronomy) 3. Dr. Gopal Singh, Joint Director Extension (Agronomy) 4. Dr. Yogesh Rajbhar, Professor (Horticulture) 5. Dr. Chanderbhanu, Scientist, PDFSR, Meerut. 6. Dr. D.K.Singh, Assoc. Professor, Veternary Sc. SVPUA&T, Meerut 7. Dr. Harpal Singh , CVO, Muzaffarnagar 8. Sh.Shailendra,DDM, NABARD, Muzaffarnagar 9. Sh. Naveen Tyagi, Asstt. Inspector (Horti) 10. Dr. J.P.Singh, Joint Director, Sugercane Research, MZN 11.Sh. Praveen Singh, Field Manager, IFFCO 12. Sh. Vijay Kumar Gupta, Lead bank Manager, PNB, MZN 13. Sh. O.P.S Yadav, DCO,Muzaffarnagar 14.Sh. Amit Kumar Singh, Representative, YARA India, Muzaffarnagar 15. Sh. B.K.Sharma, Beej Nigam, MZN 16. Sh. Pawan Kumar, PPO, Muzaffarnagar 15. Five progressive Farmers of Distt & All Scientist & Staff of KVK Muzaffarnagar Total 37 members. .		

	Salient Recommendations	**Action Taken**
1.	Demonstrations on trench method should be laid down and farmers should be educated on fertilizer mgt. in Sugarcane	Demonstration have been conducted in adopted villages and 03 trainings have also been conducted
2.	The row sapacing distance in Sugarcane needs to be increased from regular 75 cm, in order to get more yield.	Such demonstrations are already in the field.
3.	DDM NABARD emphasized on awareness campaign on soil health management	Regular trainings, meetings are being conducted for educating the farmers.
4.	CVO emphasized on closed coordination between kvk & Line departments.	The KVK scientists are participating regularly in all the programme of line departments.
5.	Director Extension suggested for production and distribution of bioagents to the farmers from KVK lab	It has started production
6.	Poultry Scientist suggested to observe feed consumption by poultry birds so that economics can be calculated.	Under ARYA project economics is being calculated.
7.	Rice neck blast management should be demonstrated	Demonstrations will be taken up during Kharif 2018
8.	Button mushroom growers should be organized in the group for marketing	Groups (3) have been formed under ARYA project.

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 85% Area, Sandy Loam Soil	S.Cane, Wheat, Rice, Jowar, Mango, Potato	S. Cane based + A.H+ Horticulture	Purkaji, Morna & Jansath
2.	AES-2	More than 95% irrigated, Loam	S.Cane, Wheat, Rice, Jowar, Mango,Guava, Litchi , Frenchbean	S. Cane based + A.H+ Horticulture	Baghra & Sadar
3.	AES-3	More than 95%, Sandy Loam	S.Cane, Wheat, Jowar, Brinjal, Cabbage, Gladiolus, Tuberose,	S. Cane based + A.H+ Vegetable+ Floriculture	Charthawal, Khatauli
4.	AES-4	Low Water table area, Loam & Sandy Loam soil	S. Cane, Wheat, Blackgram, Jowar, Mango	S. Cane based + A.H + Horticulture	Budhana & Shahpur

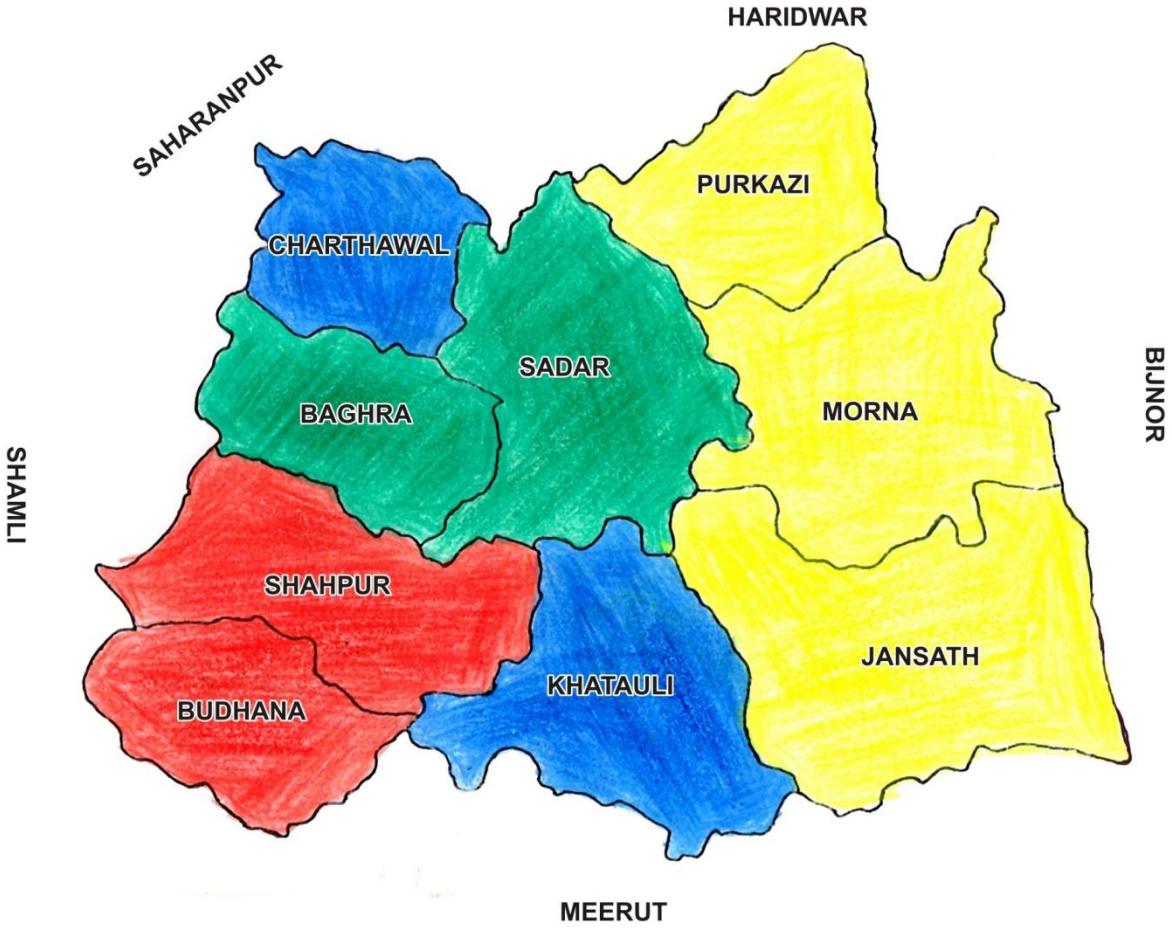
2.3 Soil Type/s

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



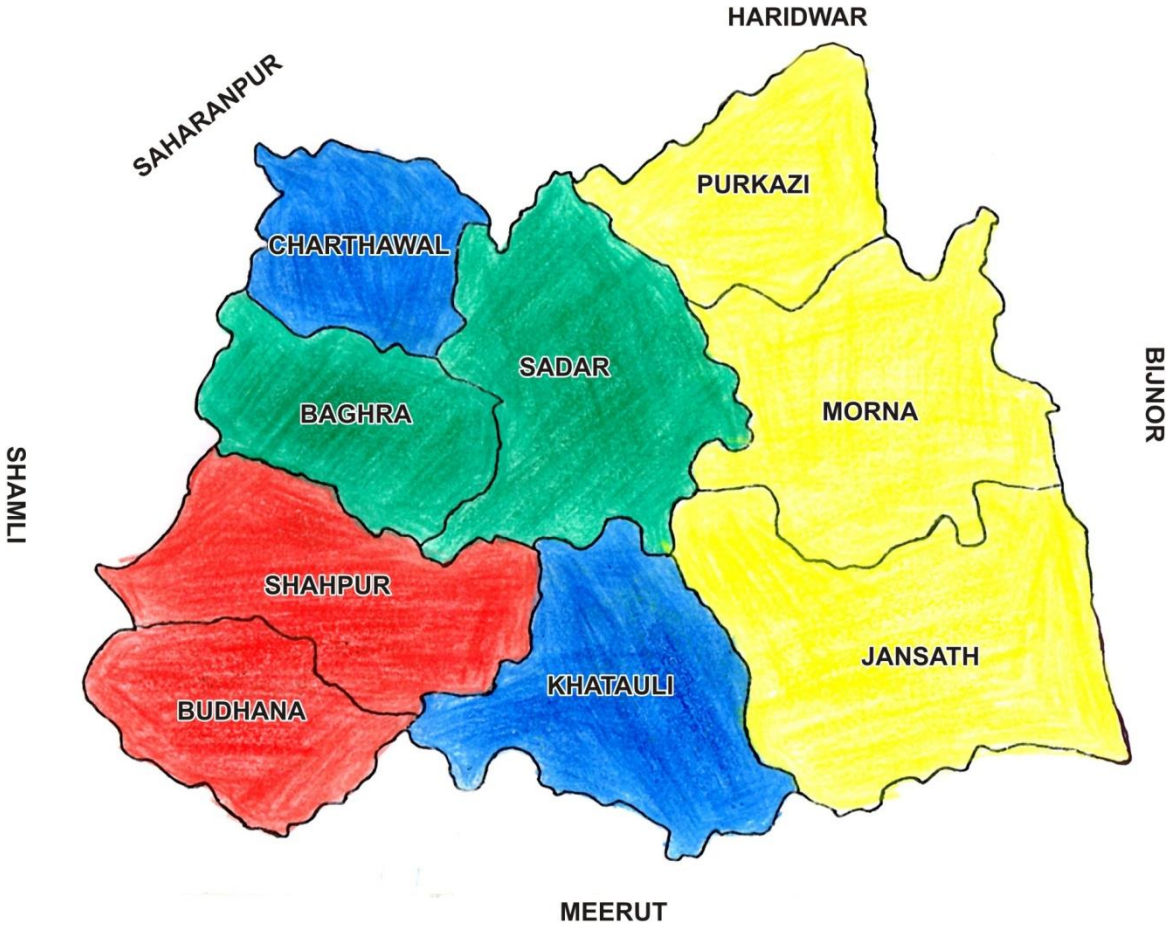
Soil Micronutrient Testing:

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 2016-17

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 2017	--	36.2	20.2	49.0
May 2017	26.4	37.2	25.2	56.0
June 2017	85.0	35.7	24.1	70.0
July 2017	99.2	33.0	24.9	87.0
August 2017	270.8	32.9	24.3	89.0
September 2017	294.4	32.5	22.3	90.0
October 2017	0.00	32.4	16.7	66.45
November 2017	0.00	25.4	10.1	73.99
December 2017	11.60	22.3	6.7	75.72
January 2018	4.00	19.8	4.7	72.24
February 2018	7.80	24.4	11.5	59.62
March 2018	18.00	30.10	13.40	55.75

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 (2017-18)

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 2017-18 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 2017-18

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	13	Cereals	70	Demo	200	597
		Pulses	200	Area (ha)	100	168.32 + 15 Unit + 60 Animal
		Oilseeds	125			
		Fruits	15			
		Other crops	5			
		H.Sc	15			
		Buffalo/ Cattle	33			
12-14	**13**	**Total**	**597**			

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	93	2000	1860	---		4000	22051
Rural youth		12	--	175				
Extn. Functionaries		20	--	262				
Sponsored		19	--	600				
Total:	**100**	**144**	**2000**	**2897**	**--**	**582**	**4000**	**22051**

Seed Production (Qtl.)			Planting material (Nos.)		
5			6		
Target	Achievement	Distributed to no. of farmers	Target	Achievement	Distributed to no. of farmers
200 Q.	256.45	Supplied to Beej Vikas Nigam	20000 No.	22800	82
Total :	**256.45**		**20000 No.**	**22800**	**82**

Soil Samples (Nos.)			
5			
Target	Achievement	No. of farmers	Amount
1200	2445	2445	143970.00
Total :	2445	2445	143970.00

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


लखनवी
16-4-2017
वरदान
16-4-2017
कावेरी
सलदशन
भिण्डीन:-10
मीडोबागवानी
प्रजाति-श्वेता
संरक्षित
पौधउत्पादन

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 Wheat	Evaluation of High Yielding variety of Paddy Evaluation of High Yielding variety of Wheat in timely sown Condition Evaluation of High Yielding variety of Wheat in Late sown Condition	1 1 1	3 3 3
Integrated Pest Management	Sugarcane	Management of Top Borer through Bio-pesticide(*Trichogramma chilonis*) & Chemical (Chlorantraniprole).	1	3
Integrated Crop Management	Blackgram + Til	Blackgram intercropping with Til	1	3
INM	Sugarcane Wheat	Site Specific Nutrient management Site Specific Nutrient management	1 1	3 3
Resource Conservation Technology	Wheat	Wheat SowingtThrough Seed Drill	1	3
Integrated Disease Management	Rice	Sheath blight management through biological & chemical methods.	1	3
Durgery reduction technologies	H.Sc	Assessment of hanging Sieve 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			**11**	**37**

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 pests responsible for reduction in yield.The Krishi Vigyan Kendra, Muzaffarnagar conducted On Farm Trial (OFT) during march 2017 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)	18%	825.00	--	3.79:1
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)	5%	940.00	13.94%	4.32:1

Sowing Date- March 2017 **Harvesting Period-Feb-March,2018**

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 940.0 qt/ha. 13.94% 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/ha(50 Kg/ha granular insecticides)

Critical Benefit:

1. Productivity of sugarcane may be increased by 115 qt/ha.

2. Approximately 8107799 qt production 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-2017 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)	23	33.0	--	2.35:1
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)	05	37.5	13.63	2.68:1
Transplanting Date; July 08,2017			Harvesting Date: Oct 27, 2017	

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 18% for sheath blight which resulted in paddy yield increase of 13.63% 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 37.5 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 4.5 qt/ha yield may be increased which will result in additional return of Rs. 11250/- ha .
4. Approximately Rs. 1000/ha cost saving.

VARIETAL EVALUATION

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

Technology Assessed : Varietal Evaluation of Basmati varieties PB 6

An On farm trial was conducted in sandy loam soil under irrigated condition for the evaluation of high yielding and disease resistant varieties of PB 6 at three locations in Rice-wheat cropping system during Kharif 2017.

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	40.15	---	73875.0	3.31:1
T2- Pusa Basmati 6	43.25	7.72	84125.0	3.77:1

Date of Transplanting ;18.07.17 DOH : 26 Oct. 17

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	3	7	145	125	43
T2- Pusa Basmati 6	15-20	265	3	--	3	145	115	45-50

Result :

1. The variety Pusa Basmati 6 recorded highest yield (43.25 q/ha) followed by 40.15 qt/ha yield from farmers practice variety PB1.
2. PB 6 was not infested by Bakane disease, while 3% plants of PB 1 were infested by Bakane disease.
3. Lodging tendency was not found in PB 6 while 5% lodging was found in PB 1.
4. The net return from PB 6 was Rs. 10250/- ha more than farmers practice .

Farmers Reaction :

1. Due to non-lodging tendency of PB 6 farmers liked it.
2. The eating preference of PB6 is more in coomparision to PB 1.
3. The higher rice recovery (68%) was observed in PB 6 in comparision to PB1(64%).

VARIETAL EVALUATION

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

Technology Assessed: Assessment of HYV variety of Wheat DBW 88 under timly sown condition.

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 2017-18 at three location to evaluate high yielding variety of Wheat under irrigated condition.

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)	39.10	67838.00	42309.00	1.65:1
T2- DBW 88	42.20	73217.00	47688.00	1.86:1

DOS : 16.11.17 ***DOH 21.4.18***

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)	208	9.1	39.6	37.9	150	3-4	7
T2- DBW 88	219	10.2	41.0	40.1	150	Nil	Nil

Result :

1. The variety DBW 88 recorded higher tillers (219/sqm), spike length (10.2) cm, grains /spike (41.0) , yied (42.20 qt/ha) and 1000 grain weight (40.1gm) which increased 7.92 % yield in comparison to check variety PBW 550.
2. DBW 88 was not affected by Yellow rust.
3. The net return of Rs. 47688/ha was obtained from DBW 88 followed by Rs. 42309/ha from PBW 550.

Farmers Reaction :

1. Due to higher yield farmers liked DBW 88.

2. Variety DBW 88 was not affected by yellow rust disease

3. There was no lodging observed in DBW 88 .

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 HD 3059

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 HD 3059 under late sown condition after Sugarcane crop in irrigated situation.

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)	34.30	59510.00	33981.00	1.33:1
T2- HD 3059	39.20	68012.00	42483.00	1.66:1

DOS : 1.12.15 ***DOH : 22.04.16***

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	32.3	30.10	130	2-3	3
T2- HD 3059	215	9.3	39.6	38.40	130	Nil	Nil

Result :

1. The variety HD 3059 gave yield of 39.20 qt/ha with net income of Rs.42483 /ha
2. The incidence of yellow rust was 4 % in PBW 509 while HD 3059 did not show any symptom.
3. The 1000 grain weight of HD 3059 was higher i.e 38.40 gm while it was 30.10 gm only in farmers practice.

Farmers Reaction :

1. The bold grain size of HD 3059 led to better price in the market.(Rs.1780-1800/ qt)
2. The straw quality was better.
3. Due to higher protein content of 13.8 % farmers preferred it for household consumption.

INTEGRATED CROP MANAGEMENT

Problem definition : Lower income from Blackgram due to sole crop cultivation and also due to Damage by Blue horses.

An OFT was conducted during Kharif 2017 to assess the feasibility and economics of Blackgram bean+ Til as intercrop in comparision to Blackgram sole crop under irrigated condition. The per unit return from Blackgram is comparatively low. The meance of blue horse is too much in the district which has forced the farmers not to grow pulse crop.Til as intercropping with Blackgram has been able to restrict the negative impact of blue horses.

Technology Assessed: Blackgrambean (PU-31) intercropping with Til (T-5)

Table : Performance of Blackgrambean as intercrop with Til

Technology Option	No. of Replication	Yield (qt/ha)	Cost of Cultivation (Rs /ha)	Gross Return (Rs /ha)	Net return (Rs /ha)	B:C
Sole cultivation of Blackgrambean (Farmers Practice)	3	10.92	26315.00	58968.00	32653.0	2.24:1
Blackgrambean (PU-31) intercropping with Til- (T-5)- Kharif-2016		12.56+2.55	27960.00	67824.00 + 13515.00	53379.0	2.90:1

Result & Recommendation : The net return from Blackgram + Til was Rs.53379.00/ha while net return from Blackgram bean is only Rs. 32653.00/ha. So it is recommended that Blackgram + Til should be preferred in place of Blackgram alone.

Farmers Reaction :

1. In Blackgrambean intercropping with Til , the impact of blue horse was less in comparison to sole Blackgrambean crop.
2. Weeds were suppressed
3. Additional return from Til resulted in more return as compared sole Blackgram crop..

RESOURCE CONSERVATION TECHNOLOGY

Problem definition : About 85-90 % farmers are practicing broadcasting method of Wheat sowing which results in comparatively lower yield and ultimately low return despite adoption of all other recommended practices of cultivation. Wheat is grown on 82625.0 ha area in the district with the average yield of 38 qt/ha. .

Technology Assessed : Wheat sowing through Seed drill, Wheat Variety PBW 502

Table : Performance of seed drill sown in wheat

Technology Option	No. of Replication	Yield (qt/ha)	Germination %	Lodging %	Cost of Cultivation (Rs /ha)	Gross Return (Rs /ha)	Net return (Rs /ha)	B:C
Broadcasting method of sowing (F.P)	3	41.90	70-75	15-20	35900.0	72696.00	36796.0	2.0
Sowing of Wheat through Seed Drill		47.50	85-90	0-5	33540.0	82412.00	45872.0	2.45

(Wheat sale price Rs 1735/q, District wheat area 82625 ha, productivity 41.0 q/ha)

Result & Recommendation :

1. The germination % in Seed drill sown Wheat is 15 % more than broadcasting, so seed requirement is reduced by 30-35 % .
2. The Loss of yield due to lodging is more in broadcast method in comparision to Seed drill sown.
3. The net return from wheat sown by seed drill was Rs.45872/ha while net return from broadcasting sown in wheat is only Rs 36796 /ha which is about Rs. 9000 more than broadcasting method of Sowing.

Farmers Reaction :

1. Availability of Seed drill is a problem.
2. Germination is better in Seed drill sown Wheat
3. Lodging and disease infestation is less in seed drill sown in comparsion to broadcast method.

SITE SPECIFIC NUTRIENT MANAGEMENT IN SUGARCANE (Zaid 2017)

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

Technology Assessed: Site specific nutrient management on soil test basis through basal and application in standing crop at diiferent 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 829.56 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) 2017 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 375 kg urea per hectare)	839.0	264285.0	198605.0	-----	4.02
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.	960.0	302400.0	232570.0	14.47	4.33

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

Magnitude of OFT: 1. Additional saving of Rs. 34000/ha as compare to farmers practice.

2. Area under sugarcane can be reduced to 20650 ha with same production of the district.

3. District productivity can be increased up to 15.72 percent.

4. After adaption of this OFT, additional Sugar production of 18.84 Lac qt from same area.

5. District Muzaffarnagar can produce more 37290 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.4150/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 2017-18)

Problem definition: Low yield of wheat due to area specific nutrient deficiency potash, Sulphur and Zinc.

Technology Assessed: Nutrient management on soil test basis through basal and application in standing crop at diiferent 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 82625 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 2017-18 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)	43.16	74894	42477.00	-------	2.31
T2- FP+ Soil test based apply additional Potsh125kg, Bentonite sulphur 25 kg, Mono zinc 12.5 kg per hectare.	48.61	84350	50613.00	12.63	2.50

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

Magnitude of OFT: 1. Additional saving Rs. 8136/ha as compared to farmers practice.

2. Area under wheat can be reduced to 15315 ha with same production of the district.

3. District productivity can be increased up to 18.53 percent.

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

(Note= Demo. Additional input cost Rs.3960/ha, wheat sale price Rs 1735/q, District wheat area 82625 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 February 2018 on 10 post calving anoestrus buffaloes (buffaloes do not show oestrus between second to fifth lactation after 3-4 months of calving) 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 responded and conceived & one buffalo neither responded nor concieved.

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

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)	--	Result awaited
T2- Feeding of UMMB (feeding/licking of UMMB @ 2 Kg Block for 15 days/animal up to 90 days)	5	
T3- T2+ Exinot syp. (before UMMB feeding) in five buffaloes.	5	

Result :

1. In treatment one i.e.T1 which is farmers practice (as usual feeding of choker & common salt normally),
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.
3. In the treatment T3 i.e. T2+ Exinot syp. (before UMMB feeding) in five buffaloes.

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 2017-18 in 5 Self Help groups in village Haidernagar.Badis were prepared using conventional method but with a little alteration.Soya flour ,green leafy vegetables and tomato paste was added to the paste of black gram flour to increase economic value and nutritive value,.five SHG consisting 50 members prepared 10 Kg badi /each group.

Table: Assessment of role of SHG for Income generation through preparation of Badis by using of different pulses and vegetable

Technology Option	**No of trials**	**Per cent acceptability and health benefits**
T1- Farmers practice (Use of plain badi using black gram daal)	--	--
T2- Preparation of Badis using black gram dal and vegetables	5	80 Per cent users accepted due to good taste but health benefits will be shown after use of minimum 6 months

Economics :

Blackgram Badi (*Conventional Method)			Blackgram Badi (**Improved Method)		
Cost of Prod. (Rs/kg)	Sale Price (Rs/kg)	Net Profit (Rs/kg)	Cost of Prod. (Rs/kg)	Sale Price (Rs/kg)	Net Profit (Rs/kg)
160.00	200.00	40	172.00	250.00	78.00

* Blackgram Badi ** Blackgram Badi with Soya flour Tomato & green Leafy Vegetables

Recommendation: Present trial revealed that in T1 economic value and nutritive value of Badis was less as compare to T2 .80% users accepted due to good taste, and 20% have not respond and asked to wait for 6 months.

SHG Members Reaction :

1. The taste of the Badi was improved.
2. Value of badis was almost double as compared to conventional badis by addition of small expences 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 badies Fortified with green leafy vegetables and tomato is helpful in combating malnutrition.
4. Net profit of Rs. 390 achieved by each group.

Home Science

Problem definition:High drudgery and low efficiency of farm women during cleaning of wheat by traditional sieve

Technology Assessed :Assessment of hanging Sieve for drudgery reduction and efficiency enhancement of farm women

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,.Pain is the indicator of discomfort.The perceived discomfort was recorded in terms of pain felt in different parts of body. For Many traditional postharvest activities like threshing and winnowing,can be described as drudgery. Cleaning grains manually, use human energy in two ways: they are arduous and time-consuming. Reducing drudgery in difficult activities is more important than saving time. For instance, women often prefer doing activities in standing position as it helps them in moving around.

Technology Option	No of trials	Per cent acceptability
T1- Farmers practice (Use of hand sieve for cleaning and grading grains)	--	70.2kg per hour grain cleaned --
T2- Use of hanging sieve for for cleaning and grading grains	5	129.7kg grains per hour, cleaning was done .

Womens Reaction :

1.100 percent Women liked hanging sieve over hand sieve,as maximum work output was observed by using the hanging grain cleaner.

2.The percent increase in output was 84.7 for the hanging grain cleaner.

Farmers Practice

Improved Practice

OFT PHOTOGRAPHS

Mgt. of Sheath Blight in Paddy

Mgt. of Top Borer in S. Cane

Field of Pusa Basmati 6

SSNM in Sugarcane

Field of HD 3059

Field of DBW 88

Wheat Sowing through Seed Drill

Performnace of Blackgrambean (PU-31) intercropping with Til (T-5)

II CLUSTER FRONTLINE DEMONSTRATION

a. List of technologies demonstrated during previous year (2016-17) 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 - Blackgram	IPU 94-1 & IPU 2-43	Kisan Gosthi, Field & Extension functionaries training	15	225	250.00
2	Varietal improvement – Greengram	IPM 2-3 & IPM 2-14	Kisan Gosthi,Field, Extension functionaries training & Campaign	10	150	115.00
3.	Varietal improvement- Lentil	PL-8	--do--	11	75	29.85

b. Details of CFLDs implemented during 2016-17 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.	Moong	Varietal evaluation	Variety + Bio Fertilizer + Pesticide	Zaid 2017	30.00	30.00	--	75	75	--
2.	Blackgram	Varietal evaluation	Variety + Bio Fertilizer + Pesticide	Kharif 2017	20.00	20.00		50	50	--
3.	Lentil – PL 8	Promotion of Pulses	Variety + Bio Fertilizer + Pesticide	Rabi 2017-18	30.00	29.85	8	67	75	--

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					
Pulses											
Greengram – IPM 2-3	Zaid 2017	Irrigated	Sandy loam	M	M	L	Mustard	10-30 March2017	10-30th May 2017	--	--
Blackgram – PU 31	Kharif 2017	Irrigated	Sandy loam	M	M	L	Jowar	15 July to 30 July2017	20 oct to 30th Oct 2017	--	--
Lentil – PL 8	Rabi 2017-18	Irrigated	Sandy Loam	M	M	L	Paddy	1Oct-30 Nov. 2017	20-30 March 18	--	--

Technical Feedback on the demonstrated technologies

S.No	Feed Back
	Pulses – Greengram (IPM 2-3)
1.	It is resistant to Yellow mosaic virus
2.	20-25 number of pods per plant were found in this variety
3.	It matures in 60-65 days
	Pulses – Blackgram (PU 31)
1.	It is resistant to Yellow mosaic virus
2.	25-30 Number of pods per plant were found in this variety
3.	It matures in 90-95 days
	Pulses – Lentil (PL 8)
1.	Maturiety Stage is 125 days
2.	Low water requirement.

Farmers' reactions on specific technologies

S. No	Feed Back Pulses – Greenram (IPM 2-3)
1.	The crop matures in a short period 60-65 days
2.	It is very compatible with sugarcane intercroping
	Pulses – Blackgram (PU 31)
1.	Bold grain size led to better price in the market.
2.	Yield increased 30-40 % 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 Blue Horse

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
	Field days- Green Gram	01	23.5.17	40	--
1	Field days - Blackgram	01	4.10.17	45	--
	Field days - Lentil				
2	Farmers Training- - Green Gram	01	21.2.17	37	--
	Farmers Training - Blackgram	01	22.7.17	35	--
	Farmers Training - Lentil	02	24.11.17 & 03.12.17	50	--

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	Promotion of Pulses	Seed Var- IPM 2-3 @ 8 kg/acre + Liquid Bio Fertilizer (NPK) @ 250 ml/acre + Thiomethoxam 0.2 gm/lt + Carbendazim @ 2 gm/ liter	IPM 2-3	75	30.0	10.40	9.20	9.8	7.40	32.43	16320	45570	29250	2.79	16200	34410	18210	2.12
Black gram	Varietal evaluation	Seed Variety (PU31) @ 6 kg/acre + Bio Fertilizer (NPK) @ 250 ml/acre + Carbeandazim @ 2 gm/ liter + Chloropyriphos @ 2 ml/lit	PU 31	50	20.0	11.0	8.6	9.8	7.25	35.17	16830	49000	32170	2.91	14630	36250	21620	2.47
Lentil	Promotion of Pulses	HYV- PL 8 @ 12 kg/acre + Fungicide (Azoxystrobin @0.5 ml/lt +Thiomethoxam 0.2 gm/lt Thiophenate methyl @2 gm/liter + Emida Choloroprid @ 0.25ml/lit)	PL 8	75	29.8	15.85	12.55	14.20	11.90	19.30	23650	60350	36700	2.55	21175	50575	29400	2.38

Performance of technology (Greengram)

Traits	Greengram		Lentil	
	IPM 2-3	Check variety	PL 8	L 4594
Maturity Duration (days)	60-65	75	125	130
Disease occurance	nil	affected by YMV	Nil	Affected by Wilt
Lodging tendency	Non lodging	10-15 % lodging occurance	Nil	30 %

Performance of technology (Blackgram)

Traits	Blackgram PU 31	Check variety
Maturity Duration (days)	90-95	Delayed by 10 -15 days
Disease occurance	nil	affected by YMV
.lodging tendency	Non lodging	10-15 % lodging occurance

Crop of PU 31

Lentil PL 8

Greengram IPM 2-3

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 2016-17 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
1.	Mustard Pusa Bold & Pusa Tarak , NRCHB101, RH 406, Urvarsi	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	25	1750	3210

b. Details of FLDs implemented during 2017-18 (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	
1.	Mustard	Varietal evaluation	Variety RH 406 & RH 749	2017-18	50.0	50.0	4	121	125	--

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					
Mustard	2017-18	Irrigated	Sandy loam	M	M	L	Paddy and Jawar	10-28 October 2017	1-15 Mar 2018	--	--

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 19.0 & 21.8 % of RH 406 & RH 749 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	2,3,5 &12 Feb 2018	200	--
2	Farmers Training	01	3.10.17	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	ICM	Seed Var RH 406 & RH 749@ 1.6 kg/acre + Sulpher 80% WDG @ 1 Kg/ acre + Chloropyriphos @ 2 ml/lit + Mancozeb @ 2gm/liter+ Neem Oil @ 5ml/lit	RH 406	63	25.0	20.10	17.20	18.65	15.60	19.00	16300	72735	56435	3.4	15400	60840	45440	2.95
			RH 749	62	25.0	21.40	17.35	19.37	15.90	21.82	16300	75543	59243	3.63	15400	62010	46610	3.02

Performance of technology

Traits	RH 406 & RH 749	Pusa Bold
Maturity Duration (days)	140-145	140-145
Disease occurance	Nil	-
Lodging tendency	3-5.0%	.7.0%

Crop of Rabi Mustard 2017-18 Variety RH 406 & 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 (Pusa Basmati-1121)	Insect Pest Management DOT : 22.07.17 DOH : 08.11.17	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 2017	6.0	6.0	01	14	15	--
2.	Paddy Kharif 2017	INM	Foliar NPK @5.0 kg/ha + Mono Zinc @ 12.5 kg/ha + Sulphur granular @ 25.0 kg/ha F.P : No application	Kharif 2017	4.0	4.00	--	10	10	--
3.	Wheat Rabi 2017-18	INM	Foliar NPK @5.0 kg/ha + Mono Zinc @ 12.5 kg/ha + Sulphur granular @ 25.0 kg/ha F.P : No application	Rabi 17-18	4.0	4.0	--	10	10	--
4.	Wheat	Weed Control DOS : 24.12.17 DOH : 25.04.18	Weed control through Metsulfuran methyl 3% + Idosulfuran methyl sodium .6%(Atlantis) 400 g/ha,**F.P :** Mannual Weed control	Rabi 17-18	4.0	4.0	--	10	10	--
5.	Wheat	Varietal (Late Sown) DOS- 5.12.17 DOH- 24.04.18	Seed (DBW 90) @ 40 kg/acre F.P : PBW 590	Rabi 207-18	4.0	4.0	--	10	10	--
	Commercials Crops									
1.	Guava	IPM Installed at flowering stage June 20-30, 2017, Harvesting duration July- August, 2017	Use of Fly traps @10 traps/ha **F.P :** Use of Monocrotophos or Profenophos or Triazophos @1.5 lt/ha.	Kharif 2017	4.0	4.0	--	15	15	--
	Vegetables									
1.	Merigold	Varietal evaluation	Pussa Narangi	Kharif 017	1.0	1.0	--	5	5	--

2.	Onion	Varietal evaluation	Agri found Light -Red	Rabi 2017	1.0	1.0	--	5	5	--
3.	Brinjal	Varietal evaluation	Pusa Shyamla	Zaid 2018	1.0	1.0	--	5	5	--
4.	Cabbage	Varietal evaluation	Golden Acre	Zaid 2018	1.0	1.0	--	5	5	--

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	Insect Management	PB-1121	15	6.0	44.75	38.5	41.63	34.59	20.35	Stem borer Incidence-4%	Stem borer Incidence-12%
Paddy Kharif 2017	INM	PB-1	10	4.0	44.50	41.25	43.14	39.05	10.48	Khaira disease not occurred No of tillers 23	03 % Khaira disease No of tillers 20
Wheat Rabi 2017-18	INM	DBW-17 HD-2967	10	4.0	48.5	45.55	47.09	42.73	10.20	Karnal Bunt not attack tillers 20-25	No of tillers 19-21
Wheat	Weed Control	HD-2967	10	4.0	48.90	40.75	44.82	41.25	8.65	**Type of weed-** phalaris minor, Chenapodium, Wild Spinach **Weed Count/sqm** : 2.48	**Type of weed-** Digitaria ciliaris ratz, Scripus sectaceus, Cyperus iria **Weed Count/sq m** : 14.32
Wheat	Varietal	Seed (DBW 90) @ 40 kg/acre	10	4.0	39.00	37.00	38.00	35.10	8.26	No of Tillers/sqm 212 Grains/spike- 39 Lodging % - nil	No of Tillers/sqm 203 Grains/spike-35 Lodging % - 3
Commercials Crops											
Guava	IPM	Use of Fly traps @10 traps/ha for	15	4.0	346.25	275.00	310.62	240.0	29.16	Fruit fly incidence-6%	Fruit fly incidence-

		mgt of fruit fly.									25%
Vegetables											
Merigold	Varietal evaluation	Pussa Narangi	5	1.0	260	256	258	187	38	Flowering duration 45 days	Flowering duration 60-75 days
Onion	Varietal evaluation	Agri found Light - Red	5	1.0	Result awaited	Result awaited	Result awaited	Result awaited	Result awaited	--	--
Brinjal	Varietal evaluation	Pusa Shyamla	5	1.0	Result awaited	Result awaited	Result awaited	Result awaited	Result awaited	--	--
Cabbage	Varietal evaluation	Golden Acre	5	1.0	262	258	260	224	16.07	Head Weight 1-1.25 Kg	Head Weight 800 gm to 1 Kg

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	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.	38500	104075	65575	2.70	35800	86475	50675	2.41
Paddy	INM	Foliar NPK @5.0 kg/ha + Mono Zinc @ 12.5 kg/ha + Sulphur granular @ 25.0 kg/ha **F.P : No application**	36935	71173	34238	1.93	34820	64441	29621	1.85
Wheat	INM	Foliar NPK @5.0 kg/ha + Mono Zinc @ 12.5 kg/ha + Sulphur granular @ 25.0 kg/ha **F.P : No application**	33896	81701	47805	2.41	33050	74136	41086	2.25
Wheat	Weed Control	Weed control through Metsulfuran methyl 3% + Idosulfuran methyl sodium .6%(Atlantis) 400 g/ha, **F.P :**	34450	77762	43312	2.25	33750	71568	37818	2.12

		Mannual Weed control								
Wheat	Varietal	Seed (DBW 90) @ 40 kg/acre F.P : PBW 590	23310	65930	42620	1.8	23100	60725	37415	1.6
Commercials Crops										
Guava	IPM	Use of Fly traps @10 traps/ha , **F.P :** Use of Monocrotophos or Profenophos or Triazophos @1.5 lt/ha.	41000	310000	269000	7.56	38600	240000	201400	6.21
Vegetables										
Merigold	Varietal evaluation	Pussa Narangi	65800	295600	229800	4.5	65800	195750	129950	2.9
Onion	Varietal evaluation	Agri found Light -Red	--	--	--	--	--	--	--	--
Brinjal	Varietal evaluation	Pusa Shyamla	--	--	--	--	--	--	--	--
Cabbage	Varietal evaluation	Golden Acre	55700	208000	153000	3.7	54500	156800	102300	2.8

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	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**	• Khaira symptoms were controlled • No of Tillers were increased as toe per hill • Yield was increased 10.48 %	• 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	Foliar NPK @5.0 kg/ha + Mono Zinc @ 12.5 kg/ha	• Karnal bunt and Yellow rust were controlled	• Sulpur granular applied as basal • Foliar application of NPK at 55 and 70 days were

	+ Sulphur granular @ 25.0 kg/ha **F.P : No application**	• Yield was increased 10.20 %	appropriate. • Mono Zinc broadcast along with second dose of Urea was effective.
Wheat	Weed control through Metsulfuran methyl 3% + Idosulfuran methyl sodium 6%(Atlantis)@ 400 g/ha, **F.P :** Metribuzim 500g /ha.	The chemical was effective only when 35-40 DAS in wheat crop.	• The chemical weed control was very effective in comparison to metribuzium as it is cost effective
Wheat	DBW 90 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
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 19% in comparision to chemical control (Profenophos @ 2.0ml/lt). • The fruit quality was good . • Very safe and ecofriendly technology.
Vegetables			
Merigold	Pusa Narangi	• Plant remain vegetative for 100 day and flowers in 125-135 days	• Market rate Rs. 2/kg higher due to orange colour of flower with big ruffled florets.
Onion	Agri found Light -Red		
Brinjal	Pusa Shyamla		
Cabbage	Golden Acre	• Crop completed within two months after transplanting	• Farmers was happy due to higher yield.

FLD PHOTOGRAPH

Mgt of Stem Borer in Paddy crop

Weed mgt. through Metsulfuran methyl 3% + Idosulfuran methyl sodium 6% (Atlantis) 400 g/ha /ha in Wheat

Foliar Application of Micronutrient in Paddy crop

Mgt. of Fruit fly in Guava

Varietal Demo of Marigold (Pusa Narangi)

Varietal Demo of Cauliflower (Golden Acre)

Effect of Micronutrient in Wheat crop

Field of DBW 90

Mgt. of Endo & Ecto Parasite in Cattle Calves

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	New Release Wheat variety (WB-2) @ 40 kg/acre with Rotavator	WB-2	04	1.60	44.70	40..30	42.50	39.30	8.14	--
Wheat	ICM	New Release Wheat variety (HPB W01) @ 40 kg/ha with seedrill	HPB W01	05	2.00	43.30	41.80	42.55	39.45	7.8	--
Wheat	ICM	New Release Wheat variety (DBW 71) @ 40 kg/ha with seedrill	DBW 71	06	2.40	40.30	38.80	39.55	37.60	5.18	--

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)
22529	73737.50	51208.50	2.27:1	24540.0	68185.50	43645.50	1.77:1
22529	73824.00	51295.00	2.27:1	23800.0	68445.75	44645.75	1.87:1
21240	68619.25	47379.00	2.23:1	24630.0	65236.00	40606.00	1.64:1

Price of grain – Rs. 1735 / qt ,

Technical Feedback on Demonstrated technology :

1. The crop sown through rotavator was more prone to lodging in comparison to seed drill sowing.
2. Varieties WB-2, HPBW 1 & DBW 71 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 unusual temperature increase (upto 35^0 C) affected all the wheat varieties.
2. The Chapati making quality of DBW 71 was better than other varieties.

Photograph

FLD on Other Enterprises : Use of Revolving Stool for Milking:

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)
Drudegry reduction	Use of Revolving Stool for Milking:	05	05	--	--	--	--	--	--	--	--	--	--	--	--	--

Average Incidence of musculoskeletal problem during existing and Improved conditions: (N-5)

A.Level of Physical stress:

Body Parts	Existing Practice					Improved Practice				
	Very severe	Severe	Moderate	Mild	Very mild	Very severe	Severe	Moderate	Mild	Very mild
Neck	--	5	--	--	--	--	--	4	1	--
Shoulder Pain	--	4	1	--	--	--	--	3	2	--
Low Back	--	5	--	--	--	--	--	3	2	--
Thighs	4	1	--	--	--	--	--	4	1	--
Ankels/Feets	2	2	1	--	--	--	--	--	2	3

B.Bio Mechanical:

Bio Mechanical	Existing Practice		Improved Practice	
	Yes	No	Yes	No
Maintain comfortable body posture	00	05	05	00
Twisting of trunk while doing the activity	05	00	02	03
Able to synchronise the movement of the animal	04	01	05	00

C.Work Output:

Work Output	Existing Practice		Improved Practice	
	Yes	No	Yes	No
Tool is effective as per time cost	00	05	05	00
Tool is effective in improving the production efficiency	01	04	05	00

D.Tool Factors:

Tool Factors	Existing Practice		Improved Practice	
	Yes	No	Yes	No
The milking activity is light enough while using the Revolving Stool	00	05	05	00
Height of the stool needs to be adjusted to my working height	NA	NA	04	01
Easy to maintain and repair	NA	NA	04	01

E.Field acceptability:

Field acceptability	Existing Practice		Improved Practice	
	Yes	No	Yes	No
Improved tools is a good replacement to the existing work place	NA	NA	05	00

Farmers Practice : No Stool Used

Milking with Revolving Stool

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	411.50	22.0	94	80 Availability of fresh vegetables	20 Availability fresh vegetables	310	1050.00	740.00	33:1	65.00	450.00	385.00	7.0

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.

Farmers practice

Kitchen Garden

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 Albomar @30 ml vial once	18	35	Cured (endo-parasite)		88.57 % cured & survived	11.50 % mortality	60 % mortality								
CB cow	Disease mgt.	Anthelmintic Exinot @ 30 ml vial once	10	20	Cured (ecto & endo-parasite)	---	75% Ecto-endo parasite cured	25 % 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	---	9.52% increased in milk yield	5% concentration ration reduced	No change in concentration 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 Albomar @30 ml vial once	The observations recorded after one month of medication revealed that out of 35 medicated calves 31 no. calves cured & survived .ie.88.57% & rest died (All four calves were three male &one female). No change was found on 20.11.17.	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, 15 no. were found worm negative i.e.75 % (fecal sample testing based) & ecto parasitic infestation also cured upto 75%.	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 9.52%	Farmer's reaction was not positive because the milkman said that the milk is urea added/synthetic.

FLD on Livestock : ATMA

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)	Major parameters (Milk Yield Lit/day)		% 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)
Animals																	
Cattle & Buffaloes	Balance Feeding.	Promotion of balance ration feeding	18 (two each block)	18	10.44	8.63	20.90 % hike in milk yield	Low incidence of disease	Higher incidence of disease	3700	4887	1187	1.32:1	3300	3820	520	1.15

Farmer's Reaction:

Category	Thematic area	Name of the technology demonstrated	Technical Feedback on Demonstrated Technology	Farmer's Reaction on Demonstrated Technology
Animals				
Cattle & Buffaloes	Balance Feeding.	Promotion of balance ration feeding	The observations recorded after fifteenth days interval of balance ration feeding upto two months.	Farmers adopted technology on the basis of hike in milk yield &drastic improvement in health of the animals as compare to check.

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	1.30	1998	1500	1808	----	---	29000	271230	242230	9.3:1

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						
Vegetables													
Cauliflower	Varietal	GS--75	09	1.17	194	190	192	156	24.35	105000	276500	171500	2.6:1

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	Dr. Barnd	06.09.17	03.10.17	30.12.17	06	06	32.00	26.00

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	01	20	--	20	--	--	--	20	--	20
Seed production	06	111	--	111	9	--	9	120	--	120
Integrated Crop Management	01	18	--	18	02	--	02	20	--	20
Integrated nutrient management	--	--	--	--	--	--	--	--	--	--
Production of organic inputs	--	--	--	--	--	--	--	--	--	--
Microirrigation	01	17	--	17	03		03	20	--	20
Others (crop water management)	03	55	--	55	05	--	05	60	--	60
Total	**12**	**221**	**0**	**221**	**19**	**0**	**19**	**240**	**0**	**240**
II Horticulture										
a) Vegetable Crops										
Off season vegetables	4	72	--	72	8	--	8	80	--	80
Nursery raising	--	--	--	--	--	--	--	--	--	--
Others-	--	--	--	--	--	--	--	--	--	--
b) Ornamentals	1	18	--	18	2	--	2	20	--	20
Others	--	--	--	--	--	--	--	--	--	--
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	1	20	0	20	0	0	0	20	0	20
Integrated water management	--	--	--	--	--	--	--	--	--	--
Integrated Nutrient Management	1	20	0	20	0	0	0	20	0	20
Production and use of organic inputs	--	--	--	--	--	--	--	--	--	--
Management of Problematic soils	--	--	--	--	--	--	--	--	--	--
Micro nutrient deficiency in crops	1	20	0	20	0	0	0	20	0	20
Nutrient Use Efficiency	--	--	--	--	--	--	--	--	--	--
Balance use of fertilizers	1	20	0	20	0	0	0	20	0	20
Total	**4**	**80**	**0**	**80**	**0**	**0**	**0**	**80**	**0**	**80**
IV Livestock Production and Management										
Dairy Management	1	18	--	18	02	--	02	20	--	20
Animal Nutrition Management	1	18	--	18	02	--	02	20	--	20
Disease Management	2	37	--	37	03	--	03	40	--	40
Fodder & Fodder technology	1	17	--	17	03	--	03	20	--	20
Total	**5**	**90**	**--**	**90**	**10**	**--**	**10**	**100**	**--**	**100**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	--	--	--	--	--	--	--	--	--	--
Gender mainstreaming through SHGs	--	--	--	--	--	--	--	--	--	--
Storage loss minimization techniques	--	--	--	--	--	--	--	--	--	--
Value addition	02		15	15		25	25		40	40
Design & Development of Low cost diet	--	--	--	--	--	--	--	--	--	--
Location specific drudgery reduction technologies	--	--	--	--	--	--	--	--	--	--

Minimization of Nutrient loss in processing	01	--	18	18	--	02	02	--	20	20
Women and child care	--	--	--	--	--	--	--	--	--	--
Total	**03**		**33**	**33**		**27**	**27**		**60**	**60**
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	**34**	**567**	**33**	**600**	**53**	**27**	**80**	**620**	**60**	**680**

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	**03**	**50**	**--**	**50**	**10**	**--**	**10**	**60**	**--**	**60**
Seed production	09	173	--	173	07	--	07	180	--	180
Integrated Crop Management	**01**	**17**	**--**	**17**	**03**	**--**	**03**	**20**	**--**	**20**
Integrated nutrient management	--	--	--	--	--	--	--	--	--	--
Production of organic inputs	--	--	--	--	--	--	--	--	--	--
Weed mgt.	--	--	--	--	--	--	--	--	--	--
Microirrigation	--	--	--	--	--	--	--	--	--	--
Others (Crop water management)	**04**	**70**	**--**	**70**	**10**	**--**	**10**	**80**	**--**	**80**
Total	**17**	**310**	**0**	**310**	**30**	**0**	**30**	**340**	**0**	**340**
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	1	17	--	17	3	--	3	20	--	20
Others (pl specify)- Intercropping										
GT (a-g)	**11**	**189**		**189**	**11**	**--**	**11**	**220**		**220**
a) Vegetable Crops										
III Soil Health and Fertility Management										
Soil fertility management	2	40	0	40	0	0	0	40	0	40
Integrated water management										
Integrated Nutrient Management	2	40	0	40	0	0	0	40	0	40
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops	2	40	0	40	0	0	0	40	0	40
Nutrient Use Efficiency	1	20	0	20	0	0	0	20	0	20
Balance use of fertilizers	1	20	0	20	0	0	0	20	0	20
Total	**08**	**160**	**--**	**160**	**--**	**--**	**--**	**160**	**--**	**160**
IV Livestock Production and Management										
Dairy Management										

Animal Nutrition Management										
Disease Management	4	74	--	74	06	--	06	80	--	80
Feed & fodder technology	1	20	--	20	--	--	--	20	--	20
Total	**05**	**94**	**--**	**94**	**06**	**--**	**06**	**100**	**--**	**100**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	01		20	20	--	--	--	--	20	20
Design and development of low/minimum cost diet	01		19	19		01	01		20	20
Designing and development for high nutrient efficiency diet	--	--	--	--	--	--	--	--	--	--
Minimization of nutrient loss in processing	01	--	17	17	--	03	03	--	20	20
Processing and cooking	--	--	--	--	--	--	--	--	--	--
Gender mainstreaming through SHGs	01		16	16		04	04		20	20
Storage loss minimization techniques	01		18	18		02	02		20	20
Value addition	02		30	30		10	10		40	40
Women empowerment	--	--	--	--	--	--	--	--	--	--
Location specific drudgery reduction technologies	02		40	40		00	00		40	40
Rural Crafts	--	--	--	--	--	--	--	--	--	--
Women and child care										
Others (pl specify)	--	--	--	--	--	--	--	--	--	--
Total	**09**		**160**	**160**		**20**	**20**	**--**	**180**	**180**
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	**59**	**908**	**160**	**1068**	**72**	**20**	**92**	**1000**	**180**	**1180**

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	**04**	**70**	**--**	**70**	**10**	**--**	**10**	**80**	**--**	**80**
Seed production	15	284	--	284	16	--	16	300	--	300
Integrated Crop Management	**02**	**35**	**--**	**35**	**05**	**--**	**05**	**40**	**--**	**40**
Integrated nutrient management	--	--	--	--	--	--	--	--	--	--
Production of organic inputs	--	--	--	--	--	--	--	--	--	--
Weed mgt.	**01**	**17**	**--**	**17**	**03**	**--**	**03**	**20**	**--**	**20**
Microirrigation										
Others (Crop water management)	**07**	**125**	**--**	**125**	**15**	**--**	**15**	**140**	**--**	**140**
Total	**29**	**531**	**0**	**531**	**49**	**0**	**49**	**580**	**0**	**580**
II Horticulture										
a) Vegetable Crops	4	72	--	72	8	--	8	80	--	80
Production of low value and high volume crops	2	32	--	32	8	--	8	40	--	40
Off Season vegetables	2	35	--	35	5	--	5	40	--	40
Nursery Raising										
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	**2**	**34**	**--**	**34**	**6**	**--**	**6**	**40**	**--**	**40**
dOrnamental	**1**	**18**	**--**	**18**	**2**	**--**	**2**	**20**	**--**	**20**
Other										
e) Tuber crops										
Production and management technology										
Total (e)										
Total (f)										
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	01	20	--	20	--	--	--	20	--	20
Balance use of fertilizers	01	20	--	20	--	--	--	20	--	20
Soil and Water Testing	--	--	--	--	--	---	--	--	--	--
Others (pl specify)- Biofertilizer	01	20	--	20	--	--	--	20	--	20
Total	**12**	**240**	**--**	**240**	**--**	**--**	**--**	**240**	**--**	**240**
IV Livestock Production and Management										
Dairy Management	01	18	--	18	02	--	02	20	--	20
Animal Nutrition Management	1	18	--	18	02	--	.02	20	--	20
Disease Management	6	111	--	111	09	--	09	120	--	120
Others (pl specify) Fodder Production	2	37	--	37	03	--	03	40	--	40
Total	**10**	**184**	**0**	**184**	**16**	**0**	**16**	**200**	**0**	**200**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	01		20	20	**--**	**--**	**--**	**--**	20	20
Design and development of low/minimum cost diet	01		19	19		01	01		20	20
Minimization of nutrient loss in processing	02		35	35		05	05		40	40
Processing and cooking										
Gender mainstreaming through SHGs	01		16	16		04	04		20	20
Storage loss minimization techniques	01		18	18		02	02		20	20
Value addition	04		45	45		35	35		80	80
Women empowerment	--									
Location specific drudgery reduction technologies	02		40	40		00	00		40	40
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	**12**		**193**	**193**		**47**	**47**		**240**	**240**
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	**93**	**1475**	**193**	**1668**	**145**	**47**	**192**	**1620**	**240**	**1860**

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	**01**	**10**	**--**	**10**	**--**	**--**	**--**	**10**	**--**	**10**
Seed Production	01	12	--	12	03	--	03	15	--	15
Post Harvest Technology										
Dairying	--	--	--	--	--	--	--	--	--	--
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										
Post Harvest Technology	01	--	10	10	--	05	05	--	15	15
Tailoring and Stitching	01	--	10	10	--	05	05	--	15	15
Rural Crafts	02	--	19	19	--	11	11	--	30	30
Poultry Production	01	15	--	15	--	--	--	15	--	15
TOTAL	**10**	**79**	**39**	**118**	**11**	**21**	**32**	**90**	**60**	**150**

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	**01**	**10**	**--**	**10**	**--**	**--**	**--**	**10**	**--**	**10**
Dairying	01	12	--	12	03	--	03	15	--	15
Seed Production										
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Nursery management in Horticultural crops										
TOTAL	**02**	**22**	**--**	**22**	**03**	**--**	**03**	**25**	**--**	**25**

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	**02**	**20**	**--**	**20**	**--**	**--**	**--**	**20**	**--**	**20**
Dairying	01	12	--	12	03	--	03	15	--	15
Seed Production	01	12	--	12	03	--	03	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	15	--	15	--	--	--	15	--	15
Small scale processing										
Post Harvest Technology	01	--	10	10	--	05	05	--	15	15
Tailoring and Stitching	01	--	10	10	--	05	05	--	15	15
Rural Crafts	02	--	19	19	--	11	11	--	19	11
TOTAL	**12**	**101**	**39**	**140**	**14**	**21**	**35**	**115**	**60**	**175**

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
Rejuvination of old Orchard										
INM	1	18	0	18	0	0	0	18	0	18
Others										
TOTAL	1	18	0	18	0	0	0	18	0	18

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	**06**	**60**	**--**	**60**				**60**		**60**
Low cost and nutrient efficient diet designing	02	--	13	13	--	01	01	--	14	14
INM	02	30	0	30	0	0	0	30	0	30
Soil test based fertilizer use	01	20	20	20	0	0	0	20	-	20
Manegment of mango orchard	01	15	--	15				15	--	15
Medow gardening of guava	01	15	--	15				15	--	15
Livestock feed & Fodder Prod.	04	34	--	34	06	--	06	40	--	40
Application of Bio Pesticides	02	24	--	24	06	--	06	30	--	30
TOTAL	**19**	**198**	**33**	**211**	**12**	**1**	**13**	**210**	**14**	**224**

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	**06**	**60**	**--**	**60**				**60**		**60**
Low cost and nutrient efficient diet designing	02	--	13	13	--	01	01	--	14	14
INM	03	48	--	48	--	--	--	48	--	48
Soil test based fertilizer use	01	20	20	40	0	0	0	20	20	40
Livestock feed & Fodder Prod.	04	34	--	34	06	--	06	40	--	40
Manegment of mango orchard	01	15	--	15				15	--	15
Medow gardening of guava	01	15	--	15				15	--	15
Application of Bio Pesticides	02	24	--	24	06	--	06	30	--	30
TOTAL	**20**	**216**	**33**	**249**	**12**	**1**	**13**	**228**	**34**	**262**

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										
Increasing production and productivity of crops										
Production and value addition										
Fruit Plants Under NHM	6	130	--	130	20	--	20	150	--	150
Bee Keeping										
Spices crops										
Others (pl. specify)- Mushroom Growers										
Seed Prod. – PPVFRA, IIWBR	02	200	--	200	20	--	20	220	--	220
Water mgt.	09	160	--	160	20	--	20	180	--	180
Training Under ARYA Project (Broilar farming)	**02**	**39**	**--**	**39**	**11**	**--**	**11**	**50**	**--**	**50**
GRAND TOTAL	**19**	**529**	**0**	**529**	**71**	**0**	**71**	**600**	**0**	**600**

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 Youth Training

On Campus Rural Youth Training programme on Seed production

On Campus training programme

SPONSORED TRAINING PROGRAMME

Training under PPVFRA on 28.02.18

Farmers Training under ATMA

Farmers Training under AGRIFORT Ltd. ON 16.10.17

IFFCO Sponsored Training on 07.02.18

Training under Indian Potash Ltd. On 30.10.17

Training under Dhanuka Agritech Ltd. On 10.11.2017

Training under YARA International on 21.11.2017

Poultry Training under ARYA Project

IV. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	243	2232	21	2253
Diagnostic visits	234	1720	18	1738
Field Day	6	283	7	290
Group discussions	8	121	21	142
Kisan Ghosthi	29	4583	178	4761
Film Show /Radio Talk	00	00	00	00
Self -help groups	03	37	01	38
Kisan Mela	27	5485	265	5750
Exhibition	00	00	00	00
Scientists' visit to farmers field	01	3846	11	3857
Plant/animal health camps	01	125	8	133
Farm Science Club Meeting	18	332	06	338
Ex-trainees Sammelan	01	18	0	18
Farmers' seminar/workshop	00	0	0	0
Method Demonstrations	00	0	0	0
Celebration of important days	04	105	13	118
Special day celebration	00	0	0	0
Exposure visits	08	400	0	400
Others (pl. specify)	0	0	0	0
Farmers Visit to KVK	01	2215	0	2215
Total	**582**	**21502**	**549**	**22051**

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	--
Extension Literature	4600
News paper coverage	25
Popular articles	01
Radio Talks	05
TV Talks	--
Animal health camps (Number of animals treated)	125
Others (pl. specify)- Book Chapter/Book /Training manual	1200

Mobile Advisory Services

No. of KVKs	No. of SMSs sent	No. of farmers benefited
KVK Baghra Muzaffarnagar	3421	3421

EXTENSION ACTIVITIES

Swach Bharat Abhiyan at KVK Campus

Field Day

Exposure Visit

Animal Health Camp

Diagnostic Visit

International Soil Health Day

Scientific Advisory Committee Meeting

Trivani Sugar Mill Gosthi

OTHER EXTENSION PROGRAMME

1. World Soil Health Day :

2.PPVFRA Training :

3. Sankalp Se Siddhi Programme (27.08.17_ :

4. Quarterly Meeting with DM :

6. Mahila Kisan Diwas & Krishi Siksha Diwas

7. Training Programme Under ARYA Project :

8. Award & Recognization of KVK :

Best Report Award 2016-17

Best Stall Award in All India Agriculture Fair 6-8 Oct. 2017

9. Exposure Visit :

Exposure Visit of farm women to NDRI Karnal

Exposure Visit of frmers at SVPUA&T Meerut

10. Participation of KVK in Exhibition :

	
Sh. Yogi Adityanath, CM (UP) visited KVK stall at ATARI Kanpur from 8 June 2017	**All India Agriculture Fair at SVPUA&T, Meerut 7-10 Oct. 2017**

11. Interaction with The President of India in Exhibition Organized during International Conference Agricon 2018 at CSAUA&T, Kanpur on 14 Feb. 2018

Hon'ble President Visit

RAWE STUDENT

Seven Students of B.Sc. Ag (Final Year) have been attached to KVK Muzaffarnagar (20th Sept to 31st Dec. 2017) for Rural Agriculture Work Experience (RAWE). All the students are staying in KVK Campus and are being exposed to various rural based activities.

Mushroom Cultivation by RAWE Students

Soil Testing Demo.

Visit to ARYA Poultry Unit

Honey Processing & Packing

Interacting with Rice Farmer

Interacting with ADG (Education), ICAR

	
Visiting Polyhouse	**Interaction with Mushroom Farmer**
	
Visiting Field of Sugarcane + Potato	**Field Visit in Saansad Adarsh Gram**
	
Hon'ble Vice Chancellor interacting with RAWE Students	**Experience Sharing by RAWE Students**

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	Wheat	HD 2967	--	256.45	442808.00	NSC
Fodder Crops	--	--	--	---	--	--
Total				256.45	442808.00	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						
	Brinjal	Navkiran	navkiran	4000	1600	12
	Cauliflower	GS—75/ Girija	GS-75/Girija	8050	4025	35
	Tomato	Himsona	Himsona	3500	1750	15
	Cabbage	G Ball 65	G Ball 65	7250	2900	20
Total				**22800**	**10275**	**82**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilisers				
	Vermi- Compost	2500	Used in Crop Cafeteria	--
	Worms	5	Used in Vermi Compost unit	--
Total		**2505**		

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	590	7080	03

VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Macronutrient	17	17	122	510.00
Micronutrient	2428	2428		143460.00
Total	**2445**	**2445**	**122**	**143970.00**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Name of KVK	Number of SACs conducted
KVK Baghra, Muzaffarnagar (UP)	1. (06.12.2017)

IX. NEWSLETTER

Name of News letter	No. of Copies printed for distribution
Krishi Panchang 2018	700

X. PUBLICATIONS

Category	Number
Research Paper	14
Technical bulletins – 02	1200
Technical reports	09
Abstract	13
Popular Articles	01
Extension literature (Technology card	4600
Total	**5837**

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
R.K.Naresh,Ashok Kumar,Mukesh Kumar,Vivek, **P.K.Singh,** M.K.Singh,S.P.Singh,Vivek, Ujjwal	2017	Alternative Arable Cropping Strategies: A Key to Enhanced Productivity, Resource-Use-Efficiency, and Soil Health under Subtropical Climatic Condition	International Journal of Current Microbiology and Applied Sciences. ISSN: 2319-7706. Vol 6(11) pp. 1187-1205
K.K.Singh & P.K.Singh	2017	Participatory quality seed production : An Innovative farming technology for rural development and rural entrepreneurship	Bioved, 28(2): 299-302, 2017

R.C.Verma, P.K.Singh,Shripal,Shubham Arya and Vipin Kumar	2017	Evaluation of Basmati Rice Varieties for Yield Performance and Economics under Farmers Field Situation in Muzaffarnagar District, India.	*International Journal of Microbiology and Applied Sciences*. Vol.6, No.12(2017) pp, 1552-1555
R.C.Verma, P.K.Singh & J.K.Arya	2017	**EVALUATION OF DIFFERENT MODULES FOR THE MANAGEMENT OF SHEATH BLIGHT OF RICE UNDER FIELD CONDITION.**	*International Journal of Current Research*. Vol.9, No.09, pp, 56945-56946
R.C.Verma, P.K.Singh & Shripal	2017	**EVALUATION AND ANALYSIS OF YIELD, PERFORMANCE AND ADOPTION OF BLACKGRAM(Vigna Greengramo L) VARIETY PU-31 IN MUZAFFARNAGAR DISTRICT.**	*Asian Journal of Science and Technology.* Vol.08, No.10.pp, 6119-6120.
Singh, P.K., Pramod Kumar, Shiv Kumar and Shripal	2017	IMPACT OF SEED CUM FERTI-DRILL FOR WHEAT SOWING AFTER PADDY HARVESTING IN MUZAFFARNAGAR DISTRICT, UTTAR PRADESH	*International Journal of Science and Nature* , VOL.8 (3) , pp-1-4, 2017
A.K. Katiyar Ram Prasad	2017	Performance of fodder maize as influenced by residual effect of inorganic fertilizer and bio-fertilizers in Western UP	*Progressive Agriculture, 17(1) 90-96.*
A.K. Katiyar Ram Prasad	2017	Nutrient management and its effects on uptake of nutrients on lentil crop in Western Plain Zone of Uttar Pradesh	*Progressive Agriculture, 17(1)176-179.*
A.K. Katiyar S.P. Gangwar	2017	Impact of front line demonstrations on productivity and profitability of mustard in Hills of Uttaranchal	*The Journal of Rural and Agricultural research, 17(2)78-80.*
Vinita Singh,***Savita Arya***,Sarita Joshi,Kirti M Tripathi	2017	Role of Women in Agriculture:Gender Differences and Empowerment	Shaudh Vaichariki January-March 2017,Year 6,Vol 1,pp94.
Parmod Kumar,Ashok Kumar,Ravindra Kumar,***Savita Arya***,Neeraj Tomar	2017	Soil Fertility Assessment near Ganga Canal in Western Plain Zone of Uttar Pradesh	Pragya Shikshan Shodh Rachana,Vol II,No 4,July-December 2017,pp32
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
Verma , R.C. ,Singh , P.K. & Arya , J.K.	2017	Evaluation of Different Modules For The Management of Sheath Blight Of Rice Under Field Conditions	International Jouranal Of Current Research
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
RC Verma, AK Katiyar, PK Singh	2017	Integrated management of white grub and top borer through	*National conference on Agriculture Renewal for evergreen Revolution:*

		chemical and biological measures in sugarcane Muzaffarnagar District,	*Concept and Approaches, 10 March 17, at Gochar Mahavidyalaya, Rampur Maniharan, Saharanpur (UP)59pp*
A.K.Katiyar, P.K.Singh,R.C.Verma	2017	Sugarcane productivity enhance through SSNM,	*National Conference on Farmers Centric Agri-innovation for sustainable development at CSA, Kanpur on 24-25 March 2017.*
P.K. Singh A.K. Katiyar Shiv Kumar	2017	Impact of soil test based nutrient management- A case study	*International Seminar on Global Climate Change: Implications for Agriculture and Water Sectors Aurangbad, Maharastra 14-16 Dec.ThemeIIb- 298.*
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*
Savita Arya,Sarita Joshi,Parmod Kumar,	24 April 2017	*Post Harvest Losses-Loss to Nation*	National Seminar on "Sustainable Agriculture &National Resource Management" held at Motherhood University ,Roorkee, • ,
Sarita Joshi,Savita Arya,Kirti Mani Tripathi	27-28 Oct 2017	*Nutrition Education and ITS Impact* "	Souvenir of International Conference on Advances in Agriculture and Biodiversity Conservation for Sustainable Development held from,Pp 310
Kirti M. Tripathi, Omkar Singh, Satish Kumar, Sarita Joshi, ***Savita Arya,*** Vinita Singh	27-28 Oct 2017	*Success Story of Socio-Economic Status and its Horizantal Expansion in Western Uttar Pradesh*	Souvenir of International Conference on Advances in Agriculture and Biodiversity Conservation for Sustainable Development held from,pp236
M.Tripathi,Sarita Joshi,***Savita Arya,***Vinita Singh	27-28 Oct 2017	*",Identification of Secrets of Health which every Rural Women should know in Western Uttar Pradesh,*	Souvenir of International Conference on Advances in Agriculture and Biodiversity Conservation for Sustainable Development held from,pp235
Savita Arya,Satya Prakash,sarita Joshi,Kirti M.Tripathi, Vinita Singh	27-28 Oct 2017	*Drudegery Reducing Technologies for Farm Women and Farm Workers –Need of The Hour*",	Souvenir of International Conference on Advances in Agriculture and Biodiversity Conservation for Sustainable Development held from,pp240
P.K. SINGH, R.C. VERMA & J.K. ARYA	2017	Promotion and Development of Entrepresneurship :-- Initiatives of ARYA	

Item	Title
Training Manual	PPVFRA Booklet – 500
Techanical Bulletin	**Krishi Panchang 2018 – 700 copy**
	Sankalp Se Siddhi – 600
	मधुमक्खी पालन – 1000 copy

	लहसुन और प्याज की उन्नत खेती – 1000 copy
	मशरुम उत्पादन – 1000 copy
	फसलों में हरी खाद का महत्व – 1000 copy
Popular articles	Soyabean-Rich Nutrition for Poor, ***Savita Arya***,,P.K.Singh,Parmod Kumar , Indian Farmers Digest,Vol.50,No.11,November 2017 pp22
Technical Reports	*KVK Progress Report 16-17, Action Plan 18-19, SAC Report 2017, Deen Dayal Updhaye National KVK Award Report 2018, Mahendra Samridhi Award Report 2017, Dhanuka Kisan Award 2017, NICRA 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

Activities conducted				
No. of Training programmes	**No. of Demonstration s**	**No. of plant materials produced**	**Visit by farmers (No.)**	**Visit by officials (No.)**
09	06	--	55	12

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	International Seminar on Sustainability of Smallholder agriculture in Developing Countries under Changing Climate Scenario	Kanpur	03 Days	14-17 Feb.2018
	Workshop on ICAR-TCS Collaborative Project	NASC New Delhi	01 Day	22 Jan 2018
	Zonal Workshop of KVKs	ATARI, Kanpur	03 Days	8-10 June 2017
	International Seminar on Global Climate Change	Aurangabad, Maharashtra, India	03 Days	14-16 Dec. 2017
	National KVK Conference	IARI Pusa New Delhi	02 Days	15-16 March
Dr. Anil Katiyar	Workshop on Quality improvement in production of Basmati rice for export	APEDA Meerut and SVP Univ.	1 Day	23 Aug. 17
	HRD training	SVP UA&T, Meerut	2 Day	15-16 Jan 18
	Soil scientist and Agronomist training programme	ATARI- Kanpur	2 Day	18-19 Aug 17
	National conference on bhumisuposan. Approach and practices to enrich soil for sustainable agriculture	CSIR-IICT Hyderabad	2 Day	24-25 March 18
Dr. Savita Arya	International Conference on	CCS University,Meerut	02	27-28 October

	Advances In Agricultural and Biodiversity Conservation for Sustainable Development(ABCD2017)			2017
	Human Resourse Development Training for KVK Scientists	SVP U A& T,Meerut	02	19-20 January 2018
Dr. R.C.Rathi	Capacity Building of Extension Functunaries for Promotion of Entrepreneurship among Farmers.	Veterinary University Mathura	10	01-10 January 2018
	HRD Training	SVPUA&T Meerut	02	29-30 January 2018
Dr. Shripal	Summer School on " Machinery for conservation agriculture for mitigation and adaptation of climate change	IIFSR Modipuram,Meerut	21 days	5-25 September 17
	HRD Training	SVPUA&T ,Meerut	2days	19-20 January 2018
	Review of progress Report and Action plan NICRA	ATARI,Kanpur	1day	1 July 2018
	Review meeting of CFLD and other programme	ATARI,Kanpur	2days	7-8 February 2018
Sh. Shiv Kuamr	Advances in Water mgt. practices for enhancing water productivity in Agriculture	IARI, New Delhi	21 Days	25 Oct. to 14 Nov. 2017
	HRD Training	SVPUA&T ,Meerut	2days	19-20 January 2018
Dr. R.C. Verma	Capacity Building Programme "Field Diagnosis and Management of Plant Parasitic Nematodes in Horticultural Crops"	NIPHM, Hyderabad	05	22-26 Jan 2018
Dr. J.K.Arya	Developing business proposal for companies and start up in Agribusiness	NAARM Hyderabad	05	19-23 Sep.2017
	Model training course "Quality Potato Seed Production, Certification & Post Harvest Management"	CPRI Modipuram Merrut	08	12-19 Dec.2017
	Sustainability of Smallholder Agriculture in Developing countries under Changing Climate Scenario	CSAUAT Kanpur	04	14-17 Feb 2018
Sh. Sanjeev Kumar	HRD Training	SVPUA&T, Meerut	02	15-16 Jan 2018

XIV. Case Studies/Success Stories
Case Study – 1 : Cucumber Intercropping with Sugarcane

EXPLANATION OF NEW SYSTEM :

The Sugarcane crop is generally grown alone which gives the return after one year. The household requirement for money is on day today basis. This need led to improvement in system and cucumber was taken as intercrop for regular additional income. The sugarcane crop and cucumber were sown 15-16 feb, 2016 and also during 2017 on 20-22 feb. Earlier cucumber was taken as intercrop as creeper without stacking in unscientific manner resulting in low yield and poor quality produce. The use of stacking for cucumber crop led to better quality produce with handsome additional return .

NEED OF NEW SYSTEM :

The need of intercropping of cucumber with sugarcane was due to less return from sugarcane alone and that too after one year. The cucumber intercropping with sugarcane on stacks is giving very good results in terms of productivity and quality of produce. The growth of sugarcane crop during initial 2-3 months is slow which gave opportunity of intercropping without affecting the growth of sugarcane crop. The cucumber crop started the return just after 45-50 days of planting. This system generated additional employment for three persons .

Details of Technology

Sl. No.	Cultivated Crops	Productivity(Kg/Acre)		Cost of Cultivation(Rs./Acre)	
		Past	Present	Past	Present
1.	Intercropping of Sugarcane + Cucumber	Sugarcane-51000	Sugarcane-55800	Rs. 55000.00	Rs. 48000.00
		Cucumber- 4000	Cucumber-5757.3	Rs. 42000.00 Grown without stacking	Rs. 38274.00 Stacking cost additional @ Rs.28000.00/Acre

ECONOMICS OF INTERCROPPING MODULE :

CROP	GROSS RETURN Rs./ACRE	NET RETURN Rs./ACRE
Sugarcane	174522.00	126522.00
Cucumber	126660.00	60386.00

YIELD DIFFERENCE DUE TO INTERCROPPING SYSTEM :

The yield of sugarcane and cucumber both improved due to adoption of scientific management. Cucumber cultivation through stacking resulted in better growth which ultimately resulted in additional yield of 1757.00 Kg per acre while in sugarcane additional yield of 6800.00 kg per acre. This additional yield is due to scientific management of the system .

EFFECT ON COST ON CULTIVATION :

The cost of cultivation of cucumber (on stacks) increased by Rs. 28000.00 per acre in comparison to grown without stacks but this additional cost led to higher additional return from cucumber and also from sugarcane. The stacking system facilitated all the operations in easy manner which gave better crop canopy leading to higher productivity and return.

OTHER BENEFITS :

This scientific cultivation of sugarcane +cucumber intercropping gave recognition in the district and nearby areas which led to various certificates/ awards and ultimately social pride for mee and my family. More than 250 farmers growing sugarcane have visited my field and more than 80% of them are adopting this technique. Now our area is is known for cucumber and nearby farmers collect their produce at one place and collectively transport it to Azadpur Mandi, New Delhi. All the farmers are not required to be involved in marketing process but they simply pool their produce at a point where grading and packing is done and then two farmers go with the trucks to Delhi. The cost and profit is shared by all as per their quantity.

CROP PRODUCTION BEFORE THE NEW SYSTEM :

The sugarcane crop was grown alone with some area with cucumber as creeper without stacking. The old system was not able to support the family demand.

OTHER PARTICULARS :

1. This intercropping module has been demonstrated by Krishi Vigyan Kendra, in adopted village where I visited and interacted with farmers and KVK, Scientists.
2. I am using this module since February, 2016 and again during February,2017 .
3. About 200 farmers have practiced this module and are satisfied with its results.
4. I am informing since last eighteen years.

AVERAGE YIELD OF VILLAGE

Sl.No.	Crops	Yield (Kg/Acre)
1.	Sugarcane	36000.00
2.	Cucumber	4200.00

CASE STUDIES: 2 : SSNM a formula for increase sugarcane productivity

Muzaffarnagar is a leading district for sugarcane production with area 1.31 lac ha and productivity 829.56 q/ha (2015-16). Soil fertility and irrigation facilities are favourable to produce sugarcane up to 1200 q/ha.

KVK Intervention : KVK Muzaffarnagar has developed a SSNM formula for target yield 1000 q/ha after carrying out following activities in the district.

Year	No. of Training (participants)	No. of OFT (area in ha)	No. of FLD (area in ha)	No. of field days (Participants)	Productivity increase %
2014-15	04 (80)	--	30 (8.0)	2 (42)	19.57
2015-16	05 (100)	5 (2.0)	37(14.98)	10 (350)	18.98
2016-17	06 (110)	5(2.0)	40 (4.0)	4 (140)	14.50
2017-18	06 (120)	5 (2.0)	---	2 (45)	----
			Average yield increase %		17.68

Soil test based fertilizer formula for target yield of 1000 q/ha in trench method of planting

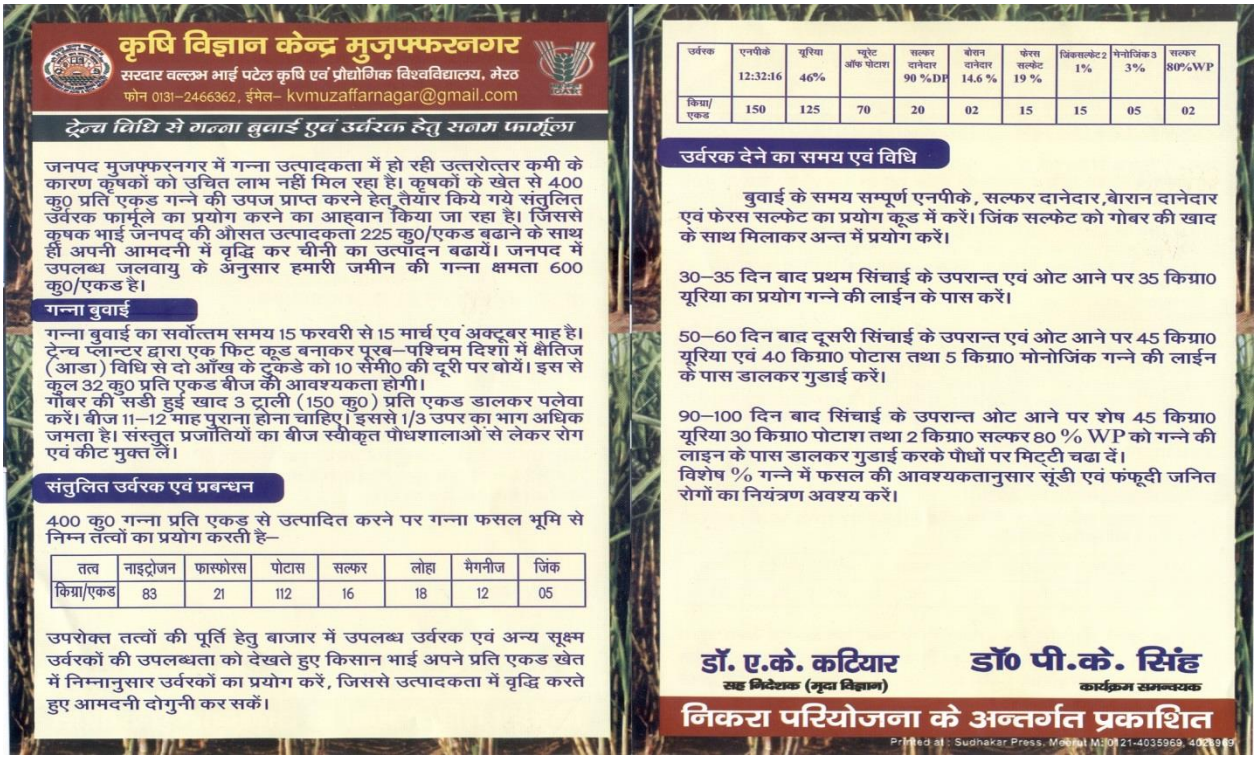
Fertilizer	Farmers using kg/ha (for 500-550 q/ha yield)	KVK Formula kg/ha	Time of application days (kg/ha)
NPK (12:32:16)	250	325	Basal at the time of sowing
Sulphur granular (90 DP)	--	50	
Ferrous sulphate (19%)	--	37.5	
Boron granular (14.6%)	--	05	
Zinc sulphate (21%)	05	37.5	Basal with FYM
Urea (46%)	375	300	30 days (85), 60 days (100), 90 days (115)
Murate of Potash (60%)	70	175	60 days (75), 90 days (100)
Mono zinc (33%)	--	12.5	60 days
Sulphur (80% WP)	--	05	

Outcome: Increased average productivity 17.68 percent from OFT and FLD demonstration.

Impact:

1. Farmers of the district can save Rs. 34000/ha in comparision to present practice.
2. District sugarcane area can be reduced upto 23160 ha with the same cane production.
3. After adaption of this technical formula, District Muzaffarnagar can save 196500 bags of Urea (50 kg capacity) which cost about Rs. 648 lac.

Effective popularization of techniques large scale through technical pamphlet.



कृषि विज्ञान केन्द्र मुज़फ्फरनगर

सरदार वल्लभ भाई पटेल कृषि एवं प्रौद्योगिक विश्वविद्यालय, मेरठ

फोन 0131–2466362, ईमेल– kvmuzaffarnagar@gmail.com

ट्रेन्च विधि से गन्ना बुवाई एवं उर्वरक हेतु सरल फार्मूला

जनपद मुजफ्फरनगर में गन्ना उत्पादकता में हो रही उत्तरोत्तर कमी के कारण कृषकों को उचित लाभ नहीं मिल रहा है। कृषकों के खेत से 400 कु0 प्रति एकड गन्ने की उपज प्राप्त करने हेतु तैयार किये गये संतुलित उर्वरक फार्मूले का प्रयोग करने का आह्वान किया जा रहा है। जिससे कृषक भाई जनपद की औसत उत्पादकता 225 कु0/एकड बढाने के साथ ही अपनी आमदनी में वृद्धि कर चीनी का उत्पादन बढायें। जनपद में उपलब्ध जलवायु के अनुसार हमारी जमीन की गन्ना क्षमता 600 कु0/एकड है।

गन्ना बुवाई

गन्ना बुवाई का सर्वोत्तम समय 15 फरवरी से 15 मार्च एवं अक्टूबर माह है। ट्रेन्च प्लान्टर द्वारा एक फिट कूड बनाकर पूरब–पश्चिम दिशा में क्षैतिज (आडा) विधि से दो आँख के टुकडे को 10 सेमी0 की दूरी पर बोयें। इस से कुल 32 कु0 प्रति एकड बीज की आवश्यकता होगी।
गोबर की सडी हुई खाद 3 ट्राली (150 कु0) प्रति एकड डालकर पलेवा करें। बीज 11–12 माह पुराना होना चाहिए। इससे 1/3 उपर का भाग अधिक जमता है। संस्तुत प्रजातियों का बीज स्वीकृत पौधशालाओं से लेकर रोग एवं कीट मुक्त लें।

संतुलित उर्वरक एवं प्रबन्धन

400 कु0 गन्ना प्रति एकड से उत्पादित करने पर गन्ना फसल भूमि से निम्न तत्वों का प्रयोग करती है–

तत्व	नाइट्रोजन	फास्फोरस	पोटास	सल्फर	लोहा	मैगनीज	जिंक
किग्रा/एकड	83	21	112	16	18	12	05

उपरोक्त तत्वों की पूर्ति हेतु बाजार में उपलब्ध उर्वरक एवं अन्य सूक्ष्म उर्वरकों की उपलब्धता को देखते हुए किसान भाई अपने प्रति एकड खेत में निम्नानुसार उर्वरकों का प्रयोग करें, जिससे उत्पादकता में वृद्धि करते हुए आमदनी दोगुनी कर सकें।

उर्वरक	एनपीके 12:32:16	यूरिया 46%	म्यूरेट ऑफ पोटास	सल्फर दानेदार 90 %DF	बोरान दानेदार 14.6 %	फेरस सल्फेट 19 %	जिंकसल्फेट 21%	मेनोजिंक 33%	सल्फर 80%WP
किग्रा/ एकड	150	125	70	20	02	15	15	05	02

उर्वरक देने का समय एवं विधि

बुवाई के समय सम्पूर्ण एनपीके, सल्फर दानेदार,बोरान दानेदार एवं फेरस सल्फेट का प्रयोग कूड में करें। जिंक सल्फेट को गोबर की खाद के साथ मिलाकर अन्त में प्रयोग करें।

30–35 दिन बाद प्रथम सिंचाई के उपरान्त एवं ओट आने पर 35 किग्रा0 यूरिया का प्रयोग गन्ने की लाईन के पास करें।

50–60 दिन बाद दूसरी सिंचाई के उपरान्त एवं ओट आने पर 45 किग्रा0 यूरिया एवं 40 किग्रा0 पोटास तथा 5 किग्रा0 मोनोजिंक गन्ने की लाईन के पास डालकर गुडाई करें।

90–100 दिन बाद सिंचाई के उपरान्त ओट आने पर शेष 45 किग्रा0 यूरिया 30 किग्रा0 पोटाश तथा 2 किग्रा0 सल्फर 80 % WP को गन्ने की लाइन के पास डालकर गुडाई करके पौधों पर मिट्टी चढा दें।
विशेष % गन्ने में फसल की आवश्यकतानुसार सूंडी एवं फंफूदी जनित रोगों का नियंत्रण अवश्य करें।

डॉ. ए.के. कटियार
सह निदेशक (मृदा विज्ञान)

डॉ0 पी.के. सिंह
कार्यक्रम समन्वयक

निकरा परियोजना के अन्तर्गत प्रकाशित

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Photograph

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	08	

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 2017-18 :

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	23.07.17	01.10.17	6.00	Local	Green Manuring	Green Manuring	30143.00	--
Wheat Seed Production	14.10.17	Crop Standing	6.00	HD 2967	Seed	Crop Standing	124000.00	Crop Standing

Utilization of Training Hall facilities :

Months	Name of Deptt.	No. Prog. Conducted	Amount Deposited
April 17	Baliyan Khadi gramudhyog, MZN (7 day each)	02	14000.00
May 17	DD Agril. MZN	02	1000.00
June 17	BDO, MZN	01	500.00
Sept. 17	Electricity Board, MZN	01	1000.00
Oct. 17	Prakash Kheti Seva Center	01	1000.00
Feb. 18	DHO, MZN	08	4000.00
		Total	**21500.00**

Note: The revenue generated from training hall during 2017-18 is

Utilization of hostel facilities :

Months	Title of the training course/Purpose of stay	No. of trainees stayed	Trainee days (days stayed)	Amount Deposited
May & June 17	Sukanaya Som, IARI, New Delhi	01	05	150.00
Nov. 17	Ankita Kandpal, IARI, New Delhi	01	02	220.00
March 18	Manoj Kumar	01	04	440.00
Sept to Dec. 2017	RAWE Studends - 07	07	3 months 10 days	--
	Total	**10**	**111**	**810.00**

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 2017-18

S.N.	Heads	Budget Sanctioned (Rs. in lakh)	Actual Expd. (Rs. in lakhs)	Balance (Rs. in lakhs)
A	**Recurring Items**			
1	Pay and Allowance	164.41	162.67	1.73
2	Traveling Allowance	1.00	0.99	0.01
	HRD	0.50	0.48	0.02
3	**Contingencies**			
a	Stationery & other Expenditure for office running	5.20	5.19	0.01
b	POL/Repair of Vehicle/Tractor	1.20	1.16	0.04
c	**Vocational Training**			
	i) Meals for trainees	0.80	0.75	0.05
	ii) Training material	0.30	0.29	0.01
	iii) Frontline demonstration Except oilseeds & pulses	1.00	0.99	0.01
	iv) On-Farm Testing	0.50	0.49	0.01
	v) Training of Extension Functionaries	0.30	0.28	0.02
	vi) Library Maintenance	0.05	0.03	0.02
	vii) Maintenance building	0.00	0.00	0.00
	vii) ATIC	0.00	0.00	0.00
	Total A	**175.26**	**173.37**	**1.88**
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)	**175.26**	**173.37**	**1.88**

Status of Revolving Fund (Rs. in lakhs)

Financial year	Opening balance	Income	Expenditure	Closing Balance
2013 - 14	1032027.00	653100.00	1282497.00	402630.00
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

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

VIP VISIT

Sh. Sanjeev Baliyan, Honble MP & Sh. Vijay Kashyap, Local MLA on 27.08.17

Dr. A.K.Singh, DDG (Agril Extn) on 16.09.17

Hon'ble VC, SVPUA&T, Meerut on 21.11.17

Dr. Sushil Soloman, VC, CSAUA&T, Kanpur on 20.05.2017

Sh. Rakesh Tikait, National President, BKU on 17 Sept. 2017

DM Muzaffarnagar on 13.10.2017

VIP VISIT

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. Vijay Kashyap, Hon'ble MLA on 02.05.18

Sh. Kapil Dev, 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

Dr. U.S.Gautam, ZPD, Zone –III, Kanpur on 02.05.18

DM Muzaffarnagar on 21.04.2018 & 28.07.18

PROGRESS REPORT OF PROJECT

"Efficient Groundwater Management for enhancing adaptive capacity to climate change in sugarcane based farming system in Muzaffarnagar district"

Demonstrations:

Intervention	Demonstrated Technology	Area (Acre)	No. of Farmers
Water Mgt. In sugarcane	Alternate furrow irrigation in sugarcane	2.0	2
Water Mgt. In sugarcane	Furrow Irrigation with Trash Mulching	2.0	2
Water Mgt. In sugarcane	Alternate furrow irrigation with mulching	2.0	2

Results:

i. Alternate Furrow Irrigation in Sugarcane

Conventional Method			Demonstrated Technology		
No. of Irrigation	**Time/Irrigation**	**Quantity of Water (Liter)**	**No. of Irrigation**	**Time/Irrigation**	**Quantity of water (Liter)**
22	06 hrs/Acre	6534000 lit.	22	03 hrs/Acre	3267000 lt

Note: Net Water Saving- 3267000 lt in one crop season.

ii. **Furrow Irrigation with Trash Mulching**

Conventional Method			Demonstrated Technology		
No. of Irrigation	**Time/Irrigation**	**Quantity of Water (Liter)**	**No. of Irrigation**	**Time/Irrigation**	**Quantity of water (Liter)**
22	06 hrs/Acre	6534000 lt.	10	06 hrs/Acre	2970000 lt

Note: Net Water Saving- 3564000 lt. in one crop season.

iii. Alternate Furrow Irrigation with Mulching

No. of Irrigation			Demonstrated Technology		
No. of Irrigation	**Time/Irrigation**	**Quantity of Water (Liter)**	**No. of Irrigation**	**Time/Irrigation**	**Quantity of water (Liter)**
22	06 hrs/Acre	6534000 lt.	07	2.5 hrs/Acre	866250 lt

Note : Net Water Saving- 5667750 lt in one crop season.

Yield Performance:

Demonstrated Technology	Area (ha)	Yield (q/ha)		% Change in Yield
		Demo	Check	
Alternate furrow irrigation in sugarcane	0.8 ha	1125	825	36.36
Mulching in Sugarcane	0.8 ha	1065		29.09
Alternate furrow irrigation with mulching	0.8 ha	1020		23.00

EXTENSION ACTIVITY

Capacity Building:

Sl. No.	Date	Title	No. of Farmers	Place
1.	13.11.17	.Irrigation Management in Onion & Garlic.	20	Rasoolpur
2.	22.11.17	Importance of Irrigation in Sugarcane.	20	Rasoolpur
3.	06.01.18	Practically water management	20	Rasoolpur
4.	08.01.18	Management for Water Conservation.	20	Rasoolpur
5.	11.01.18	New Technologies for water management in Rabi crops	20	Rasoolpur
6.	05.03.18	Efficient use of water in zaid crops.	20	Rasoolpur
7.	07.03.18	Alternate Furrow Irrigation in Sugarcane	20	Barwala
8.	08.03.18	Improved Practices of Irrigation	20	Barwala
9.	12.03.18	Irrigation Practices for Horticultural Crops	20	Barwala

2. Field Day

Sl.No.	Date	Demonstration	No. of Farmers
1.	15.11.17	Alternate Furrow irrigation in sugarcane.	50
2.	01.02.18	Alternate Furrow Irrigation+Mulching	50
3.	06.03.18	Mulching in Sugarcane	50
4.	19.03.18	Awareness Programmes on Efficient groundwater management in sugarcane.	50

Other Activities :

Name of Activity	Place	No of farmers
Celebrated Soil Health Day Programmes	Rasoolpur Jaatan	203
Capacity Building (Judicious Use of water in Agriculture)	Barwala	20
Sensitization Programmes on Water Conservation	Barwala	100

Financial Progress:

Year	Opening balance for the year	Remittance by council during the year	Council share of receipts realized from the scheme during the year	Actual Expenditure for the year	Council share of sanctioned grant of the year	Council share of expenditure actually incurred and audited the year	Closing balance during the year
1	2	3	4	5	6	7	8
2017-18	2142376	255000	2397376	371437	2397376	371437	2025939

ACTIVITY PHOTOGRAPHS

Demonstration- 1. Alternate furrow irrigation in sugarcane

Demonstration 2. Mulching in Sugarcane

Demonstration 3. Alternate Furrow Irrigation with Mulching

Capacity Building

Field Day

Sensitization Programme in Barwala

International Soil Health Day (05 December)

PROGRESS REPORT OF ARYA PROJECT

Entrepreneurship Development :

Interventions	**No. of Units**	**No. of. Farmers**	**Area/ha Unit/ No. of bird**
Beekeeping	04	04	04 Units
Mushroom Production	15	15	15 Units
Poultry Farming	40	40	500 Birds/Unit
Total	59	59	

Capacity Building:

Interventions	**No. of programme**	**No. of. Farmers**
Beekeeping	01	18
Mushroom Production	01	17
Poultry Farming	02	50
Total	04	85

Exposure Visit:

Interventions	**No. of programme**	**No. of. Farmers**
Beekeeping	01	18
Mashroom Production	01	17
Poultry Farming	02	33
Total	04	68

ACTIVITY PHOTOGRAPH

Capacity Building

Entreprenurship Development

VIP Visit at Farmers Units