

PROFORMA FOR ANNUAL REPORT 2017-18

1. GENERAL INFORMATION ABOUT THE KVK

1.1. Name and address of KVK with phone, fax and e-mail

Address	Telephone		E mail
	Office	FAX	
Krishi Vigyan Kendra, Jammu, SKUAST-J, R.S.Pura Jammu 181 102	01923-252929	01923-252929	kvkjammu@gmail.com Website- www.kvkjammu.nic.in

1.2. Name and address of host organization with phone, fax and e-mail

Address	Telephone		E mail
	Office	FAX	
Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, Main Campus, Chatha, Jammu	0191-2262029	0191-2262029	vc@skuast.org

1.3. Name of the Programme Coordinator with phone, mobile No & e-mail

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Vikas Tandon	09419155273	09419212421	kvkjammu@gmail.com

1.4. Year of sanction: 1992

1.5. Staff Position (as on 31st March 2018)

Sl. No.	Sanctioned post	Name of the incumbent	Age	Discipline with highest degree obt.	Pay Band & Grade Pay (Rs.)	Present basic (Rs.)	Date of joining at present post	Permanent /Temporary	Category (SC/ST/OBC/Others)
1	Programme Coordinator	Dr. Vikas Tandon	47	Ph. D Fruit Sciences	37400-9000-67000	63820	April 2016	Temporary	Gen
2	Subject Matter Specialist	Dr. Rakesh. Sharma	43	Ph.D Ag. Ext.	15600-8000-39100	37680	Oct 2014	Temporary	Gen
3	Subject Matter Specialist	Dr. Punit Choudhary	42	Ph.D Forestry	15600-7000-39100	35420	Oct 2014	Temporary	Gen
4	Subject Matter Specialist	Dr Sheetal Badyal	47	Ph.D Home Science	15600-7000-39100	33720	March 2016	Temporary	Gen
5	Subject Matter Specialist	Sh. Prem Kumar	44	M.F.Sc. Fisheries	15600-6000-39100	25050	May 2010	Temporary	Gen
6	Subject Matter Specialist	Vacant	-	-	-	-	-	-	-
7	Subject Matter Specialist	Vacant	-	-	-	-	-	-	-
8	Computer Programmer	Er. Ashish Katoch	44	M. Tech	9300-4200-	20330	Dec 2016	Temporary	Gen

					34800				
9	Programme Assistant (Farms)	Sh. Raju Gupta	37	Ph.D Agronomy	9300-4200-34800	17130	Aug.2008	Temporary	Gen
10	Programme Assistant (Trainings)	Ms. Poonam Abrol	29	M.Sc. H. Science	9300-4200-34800	15210	June 2012	Temporary	Gen
11	Accountant / Superintendent	Vacant							
12	Stenographer	Sh. Narinder Sharma	45	B. Sc.	9300-4200-34800	19850	Aug.2002	Temporary	Gen
13	Driver	S. Harbajan Singh	60	Middle	9300-4200-34800	22500	Oct. 2001	Temporary	Gen
14	Driver	Sh. Manohar Lal	47	Matric	5200-1900-20200	10040	Sept. 2015	Temporary	SC
15	Supporting staff	S. Harbans Singh	59	-	5200-1900-20200	12410	April 2002	Temporary	Gen
16	Supporting staff	Sh. Satnam Singh	41	-	4440-1300-7440	9060	April 2005	Temporary	Gen

1.6. Total land with KVK (in ha) : 11.5ha

S. No.	Item	Area (ha)
1	Under Buildings	570 m ² (0.244 ha)
2.	Under Demonstration Units	144 m ² (0.0016 ha)
3.	Under Crops	8 ha
4.	Orchard/Agro-forestry	0.1 ha
5.	Others (specify)	Crop cafeteria, fish pond, nursery (0.2 ha)

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	March 1999	582	30.62 lakh			
2.	Farmers Hostel	ICAR	March 2007	305	19.78			Complete
3.	Staff Quarters	ICAR	March 1994	140	08.23			Complete
	1	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-
4.	Demonstration Units	ICAR	December 1995	144	06.63	-	-	Complete
	1	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-

	3	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-
5	Fencing	ICAR			6.95			Complete
6	Rain Water harvesting system	-	-	-	-	-	-	-
7	Threshing floor	-	-	-	-	-	-	-
8	Farm godown	-	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Scooter	1996-97	26,777.00	59979.00	unserviceable
Jeep	2006-07	5,10,134.00	186500	Working
Tractor	2005-06	4,13,920.00	2285 (hrs)	Working

C) Equipments including Tractor & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Microscope	27.04.00	5,500.00	Working
Overhead Projector	03.08.95	7,425.00	Working
Slide Projector	25.05.96	12,327.00	Working
PA System (Ahuja)	09.06.99	19,788.00	Working
Blue Star AC (2 Nos.)	12.01.99	43116.00	Working
Photo Copier	26.03.02	66015.00	Working
Computer with UPS & Printer	21.02.05	69429.00	Working
OTG	17.03.05	5695.00	Working
Sony Handy Camera	31.03.05	33940.00	Not Working
Printer HP 5160	29.03.05	6200.00	Working
Genset	18.08.04	149200	Working
Panasonic KX-FT-903	05-09-05	10500	Working
Aqua Guard	30-09-05	8490	Not Working
LCD	29.05.04	1,00,366	Working
UPS Uniline 1KVA (2 No.)	31.01.07	9240	Working
Trolley for tractor	10.07.07	72800	Working
Leveller	22.06.05	8840	Working
Disc plough	22.06.05	21500	Working
Tiller tyne	22.06.05	15912	Working
Disc Harrow	22.06.05	21000	Working
Seed-cum-fertilizer drill	12.03.04	20000	Working
HP Laptop (2 no)	31-03-2017	115000	Working
SONY LCD projector SW631	31-03-2017	91800	Working
GMETEL Podium	31-03-2017	149900	Working
Handy Cam Sony	31-03-2017	21500	Working
SHARP digital XEROX machine 82000	31-03-2017	82000	Working
Globus ceramic steel Board	31-03-2017	44655	Working
Electrowall mounting display panel	31-03-2017	66868	Working
Magzine rak	31-03-2017	81000	Working
Mrida Parikshak Soil testing Kits (2 no)	31-03-2017	90300	Working

1.8. A). Details SAC meeting* conducted in the year 2017-18

S. No.	Date	Name and Designation of Participants	No. of absentees	Salient Recommendations	Action taken
1.	26/03/2018	Dr. R.K. Arora Associate Director Extension(KVK) Sh. N.K. Dubey Chief Agriculture	Nil	Chairman directed to promote University Maize Composite through FLD's by the KVK	This year composite varieties will also be tested.

		Officer, Jammu			
		<p>Dr. S.K. Gupta Prof. & Head, Division of Agro forestry Dr. Mohd. Asmail Chief Animal Husbandry Officer, Jammu Dr. Shilani Suri Prof. & Head, Division of Anatomy Dr. Anil Sharma Associate Professor(Agronomy) Ravinder Kachroo Dy. Project Director , ATMA, Jammu Sh. B. B. Sidha Dy. Project Director , ATMA, Jammu Dr. Mohammed Raza District Sheep Husbandry Officer, Jammu Dr. Vikas Tandon Sr. Scientist & Head, KVK Jammu Dr. Rakesh Sharma Sr. Scientist (Extension) KVK- Jammu Dr. Punit Choudhary SMS(Agroforestry) KVK-Jammu Dr. Sheetal Badyal SMS(Home Science) KVK-Jammu. Sh. Ragubhir Singh , farmer Fateypur Sikeri Sh. Vinod Kumar , farmer Kaloen, R.S.Pura Smt. Sunita devi , Farmwomen Kaloen R.S.Pura</p>		incorporate multicut Bazra developed by IGFRI Palampur under FLD programme	We have sent request to Rajasthan center for seed.
				Chief Agricultural Officer Jammu again requested for	Same has been

				training programmes on micro irrigation both on as well as off farm	incorporated in action plan.
				Incorporate more no of training programmes under Veterinary sciences and Animal Husbandry and resource persons for the said trainings will be made available for the FVSc& AH R S Pura.	More trainings on animal husbandry will be included.
				sensitize the farmers about Farmer Producer organization (FPO's) during the training programme entitled Mobilization of Social capital	Efforts are on to promote SHGs and also to form some FPO.
				Chief Animal Husbandry officer Jammu department requested to conduct training programme on backyard Poultry	KVK will train as well as demonstrate Backyard poultry models.

** Attach a copy of SAC proceedings along with list of participants*

2. DETAILS OF DISTRICT (2017-18)

2.1 Major farming systems/enterprises (based on the analysis made by the KVK)

S. No	Farming system/enterprise
1	Rice-Wheat
2	Maize-Wheat
3	Wheat -Mash-Rice
4	Maize-Toria-Wheat
5	Rice-Barseem-Vegetable

2.2 Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography)

S. No	Agro-climatic Zone	Characteristics
	Sub-tropical Zone	Situated between 300- 450m above mean sea level having severe winter, rare occurrence of frost and a hot spell of summer with concentration of precipitation in summer months.
S. No	Agro ecological situation	Characteristics
1	<i>Rainfed</i>	The average rainfall of the District Jammu ranges between 750-900 mm. Agriculture in this area is complex, diverse and risk-prone and is characterized by low levels of productivity and low input usage. Vagaries of the monsoon result in wide variation and instability in yields.

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1	Sandy loam	pH 7.7-8.1, EC-0.15-0.23, organic carbon 0.35-0.44 (low), N- low, P-medium, K- medium	-
2	Loamy sand	pH 7.2-7.5, EC-0.15-0.20, organic carbon 0.45-0.55 (low), N- low, P-medium, K- high	-
3	Clay loam	pH 7.1-7.8, EC-0.18-0.22, organic carbon 0.40-0.50(low), N- low, P-medium, K- medium	-
4	Silty clay loam	pH 7.4-7.6, EC-0.16-0.20, organic carbon 0.42-0.50 (low), N- low, P-medium, K- medium	-

2.4. Area, Production and Productivity of major crops cultivated in the district

S. No	Crop	Area (ha)	Production (Qtls)	Productivity (Qtls /ha)
1	Paddy	45000	1587150	35.27
2	Wheat	71000	1843160	25.96
3	Maize	12000	366480	30.54
4	Pulses	11250	-	-
5	Millets	3500	-	-
6	Oil seed	6700	-	-
7	Fodders	10550	-	-
8	Vegetable	10000	-	-

2.5 Weather data

Month	Rainfall (mm)	Temperature ° C		Relative Humidity (%)
		Maximum	Minimum	
April 2017	23.4	34.4	16	68
May 2017	11.4	37.8	20.4	57
June 2017	231.4	36.5	23.6	68
July 2017	279.0	35.1	25.1	83
Aug 2017	181.8	33.6	25	87
Sep 2017	49.5	33.9	22.7	85
Oct 2017	-	32.8	16.3	83
Nov 2017	10.6	25.1	8.9	95
Dec 2017	51.2	21.0	6.2	92
Jan 2018	9.6	19.1	3.9	93
Feb 2018	50.8	22.6	7.4	90
March 2018	12.8	28.5	11.9	84

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (in lacs)

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	2.49	-	-
<i>Indigenous</i>	4.57	-	-
Buffalo	2.59	-	-
Sheep			
<i>Crossbred</i>	-	-	-
<i>Indigenous</i>	1.03	-	-
Goats	2.5	-	-
Pigs	0.1	-	-
<i>Crossbred</i>	-	-	-
<i>Indigenous</i>	-	-	-
Rabbits	-	-	-
Poultry			
Hens	7.85	-	-
<i>Desi</i>	-	-	-
<i>Improved</i>	-	-	-
Ducks	-	-	-
Turkey and others	-	-	-

Category	Area	Production	Productivity
Fish	-	-	-
<i>Marine</i>	-	-	-
<i>Inland</i>	-	10751.76q	-
Prawn	-	-	-
Scampi	-	-	-
Shrimp	-	-	-

2.7 Details of Operational area / Villages (2017-18)

Sl.No.	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
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1	R.S.Pura	R.S.Pura	Raipur Sazda, Karotana, Suchetgarh	Paddy, Wheat, Oilseeds, Dairy, Vegetable Marigold Mushroom Fodder crops	<ul style="list-style-type: none"> • Low productivity of cereals, oilseeds and pulses. • Improper adoption of Package of Practices • Problem of yellow rust in wheat • Old marigold varieties. • low milk yield and adoption of improper management practices in animals. 	<ul style="list-style-type: none"> • Increasing production of cereals, oilseeds and pulses by replacing varieties. • Promotion of new and high yielding marigold varieties, • Dairy development • Value addition • Mushroom cultivation • fodder
2	Akhnoor	Akhnoor	Mathwar Rabta Danger	Oil seed, Chickpea, Mash, Maize Medicinal tree	<ul style="list-style-type: none"> • Low productivity of maize and Chickpea. • Lack of knowledge about rain-fed crop varieties 	<ul style="list-style-type: none"> • Increasing productivity of rain-fed crops. • Promotion of INM and IDM in cereals, pulses and oilseeds • Medicinal trees
3	Bishnah	Bishnah	Chak Bhagwana, Chak Chimna, Saidgarh	Paddy, Wheat, Mash, Oilseeds, Dairy, Fisheries Fodder grasses	<ul style="list-style-type: none"> • Low productivity of cereals, oilseeds and pulses. • Problem of yellow rust in wheat • Lack of knowledge of Vaccination in cattle. • Low Milk Yield • Traditional fish farming system 	<ul style="list-style-type: none"> • Increasing production of cereals, oilseeds and pulses by replacing variety. • Dairy development • Scientific Fish farming • Value addition • Ornamental fish culture • fodder
4	Surinsar	Nagrota	Sagoon Surinsar Katal Battal	Paddy , Wheat, Maize, Marigold, Pulses and Oilseeds Fodder grasses	<ul style="list-style-type: none"> • Low seed replacement rate • Lack of quality seed of paddy • Low productivity of cereals • Old marigold varieties. 	<ul style="list-style-type: none"> • Seed replacement • Increasing productivity of cereals • Promotion of new and high yielding marigold varieties, • Fodder

2.8 Priority/thrust areas

Crop/Enterprise	Thrust area
Rice	Preservation and promotion of Basmati 370, Integrated Nutrient Management, ,Introduction of Pusa varieties in non-basmati growing areas.
Wheat	Introduction of High yielding varieties, Yellow rust resistant varieties. ICM in wheat
Maize	High yielding hybrids, disease and pest management.
Oilseeds	Seed replacement, High yielding newly released short duration varieties.
Pulses	Weed Management, High yielding varieties, Diversification, INM
Oats, Perennial grasses	Fodder intensification, high yielding perennial grass varieties.
Medicinal trees	Quality planting material production, production of superior clonal material
Fish farming	Promotion of composite fish culture, Ornamental fish farming and value addition
Mango, Amla, Ber, Citrus	Promotion of Horticulture in rain-fed areas
Dairy farming	Promotion of clean milk production, Milk preservation and processing.
Marigold	Introduction of high yielding varieties, increasing the area under cultivation.

3. TECHNICAL ACHIEVEMENTS

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		Number of Farmers		Number of FLDs		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
08	10	24	32	105	115	105	268

3.A.1 FLDs Conducted under CFLDs on Oilseed

FLD (Oilseeds)			
Number of FLDs		Number of Farmers	
Targets	Achievement	Targets	Achievement
25	25	25	108

3.A.2 FLDs Conducted under CFLDs on Pulses

FLD (Pulses)			
Number of FLDs		Number of Farmers	
Targets	Achievement	Targets	Achievement
50	47	50	189

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	40	45	900	1092	Awareness (5)	19	500	1031
Rural youth	7	7	140	165	Plantation drive (1)	4	40	51
Extn. Functionaries	6	7	120	181	Exhibition (2)	3	100	250
					Kisan mela (1)	2	200	250
					Exposure visit (2)	4	100	133
					Field day (6)	8	320	401
					Kisan Ghoshti (2)	8	800	1222

Seed Production (Qtl.)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
Paddy- 75q (B-370)	77.5q	Napier 1000	1500
Wheat – 170 q (WH-1080)	150q	Setaria	500
-	-	Aonla	300
-	-	Harad	500

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
		Vermicompost (50 q)	50 q
		Azola	2 q

3.B. Abstract of interventions undertaken

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions											
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Ql.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products		
													No.	Kg	
1.	Varietal Evaluation	Paddy	Low yield Lack of knowledge about improved varieties	Assessment of Basmati varieties for yield potential	Promotion and demonstration of Basmati varieties for yield potential Demonstration of improved Pusa varieties under irrigated condition.	03	-	-	05	4.05	-	-	-	-	-
2	Varietal evaluation	Maize	Low yield Lack of knowledge about improved hybrid	Assessment of Maize composite. Maize stem borer management through organic/inorganic plant nutrition Integrated nutrient management in rainfed maize	Promotion of maize hybrid for yield.	01	-	-	01	2.20	-	-	-	-	-
3	Clonal evaluation	Aonla Harad	Lack of superior clones	Assessment of superior clones of Aonla with respect to survival and establishment	Demonstration of vegetatively propagated superior clones of Harad	03	03	-	2		250	-	-	-	-
4	Perennial fodder production	Napier Setaria Cenchrus	Lack of perennial grasses	Assessment of improved perennial grasses for herbage production under subtropical conditions		2	-	-	2		1500	-	-	-	-
5	Varietal Evaluation	Wheat	Low yield and incidence of yellow rust		Demonstration of high yielding rust resistant Wheat variety	02	-	-	01	10.0					
6	Varietal evaluation	Oilseed	Lack of short duration high yielding varieties	Assessment of high yielding Gobi Sarson varieties	Demonstration of short duration high yielding mustard and Gobi Sarson	01	-	-	01	0.53					
7	Varietal performance	Oats	Low productivity and Lack of knowledge about improved varieties	Assessment of high yielding Oat varieties for higher biomass	Demonstration of high yielding Oat varieties for higher biomass	02	-	-	-	3.10					
8	Varietal performance	Berseem	Low productivity and Lack of knowledge about improved varieties		Demonstration of high yielding Oat varieties Berseem for higher biomass	01	-	-	-	1.0					
9	Varietal evaluation	Gram	Lack of knowledge about variety	Efficacy of different chemicals for management of gram pod borer.	Promotion and demonstration of high yielding chickpea variety under rainfed conditions of Jammu and Samba	02	-	-	02						
10	Varietal evaluation	Mash			Promotion and demonstration of high yielding variety	01	-	-	02						
11	INM	Pearl Millet		Integrated Nutrient Management in pearl millet crop yield under rainfed		-	-	-	-	-					

3.1 Achievements on technologies assessed and refined

A.1 Abstract of the number of technologies assessed* in respect of crops/enterprises

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Tuber Crops	TOTAL
Varietal Evaluation	5	1	-	-	-	-	-	-	6
Seed / Plant production	-	-	-	-	-	-	-	-	-
Weed Management	-	-	-	-	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	2	-	-	-	-	-	-	-	2
Integrated Farming System	-	-	-	-	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-	-	-	-	-
Drudgery reduction	-	-	-	-	-	-	-	-	-
Farm machineries	-	-	-	-	-	-	-	-	-
Value addition	-	-	-	-	-	-	-	-	-
Integrated Pest Management	1	-	1	-	-	-	-	-	2
Integrated Disease Management	-	-	-	-	-	-	-	-	-
Resource conservation technology	-	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-	-
TOTAL	8	1	1	-	-	-	-	-	10

* Any new technology, which may offer solution to a location specific problem but not tested earlier in a given micro situation.

A.2. Abstract of the number of technologies refined* in respect of crops/enterprises

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Tuber Crops	TOTAL
Varietal Evaluation	-	-	-	-	-	-	-	-	-
Seed / Plant production	-	-	-	-	-	-	-	-	-
Weed Management	-	-	-	-	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-
Integrated Farming System	-	-	-	-	-	-	-	-	-

Mushroom cultivation	-	-	-	-	-	-	-	-	-
Drudgery reduction	-	-	-	-	-	-	-	-	-
Farm machineries	-	-	-	-	-	-	-	-	-
Post Harvest Technology	-	-	-	-	-	-	-	-	-
Integrated Pest Management	-	-	-	-	-	-	-	-	-
Integrated Disease Management	-	-	-	-	-	-	-	-	-
Resource conservation technology	-	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-	-

* *Technology that is refined in collaboration with ICAR/SAU Scientists for improving its effectiveness.*

A.3. Abstract of the number of technologies assessed in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbitary	Fisheries	TOTAL
Evaluation of Breeds	-	-	-	-	-	-	-	-
Nutrition Management	-	-	-	-	-	-	-	-
Disease of Management	-	-	-	-	-	-	-	-
Value Addition	-	-	-	-	-	-	-	-
Production and Management	-	-	-	-	-	-	-	-
Feed and Fodder	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-

A.4. Abstract on the number of technologies refined in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds	-	-	-	-	-	-	-	-
Nutrition Management	-	-	-	-	-	-	-	-
Disease of Management	-	-	-	-	-	-	-	-
Value Addition	-	-	-	-	-	-	-	-
Production and Management	-	-	-	-	-	-	-	-
Feed and Fodder	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-

3.2. Achievements on technologies Assessed and Refined

3.2.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trail covering all the Technological Options)
Integrated Nutrient Management	Maize	Integrated nutrient management in rainfed maize	03	03	0.3
	Pear millet	Integrated Nutrient Management in pearl millet crop yield under rainfed	03	03	0.3
Varietal Evaluation	Paddy	Assessment of Basmati varieties for yield potential	05	05	0.5

<i>Thematic areas</i>	<i>Crop</i>	<i>Name of the technology assessed</i>	<i>No. of trials</i>	<i>Number of farmers</i>	<i>Area in ha (Per trail covering all the Technological Options)</i>
	Maize	Assessment of Maize composite.	01	01	0.2
	Oilseed	Assessment of high yielding Gobi Sarson varieties	05	05	0.5
	Oats	Assessment of high yielding Oat varieties for higher biomass	04	01	0.4
	Aonla	Assessment of superior clones of Aonla with respect to survival and establishment	04	04	0.8
	Perennial grasses	Assessment of improved perennial grasses for herbage production under subtropical conditions	03	03	0.3
Integrated Pest Management	Chickpea	Efficacy of different chemicals for management of gram pod borer.	03	03	0.3
	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-
	-	-	-	-	-
Integrated Disease Management	Maize	Maize stem borer management through organic/inorganic plant nutrition	3	3	0.3
	-	-	-	-	-
Small Scale Income Generation Enterprises	-	-	-	-	-
	-	-	-	-	-
Weed Management	-	-	-	-	-
	-	-	-	-	-
Resource Conservation Technology	-	-	-	-	-
	-	-	-	-	-
Farm Machineries	-	-	-	-	-
	-	-	-	-	-
Integrated Farming System	-	-	-	-	-
	-	-	-	-	-
Seed / Plant production	-	-	-	-	-
	-	-	-	-	-
Value addition	-	-	-	-	-
	-	-	-	-	-
Drudgery Reduction	-	-	-	-	-
	-	-	-	-	-
Storage Technique	-	-	-	-	-
	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-
	-	-	-	-	-
Total					

3.2.2. Technologies Refined under various Crops

<i>Thematic areas</i>	<i>Crop</i>	<i>Name of the technology assessed</i>	<i>No. of trials</i>	<i>Number of farmers</i>	<i>Area in ha (Per trail covering all the Technological Options)</i>
Integrated Nutrient Management	-	-	-	-	-
	-	-	-	-	-
Varietal Evaluation	-	-	-	-	-
	-	-	-	-	-
Integrated Pest Management	-	-	-	-	-
	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-

<i>Thematic areas</i>	<i>Crop</i>	<i>Name of the technology assessed</i>	<i>No. of trials</i>	<i>Number of farmers</i>	<i>Area in ha (Per trail covering all the Technological Options)</i>
	-	-	-	-	-
Integrated Disease Management	-	-	-	-	-
	-	-	-	-	-
Small Scale Income Generation Enterprises	-	-	-	-	-
	-	-	-	-	-
Weed Management	-	-	-	-	-
	-	-	-	-	-
Resource Conservation Technology	-	-	-	-	-
	-	-	-	-	-
Farm Machineries	-	-	-	-	-
	-	-	-	-	-
Integrated Farming System	-	-	-	-	-
	-	-	-	-	-
Seed / Plant production	-	-	-	-	-
	-	-	-	-	-
Value addition	-	-	-	-	-
	-	-	-	-	-
Drudgery Reduction	-	-	-	-	-
	-	-	-	-	-
Storage Technique	-	-	-	-	-
	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-
	-	-	-	-	-
Total	-	-	-	-	-

3.2.3. Technologies assessed under Livestock and other enterprises

<i>Thematic areas</i>	<i>Name of the livestock enterprise</i>	<i>Name of the technology assessed</i>	<i>No. of trials</i>	<i>No. of farmers</i>
Evaluation of breeds	-	-	-	-
Nutrition management	-	-	-	-
Disease management	-	-	-	-
Value addition	-	-	-	-
Production and management	-	-	-	-
Feed and fodder	-	-	-	-
Small scale income generating enterprises	-	-	-	-
Total				

3.2.4. Technologies Refined under Livestock and other enterprises

<i>Thematic areas</i>	<i>Name of the livestock enterprise</i>	<i>Name of the technology assessed</i>	<i>No. of trials</i>	<i>No. of farmers</i>
Evaluation of breeds	-	-	-	-
Nutrition management	-	-	-	-
Disease management	-	-	-	-
Value addition	-	-	-	-
Production and management	-	-	-	-
Feed and fodder	-	-	-	-
Small scale income generating enterprises	-	-	-	-
Total	-	-	-	-

B. Technology Assessment

A.1 Trial 1

- | | | |
|---|---|---|
| Title | : | Assessment of Basmati Varieties For Yield Potential |
| 2. Problem diagnose/defined | : | Suitability of Basmati Varieties under Jammu condition |
| 3. Details of technologies selected for assessment/refinement | : | T 1: B-370
T 2: B-103
T 3: B-104
T 4: B-118
T5: B-123
T6: B-138 |
| 4. Source of technology | : | SKAUST-J |
| 5. Production system thematic area | : | Irrigated cereal based system (Paddy - Wheat) |
| 6. Thematic area | : | Varietal evaluation |
| 7. Performance of the Technology with performance indicators | : | Result showed that T2 recorded highest yield (45.0q/h) where as T 5 recorded the lowest (40 q/ha) which was 26.4 % and 14.6 % higher as compared to check (T 1). Over all the no of maturity days ranged from 97-120 days which is about 15-20 days less than T1. |
| 8. Final recommendation for micro level situation | : | Basmati varieties B-103, B-104 and B138 performed better and recommended for basmati growing area for higher productivity. |
| 9. Constraints identified and feedback for research | : | Non availability of labour at the time of maturity |
| 10. Process of farmers participation and their reaction | : | Farmers participated from seed to seed in laying out of the OFT. They fully cooperated in providing feedback and the required data pertaining OFT. |

B 1: Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the Parameter	Results of assessment	Feedback from the farmer					
1	2	3	4	5	6	7	8	9	10					
Paddy	Irrigated	Low productivity and late sowing of wheat due to late maturity of traditional basmati	Assessment of Basmati Varieties For Yield Potential	3	T 1: B-370	Grain Yield	35.6 q/ha 150-155 days to maturity	26.4% increase in grain yield as compared to T1 with 30 days earlier maturity	Farmers satisfied with the yield potential Basmati varieties					
					T 2: B-103	B:C ratio	45 q/ha 120-125 days to maturity.							
						Days to maturity	43.0q /ha 120-125 days to maturity.			20.8% increase in grain yield as compared to T1 with 30 days earlier maturity				
					T 3: B-104									
					T 4: B-118								40.8q /ha 97-105 days to maturity	12.4% increase in grain yield as compared to T1 with 50 days earlier maturity
T5: B-123						40.0q /ha 120-125 days to maturity	14.6% increase in grain yield as compared to T1 with 30 days earlier maturity							

					T6: B-138		42.0q /ha 120-125 days to maturity	18% increase in grain yield as compared to T1 with 30 days earlier maturity	
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Technology Assessed	Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T 1: B-370	35.6 q/ha 150-155 days to maturity	89200	3.52:1
T 2: B-103	45 q/ha 120-125 days to maturity.	122100	4.45:1
T 3: B-104	43.0q /ha 120-125 days to maturity.	115100	4.25:1
T 4: B-118	40.8q /ha 97-105 days to maturity	107400	3.95:1
T5: B-123	40.0q /ha 120-125 days to maturity	104600	3.95:1
T6: B-138	42.0q /ha 120-125 days to maturity	111600	4.15:1

**Field crops – kg/ha, * for horticultural crops -= kg/t/ha, * milk and meat – litres or kg/animal, * for mushroom and vermi compost kg/unit area.*

*** Give details of the technology assessed or refined and farmer's practice*

A.2 Trial 2

1.	Title	:	Assessment of improved perennial grasses for herbage production under subtropical conditions
2.	Problem diagnose/defined	:	Low fodder yield Lack of improved perennial grasses
3.	Details of technologies selected for assessment/refinement	:	T-1: Farmer practice(<i>Dicanthium</i> spp)
		:	T-2:Napier Hybrid (NB-1)
		:	T-3:Setaria (PSS-1)
4.	Source of technology	:	SKUAST-J, CAZRI, IGFRI
5.	Production system thematic area	:	Maize-Wheat (Rain-fed) Paddy-Wheat (Irrigated)
6.	Thematic area	:	Species evaluation
7.	Performance of the Technology with performance indicators	:	Performance of T-2 (Napier Hybrid) and T-3 (Setaria) with respect to green fodder production was considerably high (398 q/ha) and (375q/ha) respectively.
8.	Final recommendation for micro level situation	:	The productivity of green fodder can be increased by adoption of perennial grasses viz., Napier and Setaria on the farm bunds that will also provide an alternative cut and carry system of fodder production to the farmers
9.	Constraints identified and feedback for research	:	Lack of improved perennial grasses and low adoption their cultivation
10.	Process of farmers participation and their reaction	:	Farmers response was participatory and actively responded to the technical guidance provided by the KVK

Photographs of OFT



B 2: Results of On Farm Trial

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Perennial grasses	Rain-fed/Irrigated	Low fodder yield Lack of improved perennial grasses	Assessment of improved perennial grasses for herbage production under subtropical conditions	01	T-1: Farmer practice (<i>Dicanthium</i> spp)	Herbage Yield Time of availability of green herbage	169	Green herbage availability till 3rd week of Oct	Farmers were satisfied and radially adopted the cultivation of perennial grasses at the bunds of their farm
					T-2:Napier Hybrid (NB-1)		398	Green herbage availability till Last week of December	
					T-3:Setaria (PSS-1)		375	Green herbage availability till 1st week of Dec	

<i>Technology Assessed</i>	<i>Production per unit</i>	<i>Net Return (Profit) in Rs. / unit</i>	<i>BC Ratio</i>
11	12	13	14
T-1: Farmer practice (<i>Dicanthium</i> spp)	169 Green herbage availability till 3rd week of Oct	16900	1.69:1
T-2:Napier Hybrid (NB-1)	398 Green herbage availability till Last week of December	29800	2.98:1
T-3:Setaria (PSS-1)	375 Green herbage availability till 1st week of Dec	27500	2.75:1

A-3: Trial-3

- | | | |
|-----|--|--|
| 1. | Title | : Assessment of high yielding oat varieties for higher biomass |
| 2. | Problem diagnose/defined | : Low yield and lack of high yielding fodder variety |
| 3. | Details of technologies selected for assessment/refinement | : T1= Kent (farmers practice)
T2= Palampur-1
T3= Sabjar |
| 4. | Source of technology | : SKUAST-J, CSKVV-Palampur |
| 5. | Production system thematic area | : Maize-Wheat (Rain-fed)
Paddy-Wheat (Irrigated) |
| 6. | Thematic area | : Varietal evaluation |
| 7. | Performance of the Technology with performance indicators | : Results revealed that there is 2.6 % increase in production of fodder for T-2 (Palampur-1) as compared to the T-1 with 5- 8 days early maturity time for the first cut and 4.5 % increase in production of fodder as compared to the Kent with 5 -8 days early maturity time |
| 8. | Final recommendation for micro level situation | : The productivity of fodder can be increased by adoption of Sabjar and Palampur varieties which also matures early as compared to the control. |
| 9. | Constraints identified and feedback for research | : Lack of improved oat varieties and low adoption of oat cultivation |
| 10. | <i>Process of farmers participation and their reaction</i> | : Farmers response was participatory and actively responded to the technical guidance provided by the KVK |



B 3. Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Oats	Rainfed	Low fodder yield Lack of improved variety	Assessment of high yielding oat varieties for higher biomass	01	T1:Farmers practices (Kent)	Herbage yield No of cuts yays to maturity	324 q/ ha 88-93 days for 1 st cut	2.6 % increase in production of fodder as compared to the T-1 with 5- 8 days early maturity time for the first cut	Farmers were satisfied with the varieties
					T2:Palampur-1		332.5 q/ha 85-90 days for 1 st cut		
					T3:Sabjar		338.62/ha 84-87days for the 1 st cut		

<i>Technology Assessed</i>	<i>Production per unit</i>	<i>Net Return (Profit) in Rs. / unit</i>	<i>BC Ratio</i>
11	12	13	14
T1:Farmers practices (Kent)	324 q/ ha 88-93 days for 1 st cut	26760	2.84
T2:Palampur-1	332.5 q/ha 85-90 days for 1 st cut	27460	2.89
T3:Sabjar	338.6/ha 83-85 days for the 1 st cut	27970	2.92

A.4 Trial 4

- | | | |
|---|---|--|
| Title | : | Efficacy of different chemicals in management of gram pod borer. |
| 2. Problem diagnose/defined | : | Heavy loses due to Gram pod borer. |
| 3. Details of technologies selected for assessment/refinement | : | T1- No spray (farmers practice)
T2- Larvin75WP @2g/L
T3- Indexocarb 14.5 <u>SC</u> @ 0.3 ml/L |
| 4. Source of technology | : | SKAUST-J/ PAU |
| 5. Production system thematic area | : | Maize – gram rainfed system |
| 6. Thematic area | : | IPM |
| 7. Performance of the Technology with performance indicators | : | Application of Indexocarb @ 0.3ml/l resulted in increase of yield of gram by 26.5% and reduced pod damage to 8.5% as compared to control which resulted in 32% pod damage. |
| 8. Final recommendation for micro level situation | : | Indexocarb @ 0.3ml/l has resulted in controlling the gram pod borer. |
| 9. Constraints identified and feedback for research | : | Chemical is costly and not easily available. |
| 10. Process of farmers participation and their reaction | : | The trials were laid out at farmer's fields with their active participation. |



B 4: Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Chicpea	Rainfed	Heavy loses due to gram pod borer	Efficacy of different chemicals in management of gram pod borer.	05	T1- no spray	% pod damage	42 % damage	4.6q/ha	Farmers were satisfied with both the chemicals.
					T2- larwin 75 WP 2g/l	Yield (q/ha)	25.5% damage	6.7q/ha	
					T3- Indexocarb 14.5 S C @ 0.3 ml/L		12.5% damage	7.0q/ha	

Technology Assessed	Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T1- no spray	4.6q/ha	5800	1.30:1
T2- Larwin 75 WP 1g/l	6.7q/ha	16050	1.77:1
T3- Indexocarb 14.5 S c @ 0.3 ml/L	7.0q/ha	17000	1.79:1

A5: Trial-5

- | | | | |
|-----|--|---|---|
| 1. | Title | : | Assessment of high yielding Gobi Sarson varieties |
| 2. | Problem diagnose/defined | : | Low yield and lack of high yielding gobhi-sarsoon variety |
| 3. | Details of technologies selected for assessment/refinement | : | T1= DGS-1 (farmers practice)
T2= RSPN-25
T3= GSC-7 |
| 4. | Source of technology | : | SKUAST-J, PAU Ludhiana |
| 5. | Production system thematic area | : | Maize-Wheat (Rainfed)
Paddy-Wheat (irrigated) |
| 6. | Thematic area | : | Varietal evaluation |
| 7. | Performance of the Technology with performance indicators | : | Results revealed that there is 25 % increase in production of oilseed crop for T-2 (RSPN-25) as compared to the T-1 and 33.3 % increase in production for T 3 as compared to T-1. |
| 8. | Final recommendation for micro level situation | : | The productivity of oilseed can be increased by adoption of GSC 7 variety |
| 9. | Constraints identified and feedback for research | : | Lack of knowledge about improved varieties. |
| 10. | Process of farmers participation and their reaction | : | Farmers participated actively and responded to the technical guidance provided by the KVK |



B 5. Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Oats	Rainfed	Low fodder yield Lack of improved variety	Assessment of high yielding oat varieties for higher biomass	01	T1= DGS-1 (farmers practice)	Yield B: C ratio	12.0q/ha		Farmers were satisfied with the varieties
					T2= RSPN-25		15.0q/ha	25.0% increase in yield as compares to T- 1	
					T3= GSC-7		16.0 q/ha	33.3 % increase in yield as compares to T- 1	

<i>Technology Assessed</i>	<i>Production per unit</i>	<i>Net Return (Profit) in Rs. / unit</i>	<i>BC Ratio</i>
11	12	13	14
T1:Farmers practices (Kent)	12.0q/ha	30500	2.74:1
T2:Palampur-1	15.0q/ha	41300	3.21:1
T3:Sabjar	16.0 q/ha	45300	3.42:1

A.6 Trial 6

Title	:	Integrated Nutrient Management in pearl millet crop yield under rainfed
2. Problem diagnose/defined	:	Imbalance use of fertilizer
3. Details of technologies selected for assessment/refinement	:	T 1: Farmers Practice T 2: Recommended Practice(100 % RDF) T 3: Improved Practice(75 % N Inorganic + 25 % N-VC)
4. Source of technology	:	SKAUST-J
5. Production system thematic area	:	Irrigated cereal based system (Maize - Wheat)
6. Thematic area	:	Integrated Nutrient Management
7. Performance of the Technology with performance indicators	:	The results at farmers' field revealed that pearl millet crop sown with 75 % N (Inorganic) + 25 % N (Vermicompost) accrued mean grain yield to the tune of 25.7 q/ha which was (4.5 %) higher than yield value (24.6 q/ha) obtained with recommended practice (100 % RFD). The mean grain yield of farmers' practice was 21.3 q/ha.
8. Final recommendation for micro level situation	:	Improved practice registered mean increase of 20.2 % in grain yield over farmers' practice and thus could be an effective option to recommended practice with concomitant 25 % N saving..
9. Constraints identified and feedback for research	:	Non availability of chemical fertilizer in time.
10. Process of farmers participation and their reaction	:	Farmers participated from seed to seed in laying out of the OFT. More over they fully cooperated in providing feedback and other data pertaining OFT.



B 6: Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the Parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Pearl Millet	Rainfed	Low productivity and imbalanced use of fertilizer	Integrated Nutrient Management in pearl millet crop yield under rainfed	3	T 1: Farmers Practice	Grain Yield B:C ratio	21.3	T 2 registered mean increase of 15.5 % in grain yield over farmers' practice T 3 registered mean increase of 20.2 % in grain yield over farmers' practice	Farmers satisfied with the INM practice and yield potential
					T 2: Recommended Practice(100 % RDF)		24.6		
					T 3: Improved Practice(75 % N Inorganic + 25 % N-VC)		25.7		

Technology Assessed	Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T 1: Farmers Practice	21.3	22868	2.54:1
T 2: Recommended Practice(100 % RDF)	24.6	28052	2.76:1
T 3: Improved Practice(75 % N Inorganic + 25 % N-VC)	25.7	29965	2.79:1

A.7 Trial 7

- Title : Assessment of superior clones of Aonla with respect to survival and establishment
2. Problem diagnose/defined : Lack of quality planting material and inferior growing stock
3. Details of technologies selected for assessment/refinement : Local selection
Kancan
NA-7
4. Source of technology : SKAUST-J/ Dr YSP UH&F SOlan HP
5. Production system thematic area : Maize – Wheat rainfed system
6. Thematic area : Varietal evaluation
7. Performance of the Technology with performance indicators : Clones are under phase of establishment , However after one year clones recorded 63.0 % 66.5 % and 65.5% survival
8. Final recommendation for micro level situation : .
9. Constraints identified and feedback for research :
10. Process of farmers participation and their reaction : Farmers participated from seed to seed in laying out of the OFT more over they fully cooperated in providing feed back and other data pertaining OFT.



B7: Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Harad	Rainfed	Lack of quality planting material and inferior growing stock	Assessment of superior clones of Aonla with respect to survival and establishment	05	Local selection	Survival percentage	63.0 %		
					Kancan		66.5 %		
					NA-7		65.5%		

Technology Assessed	Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
Local selection	63.0 %	-	
Kancan	66.5 %	-	
NA-7	65.5%	-	-

A.8 Trial 8

- | | | |
|---|---|---|
| Title | : | Evaluation of Maize composite Vijay Composite |
| 2. Problem diagnose/defined | : | Lack of composite variety |
| 3. Details of technologies selected for assessment/refinement | : | T 1: Farmers Practice
T 2: Vijay composite |
| 4. Source of technology | : | DMR New Delhi, SKUAST-J |
| 5. Production system thematic area | : | Irrigated cereal based system (Maize - Wheat) |
| 6. Thematic area | : | Varietal evaluation |
| 7. Performance of the Technology with performance indicators | : | The results at farmers' field revealed that T-2 recorded 27.6 q/ha grain yield which is 15.9 % more than the Check T-1 (23.8). |
| 8. Final recommendation for micro level situation | : | Vijay composite can be recommended for rainfed areas of Jammu district |
| 9. Constraints identified and feedback for research | : | Non availability of maize composite. |
| 10. Process of farmers participation and their reaction | : | Farmers participated from seed to seed in laying out of the OFT. More over they fully cooperated in providing feedback and other data pertaining OFT. |

Vijay composite at farmers field



B 8: Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the Parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Maize	Rainfed	Low productivity and non- availability of composite	Evaluation of Maize composite Vijay Composite	01	T 1: Farmers Practice	Grain Yield B:C ratio	23.8	T 2 registered mean increase of 15.9 % in grain yield over farmers' practice	Farmers satisfied with the composite variety
					T 2: Vijay		27.6		

Technology Assessed	Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T 1: Farmers Practice	21.3	16310	1.82:1
T 2: Vijay	24.6	21920	2.10:1

A.9 Trial 9

- Title : Integrated nutrient management in rain-fed maize
2. Problem diagnose/defined : Imbalance use of fertilizers
3. Details of technologies selected for assessment/refinement : T 1: Farmers Practice
T 2: Recommended Practice 100 % RDF in maize
T 3: (FYM @ 10 t ha⁻¹ + 40 kg N ha⁻¹ + recommended P and K
4. Source of technology : SKUAST-J
5. Production system thematic area : Rain-fed cereal based system (Maize - Wheat)
6. Thematic area : INM
7. Performance of the Technology with performance indicators : The results of on-farm trials conducted in rainfed areas revealed that maize grain yield ranged from 22.1 to 23.6, 26.6 to 29.5 and 25.8 to 30.1 q/ha with farmers's practice, recommended practice (NPK 60:40:20) and improved practice (FYM @ 10 t ha⁻¹ + 40 kg N ha⁻¹ + recommended P and K) respectively. The highest mean grain yield of maize (28.1 q/ha) was obtained with improved practice whereas corresponding lowest yield to the tune of 22.6 kg/ha was recorded in farmer's practice.
8. Final recommendation for micro level situation : Improved practice registered 16 to 28 % increase in grain yield of maize over the farmer's practice with mean percent increase yield of 24% over farmer's practice. Thus improved practice of integrated nutrient management could be a viable option to improve productivity of maize over farmer's practice with concomitant saving of nitrogen through inorganic fertilizer.
9. Constraints identified and feedback for research : Non availability of fertilizers
10. Process of farmers participation and their reaction : Farmers participated from seed to seed in laying out of the OFT. More over they fully cooperated in providing feedback and other data pertaining OFT.
-



B 9: Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the Parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Maize	Rain-fed	Low productivity and imbalanced use of fertilizer	Integrated Nutrient Management in Maize crop yield under rain-fed	03	T 1: Farmers Practice	Grain Yield B:C ratio	22.6	T 2 registered mean increase of 22.12 % in grain yield over farmers' practice	Farmers satisfied with the composite variety
					T 2: Recommended Practice 100 % RDF in maize		27.6		
					T 3: (FYM @ 10 t ha ⁻¹ + 40 kg N ha ⁻¹ + recommended P and K	28.1	T 3 registered mean increase of 24.0 % in grain yield over farmers' practice		

Technology Assessed	Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T 1: Farmers Practice	22.6	18520	1.93:1
T 2: Recommended Practice 100 % RDF in maize	27.6	27020	2.36:1
T 3: (FYM @ 10 t ha ⁻¹ + 40 kg N ha ⁻¹ + recommended P and K	28.1	27870	2.40:1

A.10 Trial 10

- Title : **Maize stem borer management through organic/inorganic plant nutrition**
2. Problem diagnose/defined : Economic loss due to Stem borer
 3. Details of technologies selected for assessment/refinement : T 1: Farmers Practice
T 2: Recommended practice (Carbofuran 3G)
T 3: MOP @80kg/ha + *Neem cake* @ 2q/ha
T 4: MOP @80kg/ha
 4. Source of technology : SKUAST-J
 5. Production system thematic area : Rain-fed cereal based system (Maize - Wheat)
 6. Thematic area : IPM
 7. Performance of the Technology with performance indicators : Results revealed reduction in stem borer incidence by 84.28 and 72.08 % with increase in grain yield of 81.04 and 64.72% in T3 and T4 respectively.
 8. Final recommendation for micro level situation : MOP @80kg/ha + *Neem cake* @ 2q/ha can be recommended for control of maize stem borer
 9. Constraints identified and feedback for research : Non availability of organic inputs.
 10. Process of farmers participation and their reaction : Farmers participated from seed to seed in laying out of the OFT. More over they fully cooperated in providing feedback and other data pertaining OFT.

B 10: Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters	Data on the Parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Maize	Rainfed	Low productivity and imbalanced use of fertilizer	Integrated Nutrient Management in Maize crop yield under rainfed	03	T 1: Farmers Practice	Percent stem borer incidence	24.68 17.77 q/ha	T 2 registered mean increase of 31.9 % in grain yield over farmers' practice	Farmers satisfied with the composite variety
					T 2: Recommended practice (Carbofuran 3G)	Grain Yield	10.97 23.43q/ha		
						B:C ratio			
					T 3: MOP @80kg/ha + <i>Neem cake</i> @ 2q/ha		3.88 32.17 q/ha	T 3 registered mean increase of 81 % in grain yield over farmers' practice	
					T 4: MOP @80kg/ha		6.89 29.27q ha	T 4 registered mean increase of 64.7 % in grain yield over farmers' practice	

Technology Assessed	Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T 1: Farmers Practice	24.68 17.77 q/ha	10309	1.52:1

T 2: Recommended practice (Carbofuran 3G)	10.97 23.43q/ha	20466	2.03:1
T 3: MOP @80kg/ha + <i>Neem cake</i> @ 2q/ha	3.88 32.17 q/ha	34789	2.75:1
T 4: MOP @80kg/ha	6.89 29.27q ha	29869	2.50:1

PART 4 - FRONTLINE DEMONSTRATIONS

4.A. Summary of FLDs implemented during 2017-18

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement		
									Proposed	Actual	SC/ST	Others	Total			
A	Oilseeds															
1		Irrigated	Rabi 2017-18	Mustard	RSPR-01		Varietal evaluation	Improved variety	4.0	1.0	04	09	13	-		
					PR-20					0.8	09	04	13	-		
					PR-19					3.2	12	27	39	-		
				Gobi Sarson	DGS-1											
					RSPN-25									1.0	03	05
	Toria			RSPT-01						1.0	01	07	08	-		
B	Pulses															
1		Rain-ed	Rabi 2017-18	Chickpea	GNG-1581		Varietal evaluation	Improved variety	16.5	7.725	34	16	110	-		
2				Chickpea	PG-186						0.45	01	07	08		
3			Kharif 2017	Mash	PU-31						10.65	10.65	19	52	71	
C	Cereals															
1		Irrigated	Kharif 2017	Paddy	B-370		Varietal evaluation	Improved variety	8.0	10.0	01	42	43	-		
2					Pusa 1612				-	4.0	04	23	27	-		
3					Pusa 1592				-	0.8	01	02	03	-		
4					Pusa B-1				-	2.5	03	06	09	-		
5		Rainfed	Kharif 2017	Maize		Double Dekalb	Varietal evaluation	Improved variety	08	10.5	21	40	61	-		
6	Irrigated	Rabi 2017-18	Wheat	HD- 3086		Varietal evaluation	Improved variety	8.0	10.0	02	40	42	-			
									-	0.4	-	03	03			
D	Millets															
E	Vegetables	Irrigated	Kharif 2017-18	Okra	Siyali special		Varietal evaluation	Improved variety	0.1	0.1	-	02	02			
			Rabi 2017-18	Knoll khol	G-40		Varietal evaluation	Improved variety	0.1	0.1	-	02	02			
				Pea	PP42, PPM		Varietal evaluation	Improved variety	0.1	0.1	-	02	02			
				Palak	All green		Varietal evaluation	Improved Variety	0.1	0.1	02	-	02			
F	Flowers															
G	Fruit															
H	Spices and condiments	-	-	-	-	-	-	-	-	-	-	-	-	-		
I	Medicinal and aromatic	Raifed	Kharif 2017													
1		-	-	Harad Aonla	JH 1 Kanchan NA-7	-	Clonal demonstration	Superior clones	-	10.0	32	98	130	-		
		-	-	-	-	-	-	-	-	-	-	-	-	-		
J	Fodder															

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
									Proposed	Actual	SC/ST	Others	Total	
1		Irrigated	2017-18	Berseem	Mascavi	-	Varietal Evaluation	Improved Variety	-	4.0	27	19	46	-
2		Rainfed	2017-18	Oats	Sabzar	-	-	-	-	2.6	11	21	32	-
3					Kent	-	-	-	-	0.5	05	-	05	
	Dairy	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
	Poultry	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
	Piggery	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
	Sheep and goat	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
	Button mushroom	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
	Vermicompost	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
	IFS	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
	Apiculture	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-
	Implements	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-

4.A. 1. Soil fertility status of FLDs plots during 2017-18

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Status of soil (Kg/Ha)	P	K	Previous crop grown
									N			
A	Oilseeds											
1		Irrigated	Rabi 2017-18	Mustard	RSPR-01		Varietal evaluation	Improved variety	135.05-257.15	14-39	45-230	Paddy/Vegetables
2		Irrigated/				PR-20						

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/breed	Hybrid	Thematic area	Technology Demonstrated	Status of soil (Kg/Ha)			Previous crop grown		
									N	P	K			
		Rainfed												
3					PR-19									
4		Irrigated		Gobi Sarson	DGS-1									
5		Irrigated			RSPN-25									
6		Irrigated/Rainfed		Toria	RSPT-01									
B	Pulses													
1		Rainfed	Rabi 2017-18	Chickpea	GNG-1581		Varietal evaluation	Improved variety	160-563	29.3-46.8	197-287	Maize/Paddy		
2					PG-186				160-563	29.3-46.8	197-287	Maize/Paddy		
3			Kharif 2017	Mash	PU-31				160-563	29.3-46.8	197-287	Maize/Paddy		
C	Cereals													
1		Irrigated	Kharif 2017	Paddy	B-370		Varietal evaluation	Improved variety	298.85-604.65	25-40	118-266	Wheat/Vegetables		
2					Pusa 1612									
3					Pusa 1592									
4					Pusa B-1									
5		Rainfed	Kharif 2017	Maize		Double Dekalb	Varietal evaluation	Improved variety	160-563	29.3-46.8	197-287	Wheat/Oilseed/Pulses		
7		Irrigated	Rabi 2017-18	Wheat	HD- 3086		Varietal evaluation	Improved variety	298.85-604.65	25-40	118-266	Paddy/Maize		
D	Millets											-		
E	Vegetables													
F	Flowers											-		
G	Fruit											-		
H	Spices and condiments													
I	Medicinal and aromatic													
1		-	-	Harad Aonla	JH 1Kanchan NA-7	-	Clonal demonstration	Superior clones	145-570	13-38	75-223			
		-	-	-	-	-	-	-	-			-		
J	Fodder													
1		Irrigated	2017-18	Berseem	Mascavi	-	Varietal Evaluation	Improved Variety	298.85-604.65	25-40	118-266	Paddy/Vegetables		
2		Rainfed	2017-18	Oats	Sabzar	-			-	-	298.85-604.65	25-40	118-266	Paddy/Vegetables
3					Kent									
	Apiculture	-	-	-	-	-	-	-	-			-		
		-	-	-	-	-	-	-	-			-		
		-	-	-	-	-	-	-	-			-		
	Implements	-	-	-	-	-	-	-	-			-		
	Button mushroom	-	-	-	-	-	-	-	-	-	-	-		

B. Results of Frontline Demonstrations

4.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demos.	Area (ha)	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Oilseed																			
Mustard	Improved variety			Irrigated	13	1.0	16.5	14.0	14.8	8.6	72	18400	59200	40800	3.21:1	17800	34400	16600	1.93:1
		RSPR-01		Irrigated/Rainfed	13	0.8	14.0	5.6	9.86	8.6	14.7	18400	39440	21040	2.14:1	17800	34400	16600	1.93:1
		PR-20			39	3.2	13.9	11.8	11.9	8.8	35.2	18400	47600	29200	2.58:1	17800	35200	17400	1.97:1
Gobi Sarson		DGS-1		Irrigated	27	3.0	12.4	9.8	10.6	8.9	19	18400	42400	24000	2.30:1	17600	35600	18000	2.02:1
		RSPN-25		Irrigated	08	1.0	15.6	13.8	14.6	8.9	64	18400	58400	40000	2.17:1	17600	35600	18000	2.02:1
Toria		RSPT-01		Irrigated/Rainfed	08	1.0	6.0	4.7	5.4	4.6	17.4	14900	21600	6700	1.45:1	14500	18400	3900	1.27:1
Pulses																			
Chick Pea	Improved variety IPM	GNG-1581		Irrigated/Rainfed	110	7.725	8.0	3.9	5.9	3.9	51	21500	32450	10950	1.50:1	19500	21450	1950	1.1:1
		PG-186		Irrigated	08	0.45	8.2	7.0	6.7	5.5	21.8	21500	36850	15350	1.71:1	19500	30250	10750	1.55:1
Mash	Improved variety Bio inoculant	PU-31		Irrigated/Rainfed	71	10.65	8.2	4.5	5.9	3.9	51.2	17200	41300	24100	2.40:1	16500	27300	10800	1.66:1
Cereals																			
Paddy	Improved variety, POP	B-370		Irrigated	43	1.0	38.0	30.0	35.6	30.0	18.5	35400	124600	89200	3.52:1	33800	105000	71200	3.11:1
		Pusa 1612			27	4.0	56.0	40.0	46.63	38.0	22.7	35800	111912	76112	3.13:1	35800	95000	59200	2.65:1
		Pusa 1592			3	0.8	50.8	47.0	48.6	38.0	27.9	35800	126360	90500	3.53:1	35800	95000	59200	2.65:1
		Pusa B-1			9	2.5	45.0	40.0	43.1	38.0	13.4	35800	103440	67640	2.89:1	35800	95000	59200	2.65:1
Maize	Improved variety Line sowing		DD		61	10.5	32.0	24.0	28.82	24.0	20.1	19900	46868	26968	2.36:1	18100	39000	20900	2.16:1

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demos.	Area (ha)	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Wheat	Improved variety Line sowing	HD- 3086		Irrigated	42	10.0	42.0	32.0	37.4	32.0	16.9	23200	65450	42250	2.82:1	21900	56000	34100	2.56:1
Okra	Improved variety	Siyali special		Irrigated	4	0.1	65	52.0	58.5	52.0	12.5	30200	87750	57550	2.9:1	25000	52000	27000	1.8:1
Knol khol	Improved variety	G 40		Irrigated	4	0.1	350	275.0	300.0	250	16.66	45000	100000	55000	2.2:1	40000	80000	40000	2.0:1
Pea	Improved variety	PP42, PPM		Irrigated	4	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Palak	Improved variety	All green		Irrigated	4	0.1	60.00	50.00	55.0	45.0	22.0	40000	75000	35000	2.6:1	35000	60000	25000	2.1:1
Medicinal and aromatic	Superior clones			Rainfed	130	10.0	Under phase of establishment												
Fodder																			
Berseem	-	Masavi	-	Irrigated	46	4.0	710	601	668.4	640	4.43	38500	80280	41708	2.08:1	38500	76800	38300	1.99:1
Oats	Improved variety	Sabzar	-	Rainfed/Irrigated	32	2.6	345	285	289.5	240	20.6	18900	44231	25231	2.34:1	18900	36668	17668	1.94:1
		Kent			5	0.5	295	285	289.8	240	20.6	18900	44050	25150	2.33:1	18900	36668	17668	1.94:1

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST ; H – Highest Yield, L – Lowest Yield A – Average Yield

Data on additional parameters other than yield (viz., reduction of percentage in weed/pest/diseases etc.)

Data on other parameters in relation to technology demonstrated							
Crop	Technology to be demonstrated	Variety/Hybrid	Parameter with unit			Demo	Check
-	-	-	-			-	-
-	-	-	-			-	-
-	-	-	-			-	-
-	-	-	-			-	-
-	-	-	-			-	-

4.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (q/ha)			% Increase	*Economics of demonstration (Rs./unit)				*Economics of check (Rs./unit)				
					Demo				Check if any	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Dairy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rabbitry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Piggery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sheep and goat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Duckery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others (pl.specify)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

Data on additional parameters other than yield (viz., reduction of percentage diseases, increase in conceiving rate, inter-calving period etc.)

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check if any

4. B.3. Fisheries

Type of Breed	Name of the technology demonstrated	Breed	No. of Demo	Units/Area (m ²)	Yield (q/ha)			% Increase	*Economics of demonstration (Rs./unit) or (Rs./m ²)				*Economics of check (Rs./unit) or (Rs./m ²)				
					Demo				Check if any	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Common carps	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others (pl.specify)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST H-High L-Low, A-Average

Data on additional parameters other than yield (viz., reduction of percentage diseases, effective use of land etc.)

<i>Data on other parameters in relation to technology demonstrated</i>		
<i>Parameter with unit</i>	<i>Demo</i>	<i>Check if any</i>

4.B.4. Other enterprises

<i>Enterprise</i>	<i>Name of the technology demonstrated</i>	<i>Variety/species</i>	<i>No. of Demo</i>	<i>Units/Area {m²}</i>	<i>Yield (q/ha)</i>			<i>Check if any</i>	<i>% Increase</i>	<i>*Economics of demonstration (Rs./unit) or (Rs./m²)</i>				<i>*Economics of check (Rs./unit) or (Rs./m²)</i>			
					<i>Demo</i>					<i>Gross Cost</i>	<i>Gross Return</i>	<i>Net Return</i>	<i>** BCR</i>	<i>Gross Cost</i>	<i>Gross Return</i>	<i>Net Return</i>	<i>** BCR</i>
					<i>H</i>	<i>L</i>	<i>A</i>										
Button mushroom																	
Dhingri	Round the year mushroom cultivation	Oyster	17	20	0.375	0.2	0.3	-	-	700	2200	1500	3.14:1	-	-	-	-
Vermicompost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apiculture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others (pl.specify)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

H-High L-Low, A-Average

Data on additional parameters other than yield (viz., additional income realized, employment generation, quantum of farm resources recycled etc.)

<i>Data on other parameters in relation to technology demonstrated</i>		
<i>Parameter with unit</i>	<i>Demo</i>	<i>Local</i>
-	-	-

4.B.5. Extension and Training activities under FLD

<i>Sl.No.</i>	<i>Activity</i>	<i>No. of activities organised</i>	<i>Number of participants</i>	<i>Remarks</i>
1	Field days	8	401	
2	Farmers Training	15	362	
3	Media coverage	8		
4	Training for extension functionaries	-		
5	Others (Extension activities)	8	613	

5. Achievements on Training (Including the sponsored, vocational, FLD and trainings under Rainwater Harvesting Unit) :

A) ON Campus

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
(A) Farmers & Farm Women										
I Crop Production										
Weed Management										
Resource Conservation Technologies	1	19	0	19	5	0	5	24	0	24
Cropping Systems	2	29	1	30	0	0	0	29	1	30
Crop Diversification										
Integrated Farming										
Water management										
Seed production										
Nursery management	1	11	0	11	3	0	3	14	0	14
Integrated Crop Management										
Fodder production										
Production of organic inputs										
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops										
Off-season vegetables										
Nursery raising										
Exotic vegetables like Broccoli										
Export potential vegetables										
Grading and standardization										
Protective cultivation (Green Houses, Shade Net etc.)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										

Micro irrigation systems of orchards										
Plant propagation techniques										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
f) Spices										
Production and Management technology										
Processing and value addition										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
III Soil Health and Fertility Management										
Soil fertility management										
Soil and Water Conservation										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use										

Efficiency										
Soil and Water Testing										
IV Livestock Production and Management										
Dairy Management										
Poultry Management	1	33	0	33	8	0	8	41	0	41
Piggery Management										
Rabbit Management										
Disease Management										
Feed management										
Production of quality animal products										
V Home Science/ Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1	0	0	0	2	26	28	2	26	28
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	1	0	0	0	0	17	17	0	17	17
Minimization of nutrient loss in processing										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Income generation activities for empowerment of rural Women										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
VI Agril. Engineering										
Installation and maintenance of micro irrigation										

systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
VII Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
IX Production of Inputs at site										
Seed Production										

Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs	1	19	0	19	2	0	2	21	0	21
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
TOTAL	8	111	1	112	20	43	63	131	44	175
(B) RURAL YOUTH										
Mushroom Production	1	0	4	4	0	13	13	0	17	17
Bee-keeping										
Integrated farming										
Seed production										
Production of organic inputs										
Integrated Farming										

Planting material production	2	17	1	18	6	1	7	23	2	25
Vermi-culture										
Sericulture										
Protected cultivation of vegetable crops										
Commercial fruit production										
Repair and maintenance of farm machinery and implements										
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Value addition										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Para vets										
Para extension workers										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Small scale processing	1	0	0	0	0	22	22	0	22	22
Post Harvest Technology										
Tailoring and Stitching	1	0	0	0	2	22	24	2	22	24
Rural Crafts	1	0	0	0	0	26	26	0	26	26
TOTAL	6	17	5	22	8	84	92	25	89	114
(C) Extension Personnel										
Productivity enhancement in										

field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology	2	35	0	35	0	0	0	35	0	35
Formation and Management of SHGs										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	1	21	0	21	0	0	0	21	0	21
Care and maintenance of farm machinery and implements										
WTO and IPR issues										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Women and Child care	1	0	22	22	0	0	0	0	22	22
Low cost and nutrient efficient diet designing	1	0	23	23	0	0	0	0	23	23
Production and use of organic inputs	1	0	0	0	25	5	30	25	5	30
Gender mainstreaming through SHGs										
TOTAL	5	56	45	101	0	0	0	56	45	101

B) OFF Campus

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
(A) Farmers & Farm Women										
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems	3	69	1	70	10	0	10	79	1	80
Crop Diversification										

Integrated Farming	1	2	0	2	0	24	24	2	24	26
Water management										
Seed production										
Nursery management	1	10	7	17	1	8	9	11	15	26
Integrated Crop Management										
Fodder production										
Production of organic inputs										
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops	2	20	0	20	24	6	30	44	6	50
Off-season vegetables										
Nursery raising										
Exotic vegetables like Broccoli										
Export potential vegetables										
Grading and standardization										
Protective cultivation (Green Houses, Shade Net etc.)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
c) Ornamental Plants										
Nursery Management	2	29	5	34	4	0	4	34	4	38
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
d) Plantation crops										

Production and Management technology										
Processing and value addition										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
f) Spices										
Production and Management technology										
Processing and value addition										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
III Soil Health and Fertility Management										
Soil fertility management										
Soil and Water Conservation										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Soil and Water Testing										
IV Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Disease Management	1	15	0	15	13	0	13	28	0	28

Feed management										
Production of quality animal products										
V Home Science/Women empowerment	7	10	34	44	18	125	143	28	159	187
Household food security by kitchen gardening and nutrition gardening	1	0	0	0	0	22	22	0	22	22
Design and development of low/minimum cost diet	1	5	2	7	13	2	15	18	4	22
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing	2	5	32	37	2	17	19	7	49	56
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	1	0	0	0	1	20	21	1	20	21
Income generation activities for empowerment of rural Women	1	0	0	0	0	38	38	0	38	38
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
VI Agril. Engineering										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										

Post Harvest Technology										
VII Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry										

and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs	1	23	0	23	7	0	7	30	0	30
Mobilization of social capital	6	82	6	84	19	2	21	101	8	109
Entrepreneurial development of farmers/youths	1	13	0	13	9	0	9	22	0	22
WTO and IPR issues										
XI Agro-forestry										
Production technologies	9	106	0	106	80	13	93	186	13	199
Nursery management										
Integrated Farming Systems	1	25	0	25	11	0	11	36	0	36
TOTAL	35	389	52	441	224	128	352	613	180	793
(B) RURAL YOUTH										
Mushroom Production										
Bee-keeping										
Integrated farming										
Seed production										
Production of organic inputs										
Integrated Farming										
Planting material production										
Vermi-culture										
Sericulture										
Protected cultivation of vegetable crops										
Commercial fruit production										
Repair and maintenance of farm machinery and implements										

Nursery										
Management of Horticulture crops										
Training and pruning of orchards										
Value addition										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Para vets										
Para extension workers										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
TOTAL										
(C) Extension Personnel										
Productivity enhancement in field crops										
Integrated Pest Management	1	40	10	50	0	0	0	40	10	50
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Formation and Management of SHGs										

Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Care and maintenance of farm machinery and implements										
WTO and IPR issues										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Women and Child care										
Low cost and nutrient efficient diet designing										
Production and use of organic inputs										
Gender mainstreaming through SHGs										
TOTAL	1	40	10	50	0	0	0	40	10	50

C) Consolidated table (ON and OFF Campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
(A) Farmers & Farm Women										
I Crop Production										
Weed Management										
Resource Conservation Technologies	1	19	0	19	5	0	5	24	0	24
Cropping Systems	5	98	2	100	10	0	10	108	2	110
Crop Diversification										
Integrated Farming	1	2	0	2	0	24	24	2	24	26
Water management										
Seed production										
Nursery management	2	21	7	28	12	11	23	33	18	51
Integrated Crop Management										
Fodder production										
Production of organic inputs										
II Horticulture										
a) Vegetable Crops										

Production of low volume and high value crops	2	20	0	20	24	6	30	44	6	50
Off-season vegetables										
Nursery raising										
Exotic vegetables like Broccoli										
Export potential vegetables										
Grading and standardization										
Protective cultivation (Green Houses, Shade Net etc.)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
c) Ornamental Plants										
Nursery Management	2	29	5	34	4	0	4	34	4	38
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
f) Spices										
Production and										

Management technology										
Processing and value addition										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
III Soil Health and Fertility Management										
Soil fertility management										
Soil and Water Conservation										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Soil and Water Testing										
IV Livestock Production and Management										
Dairy Management										
Poultry Management	1	33	0	33	8	0	8	41	0	41
Piggery Management										
Rabbit Management										
Disease Management	1	15	0	15	13	0	13	28	0	28
Feed management										
Production of quality animal products										
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2	0	0	0	2	48	50	2	48	50
Design and	1	5	2	7	13	2	15	18	4	22

development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	1	0	0	0	0	17	17	0	17	17
Minimization of nutrient loss in processing	2	5	32	37	2	17	19	7	49	56
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	1	0	0	0	1	20	21	1	20	21
Income generation activities for empowerment of rural Women	1	0	0	0	0	38	38	0	38	38
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
VI Agril. Engineering										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
VII Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and										

bio pesticides										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
X Capacity Building and										

Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs	2	42	0	42	9	0	9	51	0	51
Mobilization of social capital	6	82	6	88	19	2	21	101	8	109
Entrepreneurial development of farmers/youths	1	13	0	13	9	0	9	22	0	22
WTO and IPR issues										
XI Agro-forestry										
Production technologies	9	106	0	106	80	13	93	186	13	199
Nursery management										
Integrated Farming Systems	1	25	0	25	11	0	11	36	0	36
TOTAL	41	500	53	553	244	171	415	744	224	968
(B) RURAL YOUTH										
Mushroom Production	1	0	4	4	0	13	13	0	17	17
Bee-keeping										
Integrated farming										
Seed production										
Production of organic inputs										
Integrated Farming										
Planting material production	2	17	1	18	6	1	7	23	2	25
Vermi-culture										
Sericulture										
Protected cultivation of vegetable crops										
Commercial fruit production										
Repair and maintenance of farm machinery and implements										
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Value addition										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										

Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Para vets										
Para extension workers										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Small scale processing	1	0	0	0	0	22	22	0	22	22
Post Harvest Technology										
Tailoring and Stitching	1	0	0	0	2	22	24	2	22	24
Rural Crafts	1	0	0	0	0	26	26	0	26	26
TOTAL	6	17	5	22	8	84	92	25	89	114
(C) Extension Personnel										
Productivity enhancement in field crops										
Integrated Pest Management	1	40	10	50	0	0	0	40	10	50
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology	2	35	0	35	0	0	0	35	0	35
Formation and Management of SHGs										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	1	21	0	21	0	0	0	21	0	21
Care and maintenance of farm machinery and implements										
WTO and IPR										

issues										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Women and Child care	1	0	22	22	0	0	0	0	22	22
Low cost and nutrient efficient diet designing	1	0	23	23	0	0	0	0	23	23
Production and use of organic inputs	1	0	0	0	25	5	30	25	5	30
Gender mainstreaming through SHGs										
TOTAL	7	96	55	151	25	5	30	121	60	181

(D) Vocational training programmes for Rural Youth

Crop / Enterprise	Date	Training title*	Identified Thrust Area	Duration (days)	No. of Participants			Self employed after training			Number of persons employed elsewhere
					Male	Female	Total	Type of units	Number of units	Number of persons employed	
Mushroom	07-Feb-18	Cultivation of Oyster Mushroom	Round the year Mushroom cultivation	3	0	17	17	Commercial	10	20	
Medicinal Trees	16-Mar-18	Improved propagation technique of medicinal trees	Quality planting materials	2	11	1	12	Personnel	12	12	
Handicrafts	08-May-17	Value addition to household articles through handicraft (Tie & Dye techniques)	Processing	3	2	22	24	commercial	10	10	
Handicrafts	01-May-17	Skill Upgradation in Cushion making activity for entrepreneurs hip	Income generating activities		0	26	26	Commercial	15	15	

		development for farm women and adolescent girls									
Medicinal trees	03-Apr-17	Nursery raising and propagation techniques (Grafting & budding) of medicinal plants	Income generating activities		12	1	13	Personnel	10	10	
Processing	08-Jun-17	Processing and Preservation of seasonal fruits and vegetables	Income generating activities		0	22	22	Personnel	5	5	
Horticulture	20-Aug-17	Improved propagation techniques cum nursery raising of forestry and horticulture trees	Income generating activities		51	0	51	Personnel	5	5	

*training title should specify the major technology /skill transferred

(E) Sponsored Training Programmes conducted by KVK

Sl. No	Date	Title	Discipline	The thematic area	Duration (days)	Client (PF/R Y/EF)	No. of courses	No. of Participants									Sponsoring Agency	Amount of fund received (Rs.)
								Others			SC/ST			Total				
								Male	Female	Total	Male	Female	Total	Male	Female	Total		
1	19/05/17	Awareness camp on DO BTL in fertilizers	Soil Science	Mobilization of capital	1	Dealers	5	250	0	250	0	0	0	250	0	250	IFFCO	-
2	19/01/18	Scope & importance of MAP for enhancing farmers income	Agroforestry	Production technology	1	Farmers	4	35	4	39	15	9	40	51	13	64	HFR I, Shimla	80,000
3	22/01/18	Commercial Flouriculture	Horticulture	Entrepreneurship development	1	farmers	4	130	6	136	55	9	64	185	15	200	Dept of Flouriculture	-
Total	3				3		13	415	10	425	70	18	104	486	28	514		80,000

(F) Skill Development Training under ASCI Conducted by selected KVKs

Sl. No	Date	Title	Discipline	Thematic area	Duration (days)	Client (PF/R Y/EF)	No. of courses	No. of Participants											
								Others			SC/ST			Total					
								Male	Female	Total	Male	Female	Total	Male	Female	Total			
Total																			

6. Extension Activities (including activities of FLD programmes)

Sl. No.	Nature of Extension Activity	Topic / crop	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension Officials (III)			Grand Total (I+II+III)		
				Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1.	Field Day	Chick Pea 6/4/17	1	36	0	36	14	0	14	3	0	3	53	0	53
2.	Field Day	Wheat 18/4/17	1	28	0	28	12	2	14	3	0	3	43	2	45
1.	Field day	Maize 7/9/17	1	7	2	9	32	2	34	3	1	4	42	5	47
	Field day	Urd Bean 13/9/17	1	26	1	27	20	6	26	2	0	2	48	7	55
		Paddy 5/10/17	1	8	0	8	32	0	32	2	0	2	42	0	42

		Chickpea 24/1/18	1	91	15	106	5	0	5	3	1	4	99	16	115
		Mustard 5/2/18	1	0	0	0	31	0	31	3	0	3	34	0	34
	Total		7	196	18	214	146	10	156	19	2	21	361	30	391
1.															
2.	Kisan Mela Participated	PMFBY 28/8/17	1	68	22	90	34	26	60	9	6	15	111	54	165
3.		CSS 27/11/17	1	-	-	-	-	-	-	-	-	-	-	-	300
		Basmati rice producers 13/12/17	1	-	-	-	-	-	-	-	-	-	-	-	400
		Organic Basmati Mela 15/2/18	1	-	-	-	-	-	-	-	-	-	-	-	250
		Water conservation Mela 21/2/18	1	-	-	-	-	-	-	-	-	-	-	-	300
	Kisan Mela organized	Sankalp Se sidhi	1	93	13	106	86	43	129	25	4	29	204	60	264
			6	161	35	196	120	69	189	34	10	44	315	114	1679
	Total														
4.	Kisan Ghosthi		8	1199	60	1259	234	93	327	114	68	182	154	221	1768
5.	Exhibition		11												2245
6.	Film Show		22												
7.	Method Demonstrations		21												
8.	Farmers Seminar		3	562	65	627	76	31	107	-	-	-	640	57	697
9.	Workshop	State Level action Plan 26/4/17	1												24
10.		BEDF 30/05/17	1	11	0	11	9	0	9	0	0	0	20	0	20
11.		PPVFRA 26/03/18	1	39	3	42	0	0	0	0	0	0	39	3	42
12.	Group meetings	Ex Trainee Samelan 25/4/17	1	93	13	106	86	43	129	20	6	26	199	62	261
13.	Lectures delivered as resource persons		18												
14.	Newspaper coverage		24												
15.	Radio talks		6												
16.	TV talks		0												
17.	Popular articles		28												
18.	Extension Literature		12												
19.	Advisory Services		46												
20.	Scientific visit to farmers field		48												
21.	Farmers visit to KVK		332												
22.	Diagnostic visits		122												
23.	Exposure visits		4												
24.	Ex-trainees														

	Sammelan														
25.	Soil health Camp		2												
26.	Animal Health Camp	17/10/17	1	32	0	32	9	0	9	7	3	10	48	3	51
27.	Agri mobile clinic														
28.	Soil test campaigns														
29.	Farm Science Club Conveners meet														
30.	Self Help Group Conveners meetings														
31.	Mahila Mandals Conveners meetings														
32.	Celebration of important days (specify)	World soil day 5/12/17	1	156	13	169	99	11	110				255	24	279
1.		World Rabies day 20/9/17	1	25	5	30	0	0	0	0	0	0	25	5	30
1.		International Breast feeding week 10-16/08/17	5	32	34	116	14	116	120	40	0	0	46	200	246
2.		World Honey-Bee Day 12/08/17	1	26	1	27	25	1	26	14	2	16	65	4	69
1.		Nutrition Week 1-7/09/17	5												146
1.		Women farmers Day 15/10/17	1												49
1.		Self Help Grps	3												61
1.		Swatchta Pakhwara 15-30/05/17	5	48	3	51							48	3	51
1.	Awareness Prog	Organic Basmati 7/4/17	1	8	0	8	12	0	12	3	2	5	33	2	35
1.	Awareness Prog	DOBTL on fertilizer 19/5/17	1	176	15	191	51	8	59	2	2	4	216	25	241
1.	Awareness Prog	Use of Seed treatment in Paddy	1	9	0	9	29	0	29	3	1	4	41	1	42
1.	Awareness Prog	Awareness prog on Panchanama, cleanliness drive, campaigns, etc	6												121
1.	Awareness Prog	Breast feeding week 10-16/08/17	1	32	34	116	14	116	120	0	0	0	46	200	246
1.	Awareness	Nutrition &													66

	Prog	Health education 4/9/17															
1.	Awareness Prog																
2.	Awareness Prog																
2.																	
	Grand Total																

6. B. Kisan Mobile Advisory Services

Kisan Mobile Advisory									
Name of the KVK	No. of farmers Covered	No. of Advisories Sent	Type of messages						
			Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Any other
Jammu	1000	60			yes				

6.C. DETAILS OF TECHNOLOGY WEEK CELEBRATIONS during 2017-18

No. of Technology week celebrated	Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
2	Gosthies	4		
	Lectures organized	10		
	Exhibition	2		
	Film show	4		
	Fair	0		
	Farm Visit	4		
	Diagnostic Practicals	4		
	Distribution of Literature (No.)	500		
	Distribution of Seed (q)			
	Distribution of Planting materials (No.)	500		
	Bio Product distribution (Kg)			
	Bio Fertilizers (q)			
	Distribution of fingerlings			
	Distribution of Livestock specimen (No.)			
	Total number of farmers visited the technology week			

7. Production and supply of Technological products

A) SEED MATERIALS

Major group/class	Crop	Variety	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS					
	Rice	Basmati 370	77	-	500
	Rice	Mixture	5	10000	2
	Wheat	WH1080	180	-	300
OILSEEDS					
PULSES					
VEGETABLES					
FLOWER CROPS					
OTHERS (Specify)					

*An example for guidance only

B) PLANTING MATERIALS

Major group/class	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS					
SPICES					
VEGETABLES					
FOREST SPECIES					
	Napier		2500	2500	50
	Seteria		1500	1500	50
	Harad, Anola, Behra, Jamun		1351	47235	130
ORNAMENTAL CROPS					
	Kachnar, Gulmohar, Cassia, Bamboo		500	5000	50
PLANTATION CROPS					

Others (specify)					

C) BIO PRODUCTS

Major group/class	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
BIOAGENTS						
1	Vermicompost			6000	48000	30
2	Azolla			2q	-	10
3						
4						
BIOFERTILIZERS						
1						
2						
3						
4						
BIO PESTICIDES						
1						
2						
3						
4						

D) LIVESTOCK

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			(Nos)	Kgs		
Cattle						
SHEEP AND GOAT						
POULTRY						
FISHERIES						
Others (Specify)						

PART 8 – PUBLICATION, SUCCESS STORY, SWTL, TECHNOLOGY WEEK AND DROUGHT MITIGATION

8. Literature Developed/Published (with full title, author & reference)

(A) KVK News Letter – (Name, Date of start, periodicity, number of copies distributed, etc.)

(B) KVK e-News Letter – (Name, Date of start, periodicity, Name of the Website uploaded)

(C) Literature developed/published

<i>Item</i>	<i>Title</i>	<i>Authors name</i>	<i>Number of copies</i>
Research papers	<ul style="list-style-type: none"> Evaluation of Front line demonstrations on maize in hilly regions of J&K state 	Rakesh Sharma Vikas Tandon Sanjay Khar Punit Choudhary and Bharat Bushan	Ind j of soc research pp283-88.
	<ul style="list-style-type: none"> Role of floriculture sector in livelihood security of small scale family farming in intermediate region of jammu. 	Rakesh Sharma Sanjay Khar Punit Choudhary Vikas Tandon Prem kumar and Anil bhat	Agro economist : an international journal pp7-10
	<ul style="list-style-type: none"> Marigold cultivation : A potential enterprise for transforming lives of farmers of Jammu region. 	Dr. Vikas Tandon, Dr. Rakesh Sharma, Dr.punit Choudhary	MSAE, 23-24 oct,2017
	<ul style="list-style-type: none"> Impact of vocational training programmes on income of rural youth / farmers of hilly areas of jammu and Kashmir 	Dr. Banarsi Lal Dr. Vikas Tandon Dr. Shahid ahmad	MSAE, 23-24 oct,2017
	<ul style="list-style-type: none"> Information and communication technologies (ICTs) in transfer of animal husbandry technologies. 	Rakesh Sharma Vikas Tandon Punit Choudhary	SAVE national conference 10-12 april 2017.
	<ul style="list-style-type: none"> Impact of KVK activities on introduction and spread of high yielding and disease resistant variety. 	Rakesh Sharma Vikas Tandon Punit Choudhary R K arora	MSAE national conference.
	<ul style="list-style-type: none"> Impact of KVK intervention in Augmenting wheat production in irrigated plains of Jammu Districts through introduction and spread of HD2967 wheat variety. 	Rakesh Sharma Vikas Tandon Punit Choudhary R K arora	National conference of Journal of Krishi Vigyan .
Technical reports	<ul style="list-style-type: none"> Annual Progress report MPR's Quarterly progress reports Annual reports for University Report on Cluster FLD's NEP Reports NABARD Sponsored Project Reports 		

<i>Item</i>	<i>Title</i>	<i>Authors name</i>	<i>Number of copies</i>
Technical bulletins	• Pradhan Mantra FasalBimaYojna (English)	VikasTandon, Puneet Choudhary, Rakesh Sharma, Sheetal Badyal, Raju Gupta, Poonam Abrol	200
	• Pradhan Mantra FasalBimaYojna (Hindi)	VikasTandon, Puneet Choudhary, Rakesh Sharma, Sheetal Badyal, Raju Gupta, Poonam Abrol	200
	• Sarson Ki Unnat Kheti	Rakesh Sharma, VikasTandon, Puneet Choudhary, Raju Gupta	300
	• Gehu Ki Unnat Kheti	Rakesh Sharma, PuneetChoudhary, VikasTandon, Raju Gupta	300
	• Chane Ki UnnatKheti	VikasTandon, Rakesh Sharma, PuneetChoudhary, Raju Gupta	300
	• Harad medicinal tree propagation and value addition	PuneetChoudhary, PoonalAbrol, SheetalBadyal, VikasTandon, Rakesh Sharma, Raju Gupta	300
	• Podh kismo aur krishik adhikar sarankshan Adiniyam	VikasTandon, Rakesh Sharma, PuneetChoudhary, Raju Gupta	200
Popular articles	Twenty articles	Dr. Banarsi lal Dr. Vikas Tandon	Daily news papers
Extension literature	• Government schemes in Agriculture: A handbook for farmers	Contributors VikasTandon, PuneetChoudhary Rakesh Sharma	200
	• Common Pest management practices for Jammu region	Rakesh Sharma Punitchoudhary VikasTandon	300
Folders /leaflets	Kisan credit card	Rakesh Sharma Punitchoudhary VikasTandon	100
	MSP of different crops	VikasTandon, Rakesh Sharma, Punit	100
	Fertilizer recommendation for cereals and vegetable for Jammu district	Punitchoudhary, VikasTandon, Rakesh Sharma	100
TOTAL	45		2550

(C) Details of Electronic Media Produced

S. No.	Type of media (CD / Software)	Title of the programme	Number

(D) Mobile App developed by KVK

S.No.	Name of KVK	Name of Mobile App Developed	Year in which App is Developed	No. of Users downloaded the App	Type of information offered by the App(seeds, fertilizers, market prices, weather etc.)

9.A. Success stories/Case studies, if any (two or three pages write-up on each case with suitable action photographs)**IMPACT OF KVK INTERVENTIONS ON YIELD AND INCOME OF FARMERS OF KVK OPERATIONAL VILLAGE SAGOON, JAMMU**

Sagoon Panchayat under Nagrota Block of District Jammu has been selected as operational village by Krishi Vigyan Kendra (KVK) Jammu during the year 2016-17. It is situated 35 kms towards east of Jammu district on Jammu-Mansar road having 555 farm families and 8 villages. Majority (91%) of the farmers of the panchayat possess less than one ha of cultivable land. The major chunk of the cultivable land is rain-fed and only few hectares of land being irrigated with perennial nullahs and bowlis. Maize-Wheat, Maize-Oilseeds, Pulses-Wheat, Maize-Pulses are the major farming systems/enterprises adopted by the farmers. Maize being prominent crop cultivated 75% of area, followed by fodder crops namely oats/sorghum (10.6%), pulses (8.6%), oilseeds (4.2 %) and vegetables (1.6%) during *kharif* season and whereas *rabi* season, wheat is the prominent crop being cultivated on 78.6 percent of the area, followed by fodder (10%), oilseeds (7.1%) and pulses and vegetables on 1.6 percent of the area, respectively. The total geographical area of the Panchayat is 3293.4 ha, out of which nearly 10% area (337.3 ha) is cultivable. In 2015, the average productivity of maize was less than 20q/ha, wheat productivity was 10-12q/ha, gram less than 6q/ha, oilseeds less than 4q/ha and paddy being cultivated in less area having productivity of 26q/ha in 2015. The reasons for lower productivity were non adoption of modern agricultural practices, lack of knowledge about newly released high yielding varieties (HYVs) and their availability, using seeds of third and fourth progeny onward by the farmers of the village.

1. Farmers Practice

The farmers were not adopting scientific production technologies namely line sowing, balanced use of fertilizers, herbicide application and other management practices. In wheat, farmers were using grains of the preceding year crop as a seed. The farmers are using high seed rate per hectare which results in loss of precious seed and also increased cultivation cost. Moreover, they were not treating the seed with fungicide which invites various diseases resulting in low yield. Due to these faulty practices farmers are getting 30-40 percent lesser yield/ha. The scientists devised a compressive strategy to convince the farmers of the village to promote new technologies in the district.

2. Strategy adopted by KVK in transfer of technology

The team of scientist of KVK collected the baseline information about the village through participatory rural appraisal (PRA) to get the first hand information about the village. On the basis of PRA, KVK Jammu chalked out the strategy to start the activities with capacity building programmes for the farmers and farm women, on farm testing (OFTs) of the technologies followed by the laying out of frontline demonstrations (FLDS) and. For that, KVK adopted the cluster approach and trained farmers were selected for demonstration of recommended technologies. Seed treatment campaigns were conducted to educate farmers about the importance of healthy seed, impact of seed borne diseases and their management. Farmers' field days were conducted on maize and chickpea for horizontal spread of

technology. The strategies adopted by KVK Jammu to transfer the proven technology among the farming community were: organizing capacity building programmes for the farmers/farm women to create awareness-knowledge, demonstrate newest technologies by laying front line demonstrations (FLDs) and conduct on farm trials (OFTs) on the farmer's field. Moreover farmers' field days, kissan goshtis and extension literature were extensively distributed for the benefit of the farming community.

3. KVK Interventions for Dissemination of Technologies

KVK worked on crop diversification to help the farmers to realize more returns from the same piece of land. Introduction of toria as third crop, cultivation of pulses crops namely mash (urd) and chickpea, perennial fodder grasses on waste and fragile lands, planting of multipurpose medicinal trees on the bunds and boundaries of their main field and cultivation of short duration high yielding varieties of paddy and mustard were the other areas on which KVK is working. In the year 2016-17, KVK organized seven (07) capacity building programs in which 289 farmers/farm women were trained, conducted OFTs on Wheat, Maize and Perennial grasses and laid out FLDS on Maize, Paddy, Wheat, Oilseeds and Pulses on different aspects of crop production and protection that resulted into increase in farmers' knowledge and adoption of scientific agricultural practices by the trained farmers.



KVK ACTIVITIES AT FARMERS FIELD AT SAGOON VILLAGE



Other than this, KVK Jammu conducted on farm trials on farmers field namely, assessment of improved perennial grasses for herbage production under subtropical conditions and Assessment of paddy varieties for yield potential. 107 frontline demonstrations were laid on 107 farmers' field covering an area of more than 11 hectares. The results of the study revealed that farmers used to sow grains of the previous crops as seed in the ensuing season that resulted in fewer yields per unit area.

4. QUANTIFIABLE BENEFITS

Wheat farmers were applying seed of variety namely HD 2967 that is recommended for irrigated areas of Jammu district. Some farmers were applying previous years grain as seed and getting lower yield. In *rabi* 2016-17, KVK demonstrated wheat varieties namely VL 907 and VL 892 and found that the results of wheat variety VL 907 was encouraging although it is recommended for midhills. There was significant increase in the yield of wheat as results indicate that demonstration plots have 53.6 percent more yield compared to farmers practice. The average yield of VL 907 wheat variety was 21.5q/ha compared to 14 q/ha in check plot. Thus, the per hectare net profit from demonstration plot was Rs. 21, 638. If we extrapolate this with wheat area of the panchayat (265 ha), it comes to around Rs 57,36,619. Therefore, it is concluded that replacing of farmers wheat seed with VL 907 variety will help them to earn better income from same piece of land. The farmers of the operational villages distributed seed of VL 907 variety among other farmers during *rabi* 2017-18 season. Thus, farmers got a new variety suitable for rain-fed conditions.

During *rabi* 2016-17, KVK demonstrated oilseed toria on farmers field to incorporate this short duration variety in the farmers cropping sequence. The results of toria variety RSPT-02 showed that farmers got an additional income of Rs 1600 per hectare without compromising the next crop. There is tremendous scope of this crop in the panchayat as the fields have sufficient moisture after harvesting of maize crop.

Chickpea crop was being cultivated in the past by the farmers of Sagoon Panchayat. But due to the non-availability of good quality seed, shortage of labour to do intercropping operations, lack of knowledge about chemical weed management and attack of gram pod borer and its subsequent effect on crop yield forced the farmers to discontinue sowing of this precious crop during *rabi* season. In *rabi* 2016-17, KVK laid demonstrations of chickpea on 52 farmers field and the results were encouraging. The average productivity of the chickpea crop was 5.9 q/ha. The impact of this intervention was very encouraging and majority of the farmers who have kept the seed of GNG 1581 cultivated chickpea in the *rabi* season 2017-18. On an average, each farmer obtained 40 kg chickpea from one kanal of area. The farmers revealed that compared to wheat, the cultivation of chickpea is more profitable and will help farmers to double their income from same piece of land. Thus, the Government of India's initiative to double the farmers' income by 2022 can be easily achieved if the farmers plan cropping scheme for whole year and include crops like chickpea that will fetch higher returns than the traditional crops. The results further suggests that if the farmers out of his average farm size 0.4 ha, replace chickpea with wheat on 0.15 ha area, he will be able to earn income same to 0.25 ha of area on which he will cultivate wheat. Moreover, farmers are also suggested to sow toria after the harvesting of maize crop to get an addition income @ Rs 6000-7000/ha. Thus, addition of oilseed and pulse crops in the existing cropping sequence out only helps the farmers to increase their farm income but it will be helpful to the farmers for sustainability as pulse crops will enrich the soil. Also the incorporation of oilseed and pulses will be helpful for livelihood security of the farmers as he can produce necessary household items on his own farm and will generate more employment as the farmers remained without work after sowing of maize and wheat crops. It was evident that KVK playing vital role in raising the socio-economic status of the farmers. Farming community welcomed new technologies of agriculture and allied sciences which improved their production. Farmers trusted the KVK activities and maintained the regular relationship for upgrading their knowledge. The activities of KVK namely FLDs on chickpea helped farmers to regain confidence in sowing of chickpea that they have lost due to non-availability of quality seed and pest management practices to save crop from the attack of gram pod borer.

1. HYBRID MAIZE FOR LIVELIHOOD SECURITY OF A KANDI VILLAGE

INTRODUCTION:

Sagoon is situated towards east of Jammu district on Jammu-Mansar road. It is about 35 kms from district headquarter with 555 farm families and 8 villages. Majority (91%) of the farmers of the panchayat possess less than one ha of cultivable land and most of the cultivable land is rain-fed and only few hectares of land being irrigated by local nullahs and bowlis. Maize-Wheat, Maize-Oilseeds, Pulses-Wheat, Maize-Pulses are the major farming systems/enterprises adopted by the farmers. Maize being prominent crop occupies 75% of area, followed by fodder crops namely oats/sorghum (10.6%), pulses (8.6%), oilseeds (4.2 %) and vegetables (1.6%) during *kharif* season and whereas *rabi* season, wheat is the prominent crop being cultivated on 78.6 percent of the area, followed by fodder (10%), oilseeds (7.1%) and pulses and vegetables on 1.6 percent of the area, respectively. The total geographical area of the Panchayat is 3293.4 ha, out of which nearly 10% area (337.3 ha) is cultivable. In 2015, the average productivity of maize was less than 20q/ha, wheat productivity was 10-12q/ha, gram less than 6q/ha, oilseeds less than 4q/ha and paddy being cultivated in less area having productivity of 26q/ha in 2015.

CONSTRAINTS:

Non adoption of modern agricultural practices, lack of knowledge about newly released high yielding varieties (HYVs) and their availability, using seeds of third and fourth generation onward by the farmers of the village. The farmers were not adopting scientific production technologies namely line sowing, balanced use of fertilizers, herbicide application and other management practices.

KVK INTERVENTIONS:

KVK collected the baseline information about the village through participatory rural appraisal (PRA) and worked out the strategy to start the activities with capacity building programmes for the farmers and farm women on scientific cultivation of Hybrid maize, on farm testing (OFTs) of composite and Hybrids followed by the laying out of frontline demonstrations (FLDS) covering an area of more than 8.0 ha especially for Hybrid Maize. For that KVK adopted the cluster approach and trained farmers were selected for demonstration of recommended technologies.

Crop	Name of the technology demonstrated	Characters
Maize	Hybrid Seed (Var. Double DekalbDKC 7074)	Less water requirement, fast growth, better disease tolerance, attractive grain colour, higher yield
	Hybrid Seed (Var. Bioseed 9220)	Greatest stability, Highest yielding capability across environments, found promising for rainfed areas and for cultivation in stress-prone agroecologies

Farmers' field days were conducted on Maize for horizontal spread of technology. The crop wise descriptions of frontline demonstrations are given in below.

Year wise description of FLDs laid by KVK

S.no	Year	Area (ha)	Beneficiaries'
1	2016-17	5.0	20
2	2017-18	8.5	51

OUTPUT:

Increased production of maize was recorded from the same piece of land with similar efforts only with adoption of hybrid seeds and recommended dosages of chemical fertilizers. With concentrated efforts by KVK in promotion of line sowing technology more than 70 per cent of the total village farmers adopted the said technology. KVK demonstrated two varieties namely Double Dekalb 7074 and Bioseed9220 and both outperformed on the farmers practice. The more yield helped the farmers to fetch an additional income of Rs. 6446 per hectare. If this income is extrapolated with the area under maize (253 ha), it comes to around 16,30,424 per season.

Comparative Economics' of KVK interventions with farmers practice

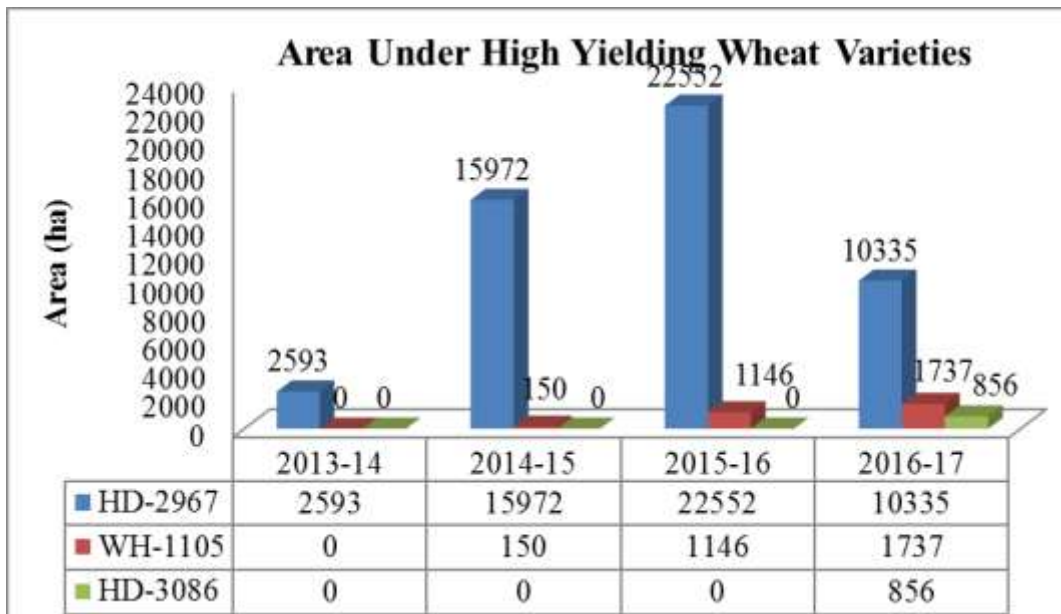
Year	Name of the technology demonstrated	Yield (q/ha)		% Increase	Economics of demonstration (Rs./ha)				Economics of farmer practice (Rs./ha)			
		Demo	Check		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
2016-17	Hybrid Seed Double Dekalb	29.44	23.8	23.7	19500	44216	24716	2.26	18400	36320	17920	1.97:1
	Hybrid Seed Bioseed	28.94	23.8	21.6	19500	43516	24016	2.23	18400	36320	17920	1.97:1
2017-18	Hybrid Seed Double Dekalb	28.82	24.0	20.1	19900	46868	26968	2.36:1	18100	39000	20900	2.16:1





a) Performance of the end results of any one technology assessed, its refinement if any and its impact in district agriculture with respect to that crop or enterprise

KVK Jammu with vision to test new wheat varieties for their suitability in Jammu Laid out On Farm Trials on Three wheat Varieties Namely HD2967(farmer practice), HD 3086 and WH 1105 for two successive Rabi seasons in 2015-16 and 2016-17 and then FLD's on these varieties in 2017-18. The results of the OFT depicts that HD 3086 and WH 1105 are outperforming HD2967 in terms of Yields. The impact of OFT's is visible by the fact that 1737 and 856 ha area has been put under these new varieties during the current Rabi season which is self-explanatory that the ON Farm trials of KVK have been accepted by the farmers of Jammu district.



HD 3086 and WH 1105 wheat varieties from 2013-14 to 2016-17

9.B. Give details of innovative methodology/technology developed and used for Transfer of Technology during the year

- KVK Jammu is following cluster approach in carrying out all activities.
- KVK has selected a commodity village at Border and complete package on Basmati production is being followed.
- KVK is also using Post office linkage system to spread newly released varieties.
- KVK has also good rapport with the ex-servicemen of the area and is utilizing their services for dissemination of KVK technologies / information in their respective villages for better adoption.
- KVK Jammu has also social media for spreading their message among the contact farmers for easy and timely spread of message for the benefit of farming community.
- KVK Jammu has a crop cafeteria where visiting farmers can themselves see the performance of new technologies and can pick the technologies suited to their requirements.

9.C. Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs)

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK
1	Cucurbits	Dusting with ash for control of beetles	Plant Protection to save vegetable crops

2	Maize	Beating of drum and firing of crackers	To divert wild animals from crop damage
3	Cereal crops	Use of drek leaves as bedding	Safe storage of food grains

9.D. Indicate the specific training need analysis tools/methodology followed for

- **Identification of courses for farmers/farm women**: An interview schedule of training need assessment is developed and group interviews of farmers are conducted at the village level. In this, assessment of village existing situation, assessment of their agricultural needs, trainings they have already participated, trainings they wish to participate, requirement of farmers, etc. These are recorded in the village and later analyzed in the office. Later on action programmes are formulated for successive years.
- **Rural Youth**: Similar interview schedule is designed for identification of training needs of rural youth. In the group interview village situation is assessed. Then priorities of the village youth are identified, looking into their resources, their trainings are finalized
- **In-service personnel**: During in-service training KVK provides them Performa to identify the training needs of extension personnel. Similarly we write a letter to concerned development departments to provide us the feed back and topics they wish to part trainings to their extension workers

9.E. Field activities

- i. Number of villages adopted -12
- ii. No. of farm families selected -400
- iii. No. of survey/PRA conducted- 4

9.F. Activities of Soil and Water Testing Laboratory / Plant Health Clinic

- Status of establishment of Lab : functional
- 1. Year of establishment :2006
 - 2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
1	Water distillation unit	1	31667
2	Willy Grinding Mill	1	19406
3	P.H. meter	1	16706
4	Precisa analytical balance	1	52594
5	Kahn Shaking Machine	2	29358
6	Oven	1	12900
7	Spectrophotometer	1	151340

8	Flamephotometer	1	31149
9	EC meter	1	15729
10	Hot plate	1	1153
11	Kjeldhal Distillation and digestion unit	2	37695
	Total	13	399397

3. **Details of samples analyzed / Soil Health Cards issued during 2017-18 :**

Details	No.	No. of Farmers	No. of Villages	Amount realized
Soil Samples	250	250	25	-
Water Samples				
Plant Samples				
Soil Health Cards Issued				

4. Status of mini soil testing labs/kit : 2
 5. Year of procurement of lab/kit : 2016-17
 6. No. of mini labs with the KVK :-
 7. Type of mini labs (Name of lab/Kkt) : mridaparikshak

8. **Details of samples analyzed through mini soil kit / Soil Health Cards issued during 2017-18 :**

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	250	250	25	-
Water Samples				
Soil Health Cards Issued				

10. IMPACT

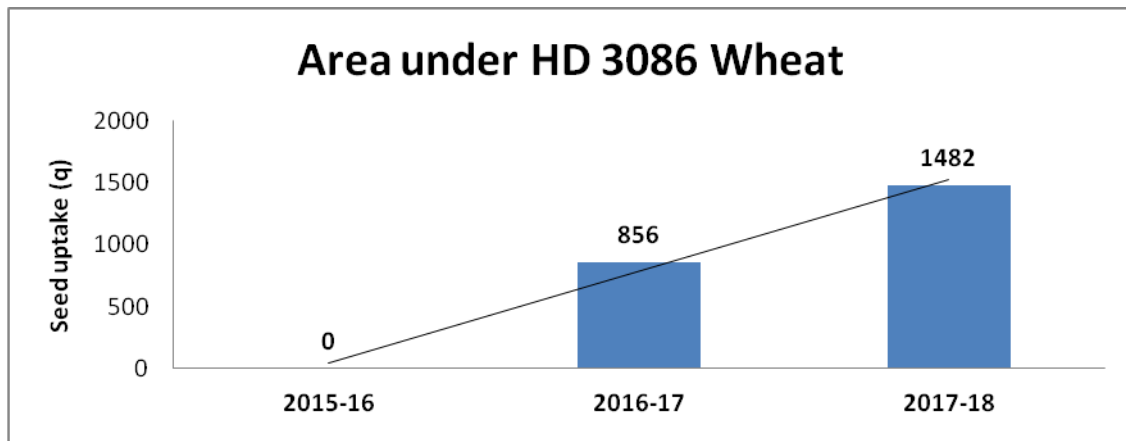
10.1 Impact of KVK activities (Not to be restricted for reporting period).

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
1. Spread of HD 2967 wheat Variety.	50	80%	16300	29893
2. Marigold as an enterprise	50	80%	28000	60000

10.2. Cases of large scale adoption (Please furnish detailed information for each case)

- a) Introduction and spread of HD 3086 variety of wheat in the district.

In the year 2015-16 and 2016-17 KVK Jammu laid OFTs on HD 3086 wheat variety to demonstrate new technologies under farmer's condition for replacements against rust susceptible varieties viz., PBW 550, PBW 621 and HD 2967. The efforts of the KVK helped in increasing the area under HD 3086 from 856 ha in 2016-17 to 1482 in 2017-18. There was 71 % increase under HD 3086 Variety of wheat with the efforts of KVK Jammu and Department of Agriculture Jammu.



10.2. Details of impact analysis of KVK activities carried out during the reporting period.

- KVK focused on agricultural enterprises other than crops such as floriculture and mushroom cultivation. Farmers have been guided to cultivate marigold round the year. The farmers could get an extra income of Rs 1.00 Lakh per hectare by adopting marigold cultivation within a period of three months.
- The mushroom growers have been trained and have adopted this enterprise during the reporting period and reaped good remunerations out of it.
- Large scale adoption of wheat varieties namely HD 2967, HD 3086 and WH 1105 by the farmers of Jammu district under timely sown irrigated areas.
- Pusa varieties namely Pusa 1612 and PB 1509 have been introduced and have been appreciated by the farmers in non basmati areas due to their early maturity and higher yields.
- The area under pulses have increased during the reporting time. KVK has given special impetus for promotion of Chickpea in rabi and summer pulses in the district.
- KVK Jammu is accredited centre for two skill development programmes for unemployed youth on vermin composting and mushroom cultivation and more number of rural youth are visiting KVK for enrolment for such programmes.

11.0 LINKAGES

11.1 Functional linkage with different organizations

Name of organization	Nature of linkage
Agriculture Department	Conducting training programme in collaboration with Deptt.
Animal Husbandry Department	Conducting training programme in collaboration with Deptt.

Horticulture Department	Demonstrations especially of fruits and vegetables
Forest Deptt.	Participation in meetings, Resource persons
Fisheries Department	Participation in meetings, demonstration
Directorate of fodder development	Participating in meeting and sponsored laying of FLDs on fodder
Nehru Yuva Kendra Jammu	Training for rural youth jointly
Directorate of Maize	FLDs of maize
IFFCO	These institutes are being contacted for getting financial assistance for establishing unit for different beneficiaries and their participation in meetings
KRIBHCO	These institutes are being contacted for getting financial assistance for establishing unit for different beneficiaries and their participation in meetings
Central Co-op. Bank Jammu NABARD	Banks and other financial agencies are contacted for further financial assistance for starting new units, under KVK.
National Horticulture Board	For establishment of orchids
State Bank of India	For financing and formation of SHGs
National Fertilizer Ltd.	Conducted training Programme in collaboration with NFL.
Indian Institute of Integrative medicine, Jammu	Association with Jammu arogya project and for training of farmers in Medicinal plants.
HFRI Shimla	Training programme for spread of commercially important medicinal plants suited to Jammu Plains.

11.2 List special programmes undertaken by the KVK, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Soil health day	5-12-2017	Department of agriculture	-
Cluster FLD's on pulses	July and Oct,2017	DAC	71250
Cluster FLD's on oilseed	Oct,2017	DAC	57250
Enterprenurship development through floriculture	Feb,2018	Department of floriculture	-

11.3 Details of linkage with ATMA

a) Is ATMA implemented in your district Yes

S. No.	Programme	Nature of linkage	Remarks

Coordination activities between KVK and ATMA during 2017-18

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	Annual plan meeting. Farmer scientist interactions	1		
02	Research projects				
03	Training programmes				
04	Demonstrations				
05	Extension Programmes	World soil health day. Pradhan Mantri fasal bima yojna	1	1	
	KisanMela	KVK kisan mela Kisan welfare board kisanmela.	1		
	Technology Week	-	-	-	-
	Exposure visit	-	-	-	-
	Exhibition	-	-	-	-
	Soil health camps	Soil day	1		
	Animal Health Campaigns	-	-	-	-
	FFS	-	-	-	-
06	Publications	-	-	-	-
	Video Films	-	-	-	-
	Books	-	-	-	-
	Extension Literature	-	-	-	-
	Pamphlets	-	-	-	-
	Others News coverage	-	-	-	-
07	Other Activities	-	-	-	-

11.4 Give details of programmes implemented under National Horticultural Mission NA

S. No.	Programme	Nature of linkage	Constraints if any

11.5 Nature of linkage with National Fisheries Development Board NA

S. No.	Programme	Nature of linkage	Remarks

11.6 Details of linkage with RKVY

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks

12. PERFORMANCE OF INFRASTRUCTURE IN KVK

12.1 Performance of demonstration units (other than instructional farm)

Sl. No.	Demo Unit (Mention the name of Demo Unit)	Year of est.	Area	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Vermicompost unit	2008	0.02	-	-	60q	10000	48000	Functional unit
2	Fish pond	2012	0.02	Common carp	-	-	-	-	Demonstration purpose.

12.2 Performance of instructional farm (Crops) including seed production

Name Of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Paddy	31/07/17	25/11/17	14	B-370	F-1	77.2	85428	-	Under process
Wheat	15/12/17	5/5/18	19	WH-1080	F-1 & C-1	65 105	1,15,000	-	Amount to be realized from Mega seed (SKUAST-J)
Pulses									
Grams									
Oilseeds									
Fibers									
Floriculture									
Fruits									
Vegetables									
Others (specify)									

12.3 Performance of production Units (bio-agents / bio pesticides/ bio fertilizers etc.,)

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Vermin compost	60	10000	48000	Sold to vegetable growers and for demonstrations.

12.4 Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Fishery unit	Common carp	-	-	-	-	Demonstration purpose

12.5 Utilization of hostel facilities:

Accommodation available (No. of beds) = 20

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2017			
May 2017			
June 2017			
July 2017			
August 2017			
September 2017			
October 2017			
November 2017			
December 2017			
January 2018			
February 2018			
March 2018			

12.6. Database management

S. No	Database target	Database created by the KVK
1	1000	1000

12.7 Rainwater Harvesting

Training programmes conducted using Rainwater Harvesting Demonstration Unit

Date	Title of the training course	Client (PF/R/EF)	No. of Courses	No. of Participants including SC/ST			No. of SC/ST Participants		
				Male	Female	Total	Male	Female	Total

Demonstrations conducted using Rainwater Harvesting Demonstration Unit

Date	Title of the Demonstration	Client (PF/R/EF)	No. of Demos.	No. of Participants including SC/ST			No. of SC/ST Participants		
				Male	Female	Total	Male	Female	Total

Seed produced using Rainwater Harvesting Demonstration Unit

Name of the crop	Quantity of seed produced (q)

Plant materials produced using Rainwater Harvesting Demonstration Unit

Name of the crop	Number of plant materials produced

Other activities organized using Rainwater Harvesting Demonstration Unit

Activity	No. of visitors
Visit of farmers	
Visit of officials	

13. FINANCIAL PERFORMANCE

13.1 Details of KVK Bank accounts

Bank account	Name of the bank	Location	Account Number
With Host Institute	J&K Bank, R.S.pura	R.S.pura	0025040100040224
With KVK	J&K Bank	R.S.pura	0025040100026430

13.2 Utilization of KVK funds during the year 2017-18 (up to March 2018)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	104.35	104.35	104.35
2	Traveling allowances	0.75	0.72	0.72
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	4.80	4.73	4.73
B	POL, repair of vehicles, tractor and equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	9.00	7.23	7.23
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
TOTAL (A)		118.70	118.70	118.70
B. Non-Recurring Contingencies				
1	Works			
2	Equipments including SWTL & Furniture	0.0	0.0	0.0
3	Vehicle (Four wheeler/Two wheeler, please specify)	0.0	0.0	0.0
4	Library (Purchase of assets like books & journals)			
TOTAL (B)		0.00	0.10	0.00
C. REVOLVING FUND			0.10	0.00
GRAND TOTAL (A+B+C)		118.70	118.80	118.70

13.3 Status of revolving fund (Rs. in lakhs) for the last five years

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2013 to March 2014	4133994.26	842027.00	496470.00	4479551.26
April 2014 to March 2015	4479551.26	531402.00	252399.00	4758554.26
April 2015 to March 2016	4751741.26	4,89583.00	311774.00	4929549.44
April 2016 to March 2017	4929549.44	454578.00	99774.00	5284353.44
April 2017 to March 2018	5284353.44	725000.00	588000	5303000.00

14. Details of HRD activities attended by KVK staff during 2017-18

<i>Name of the staff</i>	<i>Designation</i>	<i>Title of the training programme</i>	<i>Institute where attended</i>	<i>Date</i>
Dr. Vikas Tandon	Sr. scientist & head	National conference on KVK;s	IARI, new Delhi	16-18 mar, 2018
Dr.Sheetal Badyal	SMS	Advances in preservation and processing.	PAU Ludhiana	Oct,2017
DrVikasTandon Dr Punitchoudhary	Head Sr. scientist	National conference of society of Krishi vigyan.	CIFA, bhubhneswar	5-7, Jan,- 2018
Dr VikasTandon Dr Rakeshsharma Dr Punitchoudhary Dr SheetalBadyal	Head Sr. scientist Sr. scientist SMS	National conference of Maharashtra society of Agricultural statistics.	SKUAST-J	Nov,2017
Dr VikasTandon Dr Rakeshsharma Dr Punitchoudhary Dr SheetalBadyal	Head Sr. scientist Sr. scientist SMS	National conference of society for integrated development of agriculture, veterinary and ecology.	SKUAST-j	Feb,2018

15. Please include any other important and relevant information which has not been reflected above (write in detail).

KVK Jammu was conferred with Pandit Deen Dayal Upadhyay Krishi vigyan puruskaar, (zonal) 2017 recognizing its services towards the farming community.

Awards and recognitions:

S. No.	Name of Teacher/Scientist	Name of KVK	Name of Award/ distinction/Recognition	Awarding Institution/Organization
1	Dr Punit Choudhary.	KVK Jammu	Young scientist award	Society of Krishi Vigyan.
2	Dr. Vikas Tandon	-do-	Best poster presentation award	Maharashtra society of agricultural statistics
3	-	KVK jammu	Best stall	University Kisan mela 2018

External funded Projects

Title	Funding Agency	Year of Start	Duration of Project	Total approved budget of the Project (Lacs)	PI of the Project
Production and demonstration of quality	NABARD	2016	3 years	6.32 lakhs	Dr Punit Choudhary

planting material of commercially important medicinal trees for livelihood security					
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Annexure-1

List of Farmer Training programs (2017-18)

Date	Clientele	Title of the training programme	Discipline	Thematic area	Duration in days	Venue (Off / On Campus)	Number of other participants			Number of SC/ST			Total number of participants		
							Male	Female	Total	Male	Female	Total	Male	Female	Total
21-Apr-17		Scientific Cultivation of Marigold	Horticulture		1	Kattal Batal	17	1	18	4	0	4	21	1	22
24-Apr-17		Ensuring nutritional security of farm families through kitchen gardening	Home Science		1	On Campus	0	0	0	2	26	28	2	26	28
09-May-17		Orientation of Centrally Sponsored Schemes (CSS)	Extn . Edu.		1	Kattal Batal	12	0	12	6	0	6	18	0	18
15-May-17		Empowering farm women through livelihood security	Home Science		1	Bala Chak	0	0	0	0	38	38	0	38	38
17-May-17		Establishing Poultry farming as an enterprise	Animal Science		1	On Campus	33	0	33	8	0	8	41	0	41
24-May-17		Scientific cultivation of Paddy (B-370) - Under FLD	Crop Production		1	On Campus	21	1	22	0	0	0	21	1	22
25-May-17		Scientific cultivation of Paddy (B-370) - Under FLD	Crop production		1	On Campus	11	0	11	3	0	3	14	0	14
29-May-17		Production Technology of economically important	Agro Forestry		1	Lalyana , Bishnah	2	0	2	7	11	18	9	11	20

		Multipurpose trees													
07-Jun-17		Scientific cultivation of Paddy	Extn . Edu.		1	Kattal Batal	15	1	16	6	0	6	21	1	22
08-Jun-17		Scientific cultivation of Maize Hybrid (Under FLD)	Extn . Edu.		1	Sagoon	38	0	38	3	0	3	41	0	41
13-Jun-17		Leaf colour Chart	Soil Science		1	Garhi	27	0	27	35	0	35	62	0	62
15-Jun-17		Balanced diet for adolescent girls & children	Home Science		1	On Campus	0	0	0	0	17	17	0	17	17
20-Jun-17		Entrepreneurship Development through farmer clubs	Extn . Edu.		1	Chak Chimna	13	0	13	9	0	9	22	0	22
03-Jul-17		Cultivation of Medicinal trees for higher income	Agro Forestry		1	Gorota	0	0	0	23	0	23	23	0	23
04-Jul-17		Scientific cultivation of Mash for better livelihood and food security	Crop Production		1	Sagoon	14	0	14	1	0	1	15	0	15
12-Jul-17		Orientation Program on Pradhan Mantri Fasal Bima Yojna	Extn . Edu.		1	Chalyar	11	1	12	0	0	0	11	1	12
26-Jul-17		Multi purpose trees- Role & importance	Agro Forestry		1	Garota Patta	12	0	12	8	0	8	20	0	20
28-		Cultivation	Agro		1	Kishanp	22	0	22	4	0	4	26	0	26

Jul-17		of medicinal & Aromatic plants for higher income	o Forestry			ur Manwal									
10-Aug-17		Sensitization of farmers groups (SHG) about KVK activities	Extn . Edu.		1	On Campus	19	0	19	2	0	2	21	0	21
14-Aug-17		Orientation of Centrally sponsored schemes	Extn . Edu.		1	Kattal Batal	11	1	12	6	0	6	17	1	18
17-Aug-17		Agroforestry for sustainable production	Agr o Forestry		1	Bagwana Chak	0	0	0	18	2	20	18	2	20
22-Aug-17		Enhancing nutritive value of cereals & pulses	Home Science		1	Kattal Batal	0	20	20	0	0	0	0	20	20
30-Aug-17		Orientation on Centrally sponsored schemes	Extn . Edu.		1	Dabbar, Bishnah	15	0	15	5	0	5	20	0	20
07-Sep-17		National Nutrition Week - Role of Millets in improving nutritional status of farm families	Home Science		1	Kattal Batal	5	2	7	13	2	15	18	4	22
19-Sep-17		Entrepreneurship development through Farmer Club Program	Extn . Edu.		1	Sagoon, Sruinsar	23	0	23	7	0	7	30	0	30
09-Oct-17		Scientific cultivation of Oil Seed crops	Crop Production		1	Salehar	2	0	2	24	0	24	26	0	26

15-Oct-17		Importance of Nutritional Gardens	Home Science		1	Bala Chak	0	0	0	0	22	22	0	22	22
16-Oct-17		Production Technology of Economically Important MPTs (Kikar, Mulberry)	Agro Forestry		1	Sagoon	19	0	19	0	0	0	19	0	19
27-Oct-17		Orientation of Kisan Credit card & PMFBY	Extn . Edu.		1	Chogga	21	1	22	1	0	1	22	1	23
30-Oct-17		Scientific Cultivation of Rabi Fodder crops (Oats)	Agro Forestry		1	Bhota Gorota	0	0	0	19	0	19	19	0	19
02-Nov-17		Scientific cultivation of Fodder Crops	Agro Forestry		1	Suchetgarh	1	0	1	18	0	18	19	0	19
03-Nov-17		Scientific cultivation of Chick Pea	Extn . Edu.		1	Bhagwana Chak	10	7	17	1	8	9	11	15	26
16-Nov-17		Propagation methods/techniques for medicinal trees	Agro Forestry		1	Mathwar	25	0	25	11	0	11	36	0	36
18-Nov-17		Seasonal Vegetable cultivation	Horticulture		1	Dhangar Kaleeth	19	0	19	17	2	19	36	2	38
21-Nov-17		Scientific cultivation of wheat crop	Crop Production		1	On Campus	19	0	19	5	0	5	24	0	24
30-Nov-17		Processing & Preservation of Harad & Aonla	Home Science		1	Mathwar	5	12	17	2	17	19	7	29	36
30-Nov-17		Post harvest handling, value addition &	Agro Forestry		1	Mathwar	2	12	14	6	15	21	8	27	35

		care of fruits of Harad, Bhera & Amla for higher market value													
15-Dec-17		Orientation Prog on Pradhan Mantri Fasal Bima Yojna	Extn . Edu.		1	Chak Chimna	12	3	15	1	2	3	13	5	18
19-Dec-17		Weed Management practices in wheat	Crop Production		1	On Campus	8	0	8	0	0	0	8	0	8
22-Dec-17		Management of locally available Agroforestry trees for sustaining fodder and food security	Agro Forestry		1	Raipur Sajdan	30	0	30	2	0	2	32	0	32
09-Jan-18		Processing & preservation of Fruits & vegetables	Home Science		1	Bala Chak	0	0	0	1	20	21	1	20	21
17-Jan-18		Scientific cultivation of Marigold	Horticulture		1	Korotana Kalan	12	4	16	0	0	0	12	4	16
23-Jan-18		Improvement of Nutritive Value of low quality roughages	Animal Science		1	Katal Batal	15	0	15	13	0	13	28	0	28
02-Feb-18		Multipurpose trees & their management under agroforestry	Agro Forestry		1	Badyal Brahmana	20	0	20	0	0	0	20	0	20
20-Feb-18		Dhingri Cultivation	Horticulture		1	Kaloe	1	0	1	7	4	11	8	4	12

Annexure-11

MINUTES OF 16th SCIENTIFIC ADVISORY COMMITTEE MEETING OF KRISHI VIGYAN KENDRA, JAMMU

The sixteenth Scientific Advisory Committee (SAC) meeting of Krishi Vigyan Kendra (KVK) Jammu, R.S.Pura was held under the Chairmanship of **Dr R K Arora**, Associate Director Extension and I/C KVK's, SKUAST-J in the Conference hall of F.V.Sc& A.H., R. S. Pura on 26th March, 2018.

Dr. R. K. Arora, Associate Director Extension (KVKs), SKUAST-J, **District Heads** from different line departments, nominated members from Faculty of Veterinary Sciences and Animal Husbandry and Faculty of Agriculture of SKUAST-J, Chief Scientist and Head KVK, Jammu, Senior Scientists, SMS and Programme Assistants of KVK Jammu, progressive farmers/ farm women member participated in the meeting. **(List enclosed as Annexure-I).**

At the outset, Dr. Vikas Tandon, Chief Scientist and Head KVK Jammu presented a formal welcome address and apprised the house about the active participation of KVK Jammu in various activities related to the welfare of the farming community. Dr. Tandon stressed that under the vice Chancellorship of Dr. P. K. Sharma, the KVKs are working well.

In his presidential address, **Dr. R K Arora**, Associate Director Extension (KVKs), SKUAST-J appreciated the working of KVK Jammu during the year 2017-18. He congratulated the staff of KVK for the prestigious Pandit Deen Dayal Upadhyaya Protsahan Puraskar award 2017. He further stressed all technologies developed by SKUAST-J to be routed through OFTs by KVKs. He also suggested that timing of the training should be given impetus. Moreover he stressed on feedback of the training programmes conducted by KVKs and documentation of success stories along with maximum enrollment of the new farmers at portal.

The technical session commenced with the presentation by **Dr. Vikas Tandon**, Chief Scientist and Head, KVK Jammu as per the agenda items.

Agenda No. 1: Confirmation of the Proceedings of 15th SAC meeting

The proceedings of the 15th SAC meeting were circulated among all the members of SAC vide letter **No. AUJ/KVK/F-33/2017-18/195-222 dated 04-07-2017**. Since no queries were received from any of the members on the proceedings, it was resolved unanimously by the house to confirm the proceedings of 15th SAC meeting.

No. 2: Action Taken Report of 15thSAC meeting

Chief Scientist and Head, KVK-Jammu presented the action taken report on the issues raised in 15th SAC meeting. The suggestions received from the members are given below:

Regarding action taken on standardization of maize composites and hybrids for Jammu region **Chief Scientist and Head KVK Jammu** informed the house KVK Jammu conducted on farm trial on Maize Composite **VIJAY** at village Sagun in collaboration with Division of Plant Breeding and Genetics. Moreover, during *kharif* 2017 **Maize Hybrid Double Dekalb** was laid under FLD programme in Jammu covering an area of **10.5 ha**.

In this regards **Chairman** directed to promote **University Maize Composite** through FLD's by the KVK.

Regarding establishment of fodder unit for round the year fodder availability at Maralia nursery for **Dr Vikas Tandon** replied that the land at Maralia nursery was not available due to planting of new orchard. However for demonstration to the farmer's a fodder bank has been laid out in collaboration with division of **ILFc, FVSc & AH R S Pura**.

Chairman directed to incorporate multicut **Bazra** developed by **IGFRI Palampur** under FLD programme.

(Action: KVK Jammu)

Regarding **Chief Agricultural Officer Jammu** request to conduct awareness programme for farmers about drip and sprinkler irrigation it was informed that a live demonstration of sprinkler system was laid at KVK Jammu in collaboration with division of **Agricultural Engineering FOA SKUAST-J**. However, specialized training programme of micro irrigation techniques was also conducted for the officials of line department by the division at SAMETI.

Chief Agricultural Officer Jammu again requested for training programmes on micro irrigation both on as well as off farm.

In this regards **Chairman** directed to conduct the said training programme for officers of the line department at KVK as well as for farmers (off campus) with the coordination of Division of Agricultural Engineering.

(Action: KVK Jammu, Division of Agricultural Engg.)

Agenda No. 3: Presentation of progress report (2017 - 2018)

The progress report of KVK Jammu for 2017-18 was presented before the house.

Agenda No.4: Fund utilization for the year 2017-18

The budget allocation and utilization of funds for the year 2017-18 was presented before the house and resolved as approved.

Agenda No. 5: Proposed Action Plan for the year 2018-19

Sr. Scientist and Head, KVK-Jammu presented the Annual Action plan of KVK-Jammu for the year 2018-19 and following suggestions were proposed by the house:

In this context the **Chairman** directed to incorporate more no of training programmes under Veterinary sciences and Animal Husbandry and resource persons for the said trainings will be made available for the FVSc & AH R S Pura. KVK should also incorporate UMMB technology and area specific mineral mixture as OFT or FLD's

(Action: KVK Jammu; FVSc & AH R S Pura)

Chairman suggested to sensitize the farmers about Farmer Producer organization (FPO's) during the training programme entitled Mobilization of Social capital.

(Action: KVK Jammu)

Chairman suggested to incorporate training programme on "Rejuvenation of senile and old orchards" and a training programme on "Grafting and budding of Horticulture fruit trees".

(Action: KVK Jammu)

Chief Animal Husbandry officer Jammu department requested to conduct training programme on backyard Poultry.

In this regards Chairman directed to select a village for conduct of said training and provides chicks for demonstrations in the village in collaboration with Animal Husbandry department Jammu

(Action: KVK Jammu, Animal Husbandry Department Jammu)

Chairmanas directed to World Women's day should be celebrated regularly every year with proper reporting to the directorate.

(Action: KVK Jammu)

Dr. Punit Choudhary, Sr Scientist Agroforestry conducted the proceedings of the meeting and the meeting ended with the vote of thanks by Dr. Rakesh Sharma Sr Scientist, Agril. Extension KVK Jammu.S.No.	Name	Designation	Remarks
1.	Dr. R.K. Arora	Associate Director Extension(KVK)	
2.	Dr. Vikas Tandon	Sr. Scientist & Head, KVK Jammu	
3.	Sh. N.K. Dubey	Chief Agriculture Officer, Jammu	
4.	Dr. S.K. Gupta	Prof. & Head, Division of Agro forestry	
5.	Dr. Mohd. Asmail	Chief Animal Husbandry Officer, Jammu	
6.	Dr. Shilani Suri	Prof. & Head, Division of Anatomy	
7.	Dr. Anil Sharma	Associate Professor(Agronomy)	
8.	Ravinder Kachroo	Dy. Project Director , ATMA, Jammu	
9.	Sh. B. B. Sidha	Dy. Project Director , ATMA, Jammu	
10.	Dr. Mohammed Raza	District Sheep Husbandry Officer, Jammu	
11.	Dr. Rakesh Sharma	Sr. Scientist(Extension)KVK- Jammu	

12.	Dr. Punit Choudhary ,	SMS(Agroforestry) KVK-Jammu	
13.	Dr. Sheetal Badyal	SMS(Home Science) KVK-Jammu.	
14.	Sh. Ragubhir Singh , farmer	Fateypur Sikeri	
15.	Sh. Vinod Kumar , farmer	Kaloen, R.S.Pura	
16.	Smt. Sunita devi , Farmwomen	Kaloen R.S.Pura	

ANNEXURE “D”

District Profile – I

Jammu District is called as the city of temples and is also the winter capital of state. The city was Founded by Raja JambuLochan who lived in 14th Century B.C. Jammu is situated around river Tawi and is bound by Udhampur district in the north and north east, Samba district in the east and south east, Pakistan (Sialkote) in the west and Rajouri district in the northwest. It is located 74^o 24' and 75^o 18' east longitude and 32^o 50' and 33^o 30' north latitude. The district falls under sub-mountainous region. The Shivalik ranges rise gradually from behind the Jammu town and merge the Indo Gangetic Plains in the South spreading over an area of 2336 sq.kms (2011 census). Jammu also serves as base camp for the holy shrine of Mata Vaishno Devi. The temperature varies from cold in winter with minimum temperature touching even 0.9°C to heat wave in summers when the temperature shoots upto 46^oC. Jammu district has population of 15.29 lakhs, out of which rural population is 7.65 lakhs and urban population is 7.64 lakhs. The male and female population in rural area is 4.02 lakhs and 3.63 lakhs and in urban area 4.12 and 3.52 lakhs, respectively (2011 census). The literary rate of the district is 77%. The district comprises four tehsils i.e. Jammu, R.S.Pura, Akhnoor and Bishnah. The entire district can be divided into two distinct portions. The area forming north of Jammu-Chhamb road and Jammu-Pathankot road which is known as Kandi area is comparatively under-developed and is mostly minted. The area south of these roads is largely fed by canal and tube wells for irrigation purposes and is relatively more prosperous. As per the census of 2011 Jammu District consists of 780 inhabited villages.

Population Density

As per the census of 2011, the district has a population of 15.29 lakh. The average density of population in the district as per census of 2011 is 653 persons per sq km. Schedule caste population in the district is 3.78 lakh which works out to be 24.71% of total population. (census 2011)

Occupation Pattern

According to census of 2001 the occupation pattern of the District is such that the number of Cultivators is 112480.

District at a Glance

I. Geographical Area (Sq.km)	:	2336
a. No of sub divisions	:	04
b. No. of community development blocks	:	08
c. No. of villages	:	780
II. Agro climatic Zone	:	Subtropical
III. Agro climatic characteristics		
a. Temperature °C		

Minimum	:	4°C
Maximum	:	47°C
b. Rainfall (average in mm)	:	1135 mm
c. Humidity (highest in monsoon month)	:	90%

1. Agricultural and allied census

The total area of Jammu district is 2342 square kilometers (census 2011). In 2011-12, the net area sown was 0.91 lakh hectare. Adding to it, the area sown more than once which was of the order of 0.951 lakh hectare. The gross cultivated area works out to be 1.857 lakh hectare.

Land use statistics

1. Population	:	15.29 lakh (as per census 2011)
2. Area according to village paper	:	2.37 lakh ha
3. Area under forests	:	0.30 lakh ha
4. Land put to non agricultural use	:	0.35 lakh ha
5. Barren and un cultivable land	:	0.34 lakh ha
6. Permanent pastures and grossing	:	0.04 lakh ha
7. Cultivable waste land	:	0.12 lakh ha
8. Current follow	:	0.17 lakh ha

Size of holdings

	Size/class (ha)	Nos (%)	Area (%)
a)	Below 0.5	61532	48.68
b)	0.5-1.0	34903	27.62
c)	1.0-2.0	19925	15.76
d)	2.0-3.0	6621	5.24
e)	3.0-4.0	2403	1.90
f)	4.0-5.0	597	0.47
g)	5.0-7.5	308	0.24
h)	7.5-10.0	58	0.05
i)	10.0-20.0	22	0.02
j)	20.0 and above	20	0.02
All size classes		126389	100.0

Irrigation facilities from different sources (ha)

S.No	Source	Area (ha)
1.	By Canal	49886
2.	By Well/Tubewell/others	2405
3.	Springs/Tanks	1627
4.	Others	2161
Total irrigated area		56079

2. Agro-climatic zones

Jammu District has a sub tropical climate with hot and dry climate in summer and cold climate in winter. Being in the foothills of the mountains, nights are generally cooler than what they are in the neighbouring areas of Punjab. Minimum and Maximum temperature is around 4°C respectively. Rainy season usually starts from the end of June or the beginning of July. Average rainfall in the district is about 1246 mm.

Irrigated Sub-Tropical Zone

It includes irrigated areas of Satwari, Bishnah, R.S.Pura, Marh and Bhalwal. The unirrigated area falls Akhnoor, Dansal and Khour blocks.

3. Agro-ecosystems

Existing Farming systems in different blocks

S. No.	Agro Ecological Situation	Blocks	Farming System
1	(AES-I)	R.S. Pura and Bishnah	Agri + Animal Husbandry
2	(AES-II)	Marh and Satwari	Agri + Vegetable +AH Horti
3	(AES-III)	Khour and Akhnoor	Agri + Animal Husbandry
4	(AES-IV)	Bhalwal and Dansal	Agri+AH+Horti+ Poultry

4. Major and micro-farming systems

Season	Crop	AES-I	AES-II	AES-III	AES-IV
		Cropping System	Cropping System	Cropping System	Cropping System
Kharif& Rabi	Paddy-Maize	Paddy-Oilseed-wheat	Paddy-Oilseed-wheat	Maize-Oilseed-wheat Maize-Patato-wheat	Maize-Oilseed-wheat Maize-Mustard

5. Major production systems like rice based (rice-rice, rice-green gram, etc.), cotton based, etc.

- Paddy-Maize
- Paddy-Oilseed-wheat
- Paddy-Oilseed-wheat
- Maize-Oilseed-wheat
- Maize-Patato-wheat
- Maize-Mustard

6. Major agriculture and allied enterprises: Crop wise area sown under different crops in Jammu district

S.No	Crop	Season	Unit	Marh	R.S.Pura	Akhnoor	Dansal	Total
1	Wheat	Rabi	Ha	18450	21500	20350	10700	71000
2	Maize	Kharif	Ha	4550	-	3300	4150	12000
3	Paddy	Kharif	Ha	12000	25000	7800	200	45000
4	Bajra	Kharif	Ha	500	-	2000	1000	3500
5	Pulses	Kharif	Ha	1000	2350	1400	2000	6750
		Rabi	Ha	1000	100	2200	1200	4500
6	Oilseed	Kharif	Ha	800	-	600	600	2000
		Rabi	Ha	1100	1400	1500	700	4700
7	Fodder	Kharif	Ha	800	600	600	500	2500
		Rabi	Ha	2550	2500	2200	800	8050
8	Vegetables	Kharif	Ha	1700	380	990	240	3310
		Rabi	Ha	3320	1650	1480	240	6690
	Sub Total:	Kharif	Ha	21300	28330	16690	8690	75,010
		Rabi	Ha	26470	27150	27730	13640	94,990
	Total		Ha	47770	55480	44420	22330	170000

Agro-ecosystem Analysis of the focus/target area - II

Details of PRA

<i>S.No</i>	<i>Name of the cluster</i>	<i>Major crops and enterprises</i>	<i>Major problems identified</i>	<i>Intervention needed</i>
1	R.S.Pura	Paddy, wheat, fodder, dairy, Fish Production	Problem of yellow rust in wheat, lack of knowledge of vaccination in cattle, low milk yield, traditional fish farming system, low fish production, unavailability of fish seeds, poor management, lack of knowledge of use of fish feed, unavailability of fish feed, poor post harvest Management. Low productivity and poor quality of fodder	<ul style="list-style-type: none"> • Promotion of yellow resistant varieties • Dairy development • Scientific Fish farming • Feed management • Pond management • Value addition • Ornamental fish culture • Promotion of high yielding Oats varieties
2	Akhnoor	Gobhisarson, Mustard, Gram, Mash, Wheat, Maize, Mango, Ber, Anola&Grasses	Low productivity of oilseeds, pulses and cereals, Poor germination and problem of cutworm damage in maize, Unscientific practices in ber, post harvest management in Mango and Anola, low productivity and poor quality of fodder	<ul style="list-style-type: none"> • Increasing productivity of rain-fed crops • INM and IDM • Promotion of PHT on Mango and Anola • Promotion of perennial grasses
3	Bishnah	Paddy, wheat, mash, moong, potato, grasses, dairy, Fish Production	Low productivity of cereals and pulses, proper package of practices not followed, problem of yellow rust in wheat, lack of knowledge of Vaccination in cattle, low Milk Yield	<ul style="list-style-type: none"> • Increasing production of cereals and pulses by replacing variety and INM. • Dairy development • Potato seed promotion • Ornamental fish culture • Promotion of perennial grasses
4	Dansal	Paddy, wheat, vegetables, Mushroom, Marigold, Oats	Lack of quality seed in vegetables and marigold, Low productivity of cereals, Insect Pest and Disease, Post Harvest Management in vegetables and Diseases in mushroom and its management. low productivity and poor quality of fodder	<ul style="list-style-type: none"> • Replacement of seed. • INM and IDM • Promotion of PHT • Increasing productivity of cereals • Promotion of vegetables • Promotion of high yielding Oats varieties

Agro-ecosystem Analysis of the focus/target area - II

Include

1. Names of villages, focus area, target area etc.
2. Survey methods used (survey by questionnaire, PRA, RRA, etc.)
3. Various techniques used and brief documentation of process involved in applying the techniques used like release transect, resource map, etc.
4. Analysis and conclusions
5. List of location specific problems and brief description of frequency and extent/intensity/severity of each problem
6. Matrix ranking of problems
7. List of location specific thrust areas
8. List of location specific technology needs for OFT and FLD
9. Matrix ranking of technologies
10. List of location specific training needs

SWOT ANALYSIS OF THE DISTRICT

SWOT analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities and Threats involved in any venture. SWOT also encompasses a comprehensive analysis of the development parameters linked with economic performance of the State thereby enabling the policy makers and researchers to reorient themselves to the prevailing conditions. Thus while discussing the problems of the district it is important to look also at its strengths first. In this endeavor an in-depth analysis of SWOT was undertaken in a participatory manner to place the extension and technology dissemination efforts in perspective so that success can be achieved in pursuit of serving farming community.

SWOT Analysis of Agriculture and Allied Sector

Strengths

1. The factors required for successful cultivation of paddy (Basmati) are available in the district.
2. Productive and fertile soils with 62% irrigated area.
3. The soils are fit for intensive cultivation.
4. Good scope for diversification in agriculture, which will generate employment especially rural employment.
5. Farmers are respective and willing to adopt improved farm technologies.
6. Agriculture has forward and backward linkages with other activities particularly the agro based activities. As per the latest census, out of 100 main workers 27.5% exclusively dependent upon agriculture.
7. Large number of skilled and semi skilled agricultural labour.

Weaknesses

1. As against the national average of 382 persons per sq.km, density of population of the district Jammu is 653 persons per sq. km (as per 2011 census).
2. Area under commercial crops is very less.
3. Average farm size vey less and more than 90% farmers are marginal and small category.

4. The small and fragmented holdings make the adoption of farm mechanization very difficult that influences adversely the farmer's income.
5. Inadequate soils health management practices.
6. Inefficient and improper water management especially in paddy crop.
7. Critical technological gaps in specific areas of crop production viz, seed treatment, balance fertilization, weeds control and disease management.
8. Basic infrastructure like roads and communication are miserably poor.
9. Marketing facilities are inadequate.
10. Poor adoption level of FYM, green-manuring, vermi-composting and crop/farm residues
11. Inadequate availability of quality seeds for various crops.
12. Non exploitation of potential man power, especially youths.
13. Lack of proper knowledge and indifferent attitude towards crucial farm/crop management practices/operations.
14. The dependency of farmers on monsoons due to inadequate irrigation facilities.
15. Access of small and marginal farmers to agricultural credit is limited.
16. Wastage of agricultural produce due to lack of processing units.

Opportunities

1. Concentrating issues confronting agriculture like seed replacement ratio, irrigation facilities, marketing etc.
2. Quality seed can increase yield by 25-30 %.
3. Immense scope for increasing the cropping intensity.
4. Wide scope of co-operative farming system.
5. There is an opportunity in the diversification of land.
6. High demand for basmati rice in the international market because of taste and flavour.
7. HYV seeds of different crops are suitable for the situation.

8. There is scope for opening more outlets, establishing new units of vermi-compost.

Threats

1. Agriculture is already over-laboured, warrants check and controls.
2. Alarming depletion of ground water in the middle reaches and rising alkalinity and salinity problem in the lower belts of district.
3. Degradation of soil fertility with declining status of potash and micro nutrients (imbalance use of fertilizers)
4. Excessive soil erosion which results into loss in soil fertility.
5. Imbalance fertilizer application deteriorates soil health and effects productivity.
6. Declining factor productivity and rising cost of cultivation.
7. Increasing farmers inability to invest in agriculture production system as majority of the farmers are marginal or small and moreover resource poor.

Horticulture Sector

Strengths

1. Abundant potential and infrastructure for horticulture development in the district.
2. District is abounding in fruit crops like Mango, Ber, Jamun and Citrus which have high commercial value

Weaknesses

1. Insufficient availability of quality planting material
2. Lack of assured irrigation in more than 60 % area of district.
3. Inadequate popularization of advance mechanization
4. Poor soil status in the district
5. Poor economic status of farming community
6. Lack of integrated pest management (IPM) technology for horticulture crops
7. Inadequate post-harvest infrastructure results in wastage of the produce.

8. Inadequacy of agro-processing facility

Opportunities

1. Soil and agro-climatically there exists immense scope for increasing the area under horticulture.
2. Establishment of Cold Storage facilities to improve price stabilization, manipulation of supply to the advantage of the seller and for better sorting, grading and packaging facilities.

Threats

1. Changing climatic scenario may adversely affect horticulture crops and disinterest farming community
2. Poor market infrastructure for marketing the fruit crops
3. Inadequate post harvest/ value addition units

Animal Husbandry Sector

Strength

1. Traditional expertise in cattle rearing with almost every farm household possessing milch animals in variable numbers
2. Ample marketing avenues of animal based products and by products in and around the district
3. Poultry expansion has potential as main feed ingredient “Yellow maize” is available in abundance.
4. Livestock sector engages a sizeable number of workforce in processing, transportation and sale of animal products

Weakness

1. Absence of organized viable milk marketing network.
2. High mortality and poor growth in calves
3. Infertility and delayed calving
4. Repeated breeding and long calving interval
5. Poor disease management and breed up-gradation services

6. Low milk yield of buffalos and cows
7. Lack of proper management and feeding practices
8. Low availability of good quality feed & green fodder.
9. High cost of feed, medicines/vaccines and chicks
10. Small and scattered herds
11. Unscientific practices

Opportunity

1. High demand for milk and other animal based products offers higher returns.
2. Tremendous scope for self employment and income generation.
3. Increased availability of organic manure fir vermin-compost units
4. Bridging yield gaps

Threats

1. Non descript poor graded bulls used for Breeding of cattle
2. Economic loss due to threat of out breaks of Poultry Diseases
3. Poultry feed expensive on account of import of other feed stuffs from other parts of country.

Fisheries Sector

Strengths

1. Fish production, productivity and acreage increasing steadily over years
2. Vast unfulfilled demand for fish with easy market accessibility
3. Greater people participation and generation of employment opportunities especially for landless and marginal farmers

Weakness

1. Weak infrastructure for fish seed production and genetic up-gradation

2. Lack of farmer oriented activities e.g. trainings, demonstrations, exposure visits, awareness camps etc. to update farmer's practices of fish production and management
3. Inadequate quality seed availability of high yielding fresh water fish

Opportunity

1. Immense scope for fish seed (fingerling) production to cater the needs of fish farmers
2. Ample scope for mobilizing untapped water resources such as water logged area and soil for aquaculture
3. Integrated fish farming

Threats

1. High mortality in juvenile and adult fish
2. Absence of any reputed centre/ source of fish feed, fisheries management institute
3. Lack of post harvest management practices by farmers
4. Poor facilities for soil and water sample testing, disease diagnosis and post harvest infrastructures

Technology Inventory and Activity Chart - III

Include

Technology Inventory and Activity Chart – III

1. Names of research institutes, research stations, regional centres of NARS (SAU and ICAR) and other public and private bodies having relevance to location specific Technology needs

2. Inventory of latest technology available

S. No	Technology	Crop/enterprise	Year of release or recommendation of technology	Source of technology	Reference/citation
1.	HD 2967	Wheat	2011	IARI, New Delhi	
2.	HD 3086		2013	IARI, New Delhi	
3.	Pusa Mustard-28	Mustard	2012	IARI, New Delhi	
4.	B-370	Paddy	2013	SKUAST-J	
5.	B-103		2013	SKUAST-J	
6.	B-104		2008	SKUAST-J	
7.	B-118		2005	SKUAST-J	
8.	B-123	Paddy		SKUAST-J	
9.	Palampur -1	Oats		CSKHPKVV, Palampur	
10.	Napier Hybrid	Perennial Grasses	2000	IGFRI	
11.	PMSY-3 PMS-4	Composite Maize	Under AVT	SKUAST-J	
12.	GNG-1581	Chick Pea	2001	RAU	
13.	PG 186	Chickpea	2011	GBPUAT pantanagar	
14.	PKG 1	Chickpea	2011	GBPUAT pantanagar	
15.	PR 19	Mustard	2016	GBPUAT pantanagar	
16.	PR 20	Mustard	2016	GBPUAT pantanagar	

3. Activity Chart

Crop/Animal/Enterprise	Problem	Cause	Solution	Activity	Reference of Technology
	Low productivity of Maize	1) Non adoption/ Poor adoption of hybrids/ HYVs	1) Popularization of Hybrids / HYVs of Maize	Single component FLD to demonstrate HYV's	

Maize	under rainfed areas of distt. Jammu	2) Imbalanced fertilizer application 3) Improper Weed management 4) Insect pest infestation	Convincing farmer to use balanced fertilizer doses Adoption of proper weed management Practices. Disease and pest management through IPM.	Training and FLD programme	
Wheat	Low productivity of and incidence of yellow rust in Wheat	1. Mismatching of varieties for sowing time. 2. Rain fed farming 3. Poor soil moisture conservation. 4. Imbalanced nutrient management. 5. Poor weed management . 6. Seed borne diseases	-Recommendation of varieties according to sowing time. -Introduction and use of drought resistant varieties - Integrated nutrient management strategy -use of basal NPK and N through broadcasting at proper time and in proper proportion. -Proper and timely weed management - Seed treatment with chemicals.	-On farm trails - Demonstrations - Trainings - Diagnostic visits Field days	S. no 1 & 2 of the Inventory of latest technology available
Paddy	Low yield of traditional Basmati rice	Low seed replacement rate Imbalance fertilizer application Poor Weed management Poor pest management	- Enhancement in seed replacement rate -Introduction high yielding Basmati varieties - Proper and timely weed management - Seed treatment with chemicals.	On farm trails - Demonstrations - Trainings - Diagnostic visits Field days	S. no 4, 5, 6, 7 & 8 of the Inventory of latest technology available
Pulses	Low productivity of Pulses under rainfed conditions	Low productivity due to cultivation of local varieties. Improper fertilizer application Growing pulses on Unsuitable land. 4. Occurrence of insects/ diseases.	- Use of recommended Varieties. -Growing pulses on suitable land. - Timely and proper use of plant protection material for control of pod borer in gram. -Balanced fertilizer Application	-Demonstration - Trainings - Field days	S. no 12 & 13 of the Inventory of latest technology available
Oilseeds	Low productivity of Oilseeds	1. Use of local germplasm for sowing 2. Unscientific Sowing.	-Use of HYV Varieties. - Balanced fertilizer Application. - Timely and proper use	-Demonstration - Trainings - Field days	S. no 3 of the Inventory of latest technology

		3. Improper fertilizer use 4. Crop infestation with insects.	Insecticides		available
Vegetables	Low productivity of vegetables	1. Lack of proper knowledge about scientific vegetable cultivation practices 2. Improper and un-timely use of plant protection measure. 3. Non-availability of organized marketing system.	-Cultivation of recommended and tested and tested Hybrids/ Varieties. - Proper and timely use of plant protection Measures.	-OFTs - Trainings -- Demonstrations (method) - Exposure visits - Formation of vegetables growers self-help groups	
Fodder crops	Low Productivity	Lack of Knowledge No availability of high yielding fodder grasses/ crops	Introduction high yielding perennial fodder grasses Introduction of HYV of forage crops	-Trainings -Demonstrations	S. no 9 and 10 of the Inventory of latest technology available

4. Details of each of the technology under Assessment, Refinement and demonstration

a. Detailed account on varietal/breed characters for each of the variety/breed selected for FLD and OFT:

- 1) HD-3086: Released in 20132 for timely sown under irrigated conditions. Av seed yield is 50.4 q/ha and matures in 143days. Possesses resistance against leaf rust and yellow rust diseases.
- 2) HD-2967: Released in 2011 for timely sown under irrigated conditions. Av seed yield is 50.4 q/ha and matures in 143-150 days. Possesses resistance against leaf rust and yellow rust diseases.
- 3) VL-907 – semi dwarf **Grain** - Amber, **Plant height**- 80-85cms (rainfed) 95-100 cms (irrigated), **Maturity duration**: 175-180 days (rainfed) 165-170 days (irrigated), **Others**: Highly resistant to yellow and brown rust. Possess high iron (43.5-45.2 ppm), Zinc (35.4-36.3 ppm), Copper (5.29-5.12 ppm) and Manganese (42.5-41.8ppm). Very good chapatti quality.
- 4) basmati-370: Traditional timely sown under irrigated conditions. Av seed yield is 35 q/ha and matures in 150 days.
- 5) B-103: Released in 2017 for timely sown under irrigated conditions. Av seed yield is 40.4 q/ha and matures in 135-140 days
- 6) B-104 : Released in 2017 for timely sown under irrigated conditions. Av seed yield is 40.4 q/ha and matures in 135-140 days
- 7) B- 118: Released in 2017 for timely sown under irrigated conditions. Av seed yield is 40.4 q/ha and matures in 135-140 days

- 8) Pusa basmati – 1121: released during 2005 for irrigated conditions having av. seed yield of 40 q/ha. It matures in 140-145 days requires low input and produces high yield with better quality rice for export.
- 9) Pusa Mustard-28: Released in 2011 for early sown conditions. Av seed yield is 19.93 q/ha. Seed contains 41.5 % oil. AV maturity of this variety is 107 days and is a good substitute of Toria.
- 10) Palampur-1: High yielding Oats variety with production potential of 450-550 q/ha.
- 11) GNG-1581: Released in 2008 with production potential of 23.0 q/ha
- 12) PG-186: Released in 2014 with production potential of 18.0 q/ha
- 13) PKG-1: Released in 2014 with production potential of 15.0 q/ha
- 14) PR-19- Released from Pantnagar production potential of 15.0 q/ha
- 15) PR-20 Released from Pantnagar with production potential of 15.0 q/ha
- 16) Double dekalb maize hybrid from monsanto