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DIRECTORATE OF EXTENSION

C.S. Azad University of Agriculture & Technology,
Kanpur- 208 002

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Director Extension

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Chandra Shekhar Azad University of Agriculture & Technology, Kanpur

Dr. Anand Kumar Singh
Vice Chancellor

Foreword

Agriculture has been the backbone of human existence since time immemorial. It has also seen much advancement over the past few years. However, the agricultural practices carried out in India are still largely traditional which uses embedded knowledge and wisdom gained from the experience over many generations. These farming practices are suited to local conditions; operations such as planting, irrigation, input application, harvesting etc. are done manually. Traditional methods use animal or crop residues as fertilizer, biological pesticides, insecticides and contribute to safe & healthy food production which command higher prices. Traditional farming is entirely dependent on the environmental factors for irrigation, which sometimes prove to be very unpredictable and unfavourable. Increase in human population and the consequent increased demand for food and other agricultural commodities, led to the development of new and innovative farming methods.

The modern methods of farming encompass scientific knowledge, improved technologies, and sophisticated decision making tools and software. Despite the impressive records of food production, there are reports of numerous adverse effects of chemical-intensive mono-crop production systems of cereals: i.e. resource depletion and degradation, increased greenhouse gas (GHG) emissions, environmental pollution and the loss of habitats and biodiversity. Sustainable agriculture therefore is the key that holds the prosperity along with protection of environment. Traditional knowledge together with modern technological advancements can help enhanced production, efficient utilization and conservation of natural resources, better environmental quality and profitability to the growers with better quality of life. Harnessing their potential and blending the two to an optimal level for sustainable crop production should be our focus for the future.

It gives me immense pleasure that University is organizing "Pre Annual Zonal Workshop of KVKs " under the area jurisdiction of this university during 25-26 June, 2024. On this occasion, the Annual Report-2024 of Directorate of Extension is being released.

I congratulate Dr. R. K. Yadav, Director Extension in bringing out this publication. I extend my best wishes to the entire team for preparing this document useful and attractive.

(Anand Kumar Singh)

Chandra Shekhar Azad University of Agriculture & Technology, Kanpur

Dr. Rajendra Kumar Yadav
Director Extension

Preface

There is continuous debate on the issue, traditional agriculture is better or modern as far as sustainability of food production system is concerned. Both traditional and modern agricultural practices are having their own pros and cons. We have to emphasize on "The Sustainable Modernization of Traditional Agriculture". We have seen that, since the mid-sixties, the traditional agricultural practices are gradually being replaced by modern technologies and farm practices in India. This marked the beginning of the new era of modernization of agriculture with increased emphasis on capital inputs. The introduction of modernization in farming, the extension of irrigation facilities and the revolutionary improvement in agricultural practices have resulted in widespread increase of crop production.

It is important to point out that reaching toward the goal of sustainable agriculture is the responsibility of all of the system's stake holders, including farmers, labourers, policymakers, researchers, retailers and consumers. Each group has its own part to play, its own unique contribution to make, to strengthen the sustainable agriculture community and increasing the farmers' income.

The Indian Council of Agricultural Research has established a wide network of Krishi Vigyan Kendras (KVKs) in the country aiming at assessment and demonstration of technology/products. The mandated activities of KVKs include conducting on farm trials to identify the location specificity of technologies under various farming systems, frontline demonstrations to establish the production potentials of improved technologies on the farmers' fields, training of farmers to update their knowledge and skills, and training of extension personnel to orient them in the frontier areas of technology development. Seeds and planting materials produced by the KVKs are made available to the farmers. Large numbers of extension programmes are organized by the KVKs to create awareness about improved technologies about farmers.

I am very happy that University is being organized "Pre Annual Zonal Workshop of KVKs " under the area jurisdiction of this university during 25-26 June, 2024. On this occasion, the Annual Report-2024 of Directorate of Extension is being released. This Report contains achievements of training, FLD, OFT programmes, important days, extension activities, input production, etc. by 15 KVKs of this University for the year 2023-24.

I would like to special thank to the Vice Chancellor, Dr. A. K. Singh very much because under his inspiration and guidance it has been possible and also congratulate to my entire team for preparing this useful document for publishing.

(Rajendra Kumar Yadav)

INTRODUCTION

The Directorate of Extension, Chandra Shekhar Azad University of Agriculture & Technology, Kanpur is a nodal office to coordinate extension programmes of KVKs and responsible for administration, planning, budgeting, coordination, evaluation, monitoring and publication of extension outputs. The Directorate of Extension is responsible for dissemination of useful and latest agricultural information to the farmers through Krishi Vigyan Kendra of the University besides planning, monitoring and execution of extension programmes based on results of research conducted in the university. The major extension programmes are focused on imparting training to farming community, rural youth and extension functionaries, front line demonstrations and location specific research on agriculture, horticulture and post-harvest management technologies. Besides, organic farming, medicinal and aromatic plants, biocontrol, mushroom production etc. are the emerging areas to promote farming as entrepreneurship in changing climatic scenario.

Vision

"Self-reliant, healthy rural populace with rich agricultural knowledge and good marketing intelligence"

Mission

- To bridge the agricultural technology gap at grass root level.
- To educate rural people and extension functionaries.
- To create awareness about health, hygiene, environment and bio-diversity conservation for sustainable development.
- To link farmers with newly emerging globalized world by providing them information and guidance.
- To develop a system for effective research and extension linkages.
- To generate employment in the field of agriculture and allied disciplines.
- Integration of IT in rural system for speedy development.

Mandate

- Organization of farm advisory services at the doorsteps of the farmers.
- Agricultural technology transfers through different extension methodologies.
- Imparting trainings for capacity building of human resource.

- Enhance the agricultural vocation.
- Act as a bridge between researcher and farmer to develop demand driven technology.
- Provide services to the farmers through single window delivery system.
- Facilitation in planning, implementation, execution and monitoring of agricultural development.
- Encourage to work in groups at the grass root level for overall development.

Extension Programmes and Activities

- Farm advisory services, refresher and vocational training courses, on-farm trials (OFT), front line demonstrations (FLD) and field days on farmers' field.
- Training of farmers, farm women and rural youth and extension functionaries.
- Demonstrations of new technologies and testing of technologies developed at the research stations through KVKs on farmer's field.
- Organize and participate in various training programmes at the state, university, division, district, block and panchayat levels.
- Provide services to the farmers through; Single window delivery system for availability of technological inputs like seeds, planting materials, bio-fertilizers, bio-pesticides, mushroom spawn etc. and advisory & diagnostic services through Agricultural Technology Information Center (ATIC).
- Act as link between researchers and farmers by updating researches with feedbacks of backend and to help them in developing and reforming "Demand Driven Technology".
- Conducting group visits, publication of extension literature and its distribution among farmers and extension functionaries.
- Organizing distance learning education programmes in agriculture and allied subjects.
- Organizing All India Farmers Fair and Agro-Industrial Exhibitions each year at the university headquarter and also at KVKs.
- University established an Agricultural Information Bureau. It brings out seasonal magazine "KRISHAK BHARATI" and university "NEWS LETTER" to provide information support to farmers and other entrepreneurs.
- Provide help-line services to farmers for satisfy their quarries on help line telephone no. (0512) 2555666 and 2555444 (Toll Free) phone no. 18001805122.
- Developed district wise agricultural contingent plan for deficit rainfall conditions in collaboration with CRIDA & state Agricultural departments.

AGRO-CLIMATIC ZONES

Three agro-climatic zones fall under the jurisdiction of the university are South Western Semi-Arid Zone, Central Plain Zone and Upper Zone. South Western Semi-Arid Zone comprises the district Agra, Mathura, Aligarh, Etah, Kasganj, Mainpuri, Firozabad and Hathras. While, Central Plain Zone covered the district Kanpur Nagar, Kanpur Dehat, Etawah, Auraiya, Kannauj, Farrukhabad, Fatehpur, Kaushambi, Raibareli, Lucknow, Unnao, Hardoi and Sitapur and Upper Plain Zone comprise only one district Lakhimpur kheri.

Zone	Farming situation	Soil	Major Crops
South Western Semi-arid	Irrigated (Brackish, water), sodic soil, ravines	Alluvial, loam	Rice, Wheat, Potato, Jowar, Bajra, Maize
Central Plain	Irrigated , sodic soil	Alluvial, Sandy loam	Rice, Wheat, Potato, Jowar, Bajra, Maize, Sugarcane, Vegetables
Upper Plain Zone (Bhawar and Tarai)	Irrigated, Pure cropping, mixed farming	Light Brwonish Grey, Sandy Loam, Light Sandy Loam, Average water holding Capacity	Rice, Wheat, Sugarcane, Maize, Urd, Lentil, Pea and Mustard

Agro-climatic zone-wise research Priorities/thrust areas

All the two agro-climatic zones of the region have some constraints and potentials which need careful consideration for proper management. The agro-climatic zone-wise priorities/thrust areas are given in Table.

Agro-climatic zone wise priorities/thrust areas

Zone		Priorities/Thrust areas
South western semi arid zone	•	Soil health enhancement
	•	Integrated Pest Management
	•	Integrated Plant Nutrient Management
	•	IPNM, Integrated Weed Management
	•	Adoption about Improved technology.
	•	Rejuvenation of old orchards and INM
	•	Value addition in Fruit & Vegetable crops
Central plain zone	•	Organic Farming
	•	Increasing productivity through balanced fertilization,
	•	Integrated Pest Management(IPM), Integrated Disease Management (IDM) and Integrated Weed Management(IWM)
	•	Conservation of Household resources and income generating activities
	•	Reclamation of salt affected soils
	•	Infertility and balanced nutrition in dairy cattle and buffaloes.
	•	Promoting dairy and poultry as main enterprise for the resource rich farmers
Upper Plain Zone	•	The Climate is sub unit continental with temperature between 7-41 ^{0}C.

	•	Integrated pest management, INM, IDM
	•	Increasing productivity through varietal development
	•	Promoting dairy, goat and poultry management as main enterprise.
	•	Integrated crop management.

TRAINING/WORKSHOP/VISIT CONDUCTED BY DIRECTORATE OF EXTENSION

Directorate of Extension has been organized 52 training programmes, meetings and pre review annual workshop for KVKs scientists, extension workers and progressive farmers, in which 1613 participants were participated.

S.No.	Activities / Programme	No.	Duration (Days)	Participants
1.	Training for HRD	02	2	55
2.	Training for farmer and farm women	02	2	401
3.	Monthly Meeting of KVKs	11	1	251
4.	Meeting of Chandra Shekhar Krishak Samiti	12	1	273
5.	Training for Ethics Committee Members	12	1	155
6.	Pre Review Annual workshop of KVK	01	2	52
7.	Krishak Takniki Prashikshan (Dairy)	12	3	426
	Total	**52**	**12**	**1613**

Agricultural Technology Information Centre

The University has established Agricultural Technology Information Centre (ATIC) at the main campus, Kanpur. Majority of the farmers are visited at ATIC from Kanpur, Lucknow, Allahabad, Chitrakoot Dham, Jhansi, Agra and Aligarh divisions of University area jurisdiction. The main purpose of their visit was to purchase the improved seed of different rabi crops like wheat, barley, mustard, linseed, chickpea, field pea, lentil & vegetable pea and different kharif crops like paddy, maize, pigeonpea, moong, urd and sesame. The problems raised by the 6225 farmers during interaction with scientists at ATIC were

especially on seed of improved varieties, seed rate, doses of fertilizers application, organic farming plant protection, weed control, horticulture, floriculture, livestock, mushroom production and bee keeping.

KRISHI VIGYAN KENDRA (KVK)

KVKs are known as Farm Science Centre, recently being redesigned as Knowledge Resource Centre, was established by ICAR and each one acts as district Hub for information, vocational training, on farm trial (OFT), front line demonstration (FLD) to disseminate the latest agricultural know-how to the farmers. The KVKs also collaborate district level officers of line department, NGOs and several projects sponsored by State/Central Govt. Like ATMA, NICRA, DASP, NHM, IWMP, Nutrifarm etc. At present 15 KVKs are functioning under the university in the district Aligarh, Hathras**,** Firozabad**,** Mainpuri, Kasganj in Semi-Arid Western Zone and Etawah, Farrukhabad, Kannauj, Kanpur Dehat, Fatehpur, Raebareli-1, Hardoi, Auraiya and Raebareli-2 in Central Plain Zone while Lakhimpur Kheri in Upper Plain Zone of Uttar Pradesh.

Mandates of KVK

The mandates of KVK is technology assessment and demonstration for its application and capacity development. To implement the mandated effectively, the following activities envisaged for each KVK-

- Assessment and refinement to identify (OFT) the location specificity of agricultural technologies under various farming situations.
- Organize frontline demonstrations to establish the improved agricultural technologies at farmer's field.
- Organize training of farmers to update their knowledge and skill in modern agricultural technologies and training of extension personnel with emerging advances in agricultural research.
- Work as resource knowledge centre of agriculture technology for supporting initiative of public, private and voluntary sectors for improving the agriculture economy of the district.

Specific objectives of KVK

- Educate the farmers for increasing agricultural productivity and input use efficiency by adopting improved technology.
- Assess, evaluate and refine various technologies if necessary under complex, diverse and risk prone areas.
- Popularization of the concept "Diversification of Agriculture" to make small and marginal holdings more profitable.
- Organize vocational training programmes on "Diversification of Agriculture" like horticulture and nursery management, beekeeping, dairy, poultry, small ruminants, mushroom cultivation, off-season vegetables, medicinal and aromatic plants, craft work, sericulture, post-harvest management and value added products and other relevant areas.
- Protection of crops, vegetables, fruits and medicinal plants in organic mode.
- Rainwater harvesting to conserve natural resources.
- Get first hand scientific feedback from the field and passing it on to research system as backward linkages.
- Provide training support to state development departments and other stakeholders.

- Increase livestock productivity through improvement in breeds of cattle and buffaloes.
- Popularization of backyard poultry farming.
- Provide technology for increasing green fodder availability to the livestock for improving their nutritional status.
- Popularization of low draft improved agricultural implements.
- Develop production technology for spices, medicinal /aromatic plants.
- Improve living standard of villagers/farmers by introducing seed production programme and cultivation of low volume high value crops.
- Development of *in situ* soil and water conservation techniques for maintaining eco-friendly eco-system for human life and sustainable agriculture.
- Impart vocational training in open distance learning mode for self-employment of rural youths through centrally designed curriculum of the KVKs.
- Establish functional linkages with the NGOs, government departments, private agencies and other stakeholders.
- Generate self-employment.
- Create awareness about improved location specific and high return farm technology.
- Production and distribution of quality seed and planting materials.

TRAINING

Training for Farmers and Farm Women

S.N.	Subject	No. of courses	Participants		
			M	F	Total
1	Crop production	222	5370	1112	6482
2	Horticulture	254	5587	845	6432
3	Soil health and fertility management	97	2273	399	2672
4	Livestock and production management	173	3628	753	4381
5	Home science and women empowerment	185	493	4335	4828
6	Agriculture engineering	26	415	164	579
7	Plant protection	141	2924	435	3359
8	Capacity building and group dynamics	48	875	419	1294
9	Agro forestry	2	36	4	40
10	Production of inputs	26	627	95	722
11	Others (Specify)	34	710	105	815
	Total	**836**	**16368**	**6299**	**22667**

Farmers and Farm Women Training




KVK conducted 836 training programs on and off campus in which 22667farmers and farmwomen participated. Maximum 254training courses were conducted on horticultural technologies in which 6432 farmers and farm women participated and mainly 222, 185, 173, 141 and 97programs in crop production, home science and women empowerment, livestock and production management, plant protection and soil health and fertility management, respectively were organized and 6482, 4828, 4381, 3359and 2672farmers and farm women were trained and skilled.Such programs were also organized by KVKs in the areas of capacity building and group dynamics (48), other programs (34), production of inputs and agricultural engineering (26) and in agro-forestry (2)etc.

Training for Rural Youths

During 2023-24, 181employment oriented skilled training programme were organized for 3899 unemployed rural youths in the field of nursery management of horticultural crops, training and pruning of orchards, protected cultivation of vegetable crops, commercial fruit production, integrated farming, seed production, production of organic inputs, planting material production, vermiculture, mushroom production, bee-

keeping, repair and maintenance of farm machinery and implements, value addition, small scale processing, post-harvest technology, tailoring and stitching, rural crafts, production of quality animal products, dairying, sheep and goat rearing, poultry production and other required course. The detail given as under:

Training conducted for Rural Youths

Area of training	No. of courses	Participants		
		Male	Female	Total
Nursery management of horticulture crops	9	159	23	182
Training and pruning of orchards	1	20	0	20
Protected cultivation of vegetable crops	5	78	12	90
Commercial fruit production	3	44	3	47
Integrated farming	11	189	25	214
Seed production	20	348	37	385
Production of organic inputs	8	138	23	161
Planting material production	2	26	4	30
Vermi-culture	12	192	63	255
Mushroom production	20	339	123	462
Bee-keeping	13	255	55	310
Repair and maintenance of farm machinery and implements	5	77	23	100
Value addition	17	67	279	346
Small scale processing	3	7	63	70
Post-Harvest Technology	2	20	10	30
Tailoring and Stitching	9	5	203	208
Rural Crafts	4	23	70	93
Production of quality animal products	0	0	0	0
Dairying	15	317	86	403
Sheep and goat rearing	12	231	92	323
Poultry production	4	37	8	45
Other	6	101	24	125
TOTAL	**181**	**2673**	**1226**	**3899**

Rural Youth Training

Training for Extension Personnel

KVK organized 114 training programmes for 2466 male and 734 female extension personnel to update their knowledge in recent agricultural technologies and other enterprises related to the farmers. Productivity enhancement in field crops, IPM, INM, production and use of organic inputs, livestock and fodder production, group dynamics and farmers organization, management of farm, formation and management of SHGs, rejuvenation of old orchards, care and maintenance of farm machineries and implement and women & child care were the major areas covered under trainings given as:

Training conducted for Extension Personnel

Area of training	No. of courses	Participants		
		Male	Female	Total
Productivity enhancement in field crops	29	736	73	809
Integrated Pest Management	15	384	31	415
Integrated Nutrient Management	10	203	12	215
Rejuvenation of old orchards	4	95	7	102
Protected cultivation technology	13	340	27	367

Production and use of organic inputs	10	335	25	360
Care & maintenance of farm machinery & implements	3	59	5	64
Gender mainstreaming through SHGs	4	87	20	107
Formation and Management of SHGs	5	113	14	127
Women and Child care	8	6	198	204
Low cost and nutrient efficient diet designing	7	5	187	192
Group Dynamics and farmers organization	3	50	10	60
Information networking among farmers	0	0	0	0
Capacity building for ICT application	5	66	5	71
Management in farm animals	6	132	17	149
Livestock feed and fodder production	11	215	24	239
Household food security	8	38	166	204
Other	10	240	56	296
TOTAL	**114**	**2466**	**734**	**3200**

Sponsored Trainings

KVKs organized 302 sponsored training programmes financially supported by the ICAR, line department, NGOs, etc. to train the farmers and farm women in the fields of crop production, value addition, post-harvest technology, farm machinery, livestock management, natural farming and capacity building and group dynamics etc. During the year, 163 programmes were organized for 6202 beneficiaries on crop production and management related technologies to enhance the productivity of field crops, vegetables and spices, whereas, 139 programmes were conducted in processing and value addition, farm machinery, livestock management, home science and capacity building and group dynamics related awareness programmes. A special programme on skill development in livestock production and management aspect was conducted by the KVKs in which 445 farmers were trained with the objectives of developing skills for promotion of entrepreneur in livestock. A sum of 302 sponsored programmes were conducted by the KVKs for 9907 beneficiaries including 6080 farmers and 3827 farm women in the fields of their interest. The details are given below-

S.N.	Subject	No. of courses	Participants		
			M	F	Total
1	Crop production and management	19	809	416	1225
2	Increasing production and productivity of crops	39	1202	173	1375
3	Commercial production of vegetables	7	237	33	270
4	Fruit plants	12	235	47	282
5	Ornamental plants	2	63	05	68
6	Soil health and fertility management	3	435	166	601
7	Production of inputs at site	2	85	48	133
8	Methods of protective cultivation	6	134	52	186
9	Natural farming	5	40	5	45
10	IPM	62	597	1134	1731
11	IDM	3	80	41	121
12	Others	7	154	11	165
	Total	**163**	**4071**	**2131**	**6202**
1	Post-harvest technology and value addition	30	608	370	978
2	Processing and value addition	6	75	72	147
	Total	**36**	**683**	**442**	**1125**
1	Farm machinery	5	15	72	87
2	Farm machinery, tools and implements	2	15	5	20
	Total	**7**	**30**	**77**	**107**
1	Livestock and fisheries	0	0	0	0
2	Livestock production and management	6	154	16	170
3	Animal nutrition management	4	70	12	82
	Animal disease management	3	54	29	83
	Others	4	66	44	110
	Total	**17**	**344**	**101**	**445**
	Home science	1	30	30	60
	Household nutritional security	3	5	34	39

	Economic empowerment of women	6	65	106	171
	Total	**10**	**100**	**170**	**270**
	Agricultural Extension	13	60	72	132
	Capacity building and group dynamics	56	792	834	1626
	Others	0	0	0	0
	Total	**69**	**852**	**906**	**1758**
	GRAND TOTAL	**302**	**6080**	**3827**	**9907**

Vocational Trainings for Rural Youths

Vocational training programmes were organized by the KVK Scientists to educate and develop skill in rural youth in the fields of crop production, income generation, live stock rearing and post-harvest and value addition for employment generation and development of entrepreneur for self-employment. Total 73 training programmes were organized during 2023-24 for 1722 youth including 792 male and 930 female participants.

VOCATIONAL TRAININGS FOR RURAL YOUTHS

Subject	No. of courses	Participants		
		M	F	Total
Crop production and management				
Commercial floriculture	3	38	25	63
Integrated crop management	4	31	32	63
Organic farming	4	61	13	74
Others	6	67	34	101
Total	**17**	**197**	**104**	**301**
Post-harvest technology and value addition				
Value addition	8	10	161	171
Total	**8**	**10**	**161**	**171**
Livestock and fisheries				
Dairy farming	5	128	52	180
Sheep and goat rearing	5	133	57	190
Piggery	1	5	20	25
Poultry farming	2	10	40	50
Total	**13**	**276**	**169**	**445**
Income generation activities				
Vermi composting	3	28	25	53
bio-fertilizers etc.	1	15	5	20
Repair and maintenance of farm machinery	1	17	4	21
and implements	1	14	6	20
Rural Crafts	4	25	88	113
Mushroom cultivation	7	123	40	163
Tailoring, stitching, embroidery, dying etc.	6	5	143	148
Agril. para-workers, para-vet training	1	2	20	22
Others	4	12	75	87
Total	**29**	**244**	**426**	**670**
Agricultural Extension				
Capacity building and group dynamics	5	60	50	110
Total	**6**	**65**	**70**	**135**
Grand Total	**73**	**792**	**930**	**1722**

FRONTLINE DEMONSTRATIONS

Frontline demonstration is an important activity of KVKs. It shows the production potential of improved technologies to the farmers. KVKs play an important role to demonstrate and promote the latest varieties and technologies related to different crops, livestock and other enterprises to enhance the production and productivity on farmer's field. A total of 6712 frontline demonstrations were organized out of which on oilseeds (2320), pulses (1474), rice (279), wheat (375), maize (83), pearl millet (18), barley (65), sugarcane (18), vegetables (661), fruits and flowers (82), fodder production (237), livestock (203) and under CRM (937), while in case of kitchen gardening (35) with 35 units were also demonstrated.

CFLD on Oilseeds:

The cluster frontline demonstrations on different oilseed crops *viz.,* sesame, mustard, toria, groundnut and linseed were organized on 761 ha area with active involvement of 2320 farmers. Under cluster frontline demonstrations, various varieties and technologies were demonstrated on these crops. The results given in the table, show that the demonstrated verities and technologies enhanced the yield of crops between 10.32 to 61.75 % over farmer's practice.

Sesame: The demonstrations on sesame were laid out at 579 farmers' fields on 195 ha area. On an average 4.58 q/ha yield was recorded in demonstrations, which was 37.34 % higher over local check (3.33 q/ha).



The highest yield of 5.30 q/ha was recorded when variety GT 05, seed treatment and line sowing technologies were demonstrated followed by 5.20 q/ha yield was obtained with variety RT 307.

Mustard: The demonstrations on mustard crop were laid out at 1529 farmers' fields on 500 ha area. On an average 20.09 q/ha yield was recorded in demonstrations, which was 25.26 % higher over local check (16.04 q/ha). The highest yield of 23.95 q/ha was recorded by variety DRMR 1165-40 followed by 21.35 q/ha by Surekha variety.


Toria: KVK, Fatehpur conducted 27 demonstrations on Toria variety Azad Chetna by covering an area of 10 ha, exhibited 12.0 q/ha yield with 50 % increase against 8.0 q/ha of local check.

Groundnut: A total of155 demonstrations on summer and kharif groundnut were organized on 46 ha area. Under demonstrations, farmers received 28.34 q/ha kernel yield in summer season while in kharif season it was 15.81 q/ha. The highest yield of 34.50 q/ha was obtained in summer season from the variety TG 37A.

Linseed: KVK, Raebareli-I conducted 30 demonstrations on linseed with variety JLS 95 by covering an area of 10 ha, exhibited yield of 13.5 q/ha against 9.4 q/ha of local check showing an increase of 43.62 % higher than local check.

Crop	Variety	No. of Demonstrations	Area (ha)	Yield (q/ha)		% Increase in yield
				Demo	Check	
Sesame	GT 05	271	90	5.30	4.21	25.89
Sesame	Pragati	52	20	5.00	3.50	42.86
Sesame	RT 307	40	10	5.20	3.80	36.84
Sesame	Shekhar	216	75	3.51	2.17	61.75
Total		**579**	**195**	**4.58**	**3.33**	**37.34**
Mustard	RH 725	756	240	20.63	16.62	24.13
Mustard	DRMR 1165-40	175	70	23.95	18.3	30.87
Mustard	Azad Mahak	214	80	16.32	13.55	20.44
Mustard	RH 761	247	60	18.25	13.5	35.19
Mustard	Surekha	80	30	21.35	18.41	15.97
Mustard	Giriraj-IJ 31	57	20	18.87	15.21	24.06
Total		**1529**	**500**	**20.09**	**16.04**	**25.26**
Toria	Azad Chetna	27	10	12	8	50.00
Total		**27**	**10**	**12**	**8**	**50.00**
Summer Groundnut	GJG 22	46	12	25.78	18.38	40.27
Summer Groundnut	TG 37A	13	5	34.50	28.25	22.12
Total		**59**	**17**	**28.34**	**21.28**	**33.18**
Kharif Groundnut	GJG 22	83	23	14.78	11.19	32.08
Khrif Groundnut	GJG 32	13	6	19.77	17.92	10.32
Total		**96**	**29**	**15.81**	**12.58**	**25.67**
Linseed	JLS95	30	10	13.5	9.4	43.62
Total		**30**	**10**	**13.5**	**9.4**	**43.62**
Grand Total		**2320**	**761**			

CFLD on Pulses:

The cluster frontline demonstrations on different pulses crops *viz.,* pigeonpea, blackgram, greengram, lentil and chickpea were organized on 443.6 ha area with active involvement of 1474 farmers. Under cluster frontline demonstrations, various varieties and technologies were demonstrated on these crops. The results

show that the demonstrated varieties and technologies enhanced the yield of crops between 13.16 to 60.47 % over farmer's practice.

Pigeonpea : A total of 328 demonstrations were conducted on pigeonpea crop by covering an area of 116 ha, exhibited yield realization of 18.13 q/ha which was 24.44 % higher than local check (14.57 q /ha). Highest yield was obtained by variety NA 2 (18.50 q/ha) followed by IPA 203 (18.09 q/ha).



Blackgram : A total of 349 demonstrations on 105.8 ha area, exhibited yield levels of 9.98 q/ha against 7.69 q/ha in local checks which was 29.86 % higher. The variety Shekhar 3 gave highest yield 13.80 q/ha with full package of practice followed by variety Shekhar 2 (10.23 q/ha).

Greengram: The demonstrations on greengram crop were laid out at 299 farmers' fields at 99.8 ha area. On an average 9.92 q/ha of yield was recorded in demonstrations, which was 35.97 % higher over local check (7.31 q/ha). The highest yield of 11.50 q/ha was recorded by variety IPM 02-03 followed by Sweta which gave 10.20 q/ha yield with full package of practices.


Lentil: The demonstrations on lentil were conducted at 473 farmers' fields on 112 ha area. On an average 14.27 q/ha of yield was recorded in demonstrations, which was 34.82 % higher over local check (10.58 q/ha).


The highest yield of 15.75 q/ha was recorded in variety KLS 509-3 + seed treatment + line sowing followed by 13.26 q/ha yield was obtained with variety KLB 45.

Chickpea: KVK Aligarh conducted 25 demonstrations on chickpea with variety RVG 202 by covering an area of 10 ha, exhibited yield of 19.25 q/ha against 13.50 q/ha of local check showing an increase of 42.59 % higher than local check.

Crop	Variety	No. Of Demonstrations	Area (ha)	Yield (q/ha)		Increase in yield %
				Demo	Check	
Pingeon Pea	IPA 203	303	106	18.09	14.69	23.14
Pigeonpea	NA 2	25	10	18.50	13.25	39.62
Total		**328**	**116**	**18.13**	**14.57**	**24.44**
Blackgram	IPU 13-1	57	20	10.0	7.7	29.87
Blackgram	Vallabh 1	224	65	9.46	7.61	24.31
Blackgram	Shekhar 2	27	5.8	10.23	7.41	38.06
Blackgram	Shekhar-3	25	10	13.8	8.6	60.47
Blackgram	Azad Urd 1	16	5	8.8	7.15	23.08
Total		**349**	**105.8**	**9.98**	**7.69**	**29.86**
Greengram	Shikha	101	25	10.05	8.38	19.93
Greengram	Virat (IPM 205-7)	86	30	8.53	6.77	26.00
Greengram	Sweta	62	24.8	10.2	6.5	56.92
Greengram	IPM 02-03	50	20	11.5	7.8	47.44
Total		**299**	**99.8**	**9.92**	**7.31**	**35.67**
Lentil	KLB 345	197	40	13.26	10.61	24.98
Lentil	KLS 509-3	270	56	15.75	12.33	27.74
Lentil	KLS 122	6	16	11.61	10.26	13.16
Total		**473**	**112**	**14.27**	**10.58**	**34.92**
Chickpea	RVG-202	25	10	19.25	13.5	42.59
Total		**25**	**10**	**19.25**	**13.5**	**42.59**
Grand Total		**1474**	**443.6**			

Frontline Demonstrations other than Oilseeds and Pulses

Cereals

Rice: The demonstrations on seven thematic areas were conducted at 279 farmers' fields on 84.50 ha area. The average yield of 52.11 q/ha was achieved in demonstrations, which was 18.24 % higher over local check (44.07 q/ha). The highest yield 60.0 q/ha was obtained under varietal evaluation followed by under INM (Nano



fertilizer, chelated zinc, spray of NPK, Hallo Azo + PSB) 59.95 q/ha and IWM (58.79 q/ha), respectively. The yield advantage under different thematic area was realized from 8.56 % to 25.56 % with improved technologies.

Crop	Thematic Area	Variety	Technology	Area	Demo	Yield (q/ha)		% Increase in yield
						Demo	Local	
Rice	ICM	CSR 46 PB-1718	CSR 46, HYVPB-1718, weed management by Bispyribac sodium + Profenophos	6.5	35	45.1	38.75	16.39
Rice	IDM	PB-1509 NDR 2065 Chinnor	Seed and seed treatment, Application of Copper hydroxide77% wp @ 0.3%	20	62	52.16	43.31	20.43
Rice	IWM	PB 1509 NDR-2065	Bispyribac sodium	7	23	58.79	49.03	19.91
Rice	IPM	PB 1509	Flubendamide, Profenofos +cypermethrin	4	20	56.68	52.21	8.56
Rice	INM	NDR-359, Neelam Pant - 24	Nano fertilizer, chelated zinc, spray of NPK, Hallo Azo+PSB	19	51	59.95	53.11	12.88
Rice	Varietal Evaluation	Hybrid	Arize Gold	6	30	60.0	50.50	18.81
Rice	Varietal Evaluation (Scented)	PB 1718	PB 1718	18	48	39.07	31.20	25.22
Rice	RCT	ArizeGold	Direct seeded rice (DSR)	4	10	56.5	45.0	25.56
Total				**84.5**	**279**	**52.11**	**44.07**	**18.24**

Wheat: The demonstrations on five thematic areas were conducted at 375 farmers' fields on 139.80 ha area. The average yield of 50.24 q/ha was achieved in demonstrations, which was 17.54 % higher over local check (42.74 q/ha). The highest yield 55.10 q/ha was obtained under ICM with new varieties + seed treatment and weed management with Pinoxaden followed by under INM 53.5 q/ha and IDM (52.75 q/ha), respectively. The yield advantage under different thematic area was realized from 12.63 % to 23.0 % with improved technologies.



Crop	Thematic Area	Variety	Technology	Area	Demo	Yield (q/ha)		% Increase in yield
						Demo	Local	
Wheat	ICM	DBW 187, DBW 222	Seed treatment and weed management with Pinoxaden	67	168	55.10	47.62	15.71
Wheat	IDM	DBW187	Seed and seed treatment	4	22	52.75	44.75	17.88
Wheat	IWM	DBW-17 HD 2967 DBW-187K-1317	Sulphosulphuran, metsulfuron and Pinoxaden	25	67	49.99	43.18	15.77
Wheat	Varietal evaluation (Timely sown)	PBW 723 DBW 187, K-1317	High yielding varieties PBW 723 DBW 187, K-1317	27.8	79	49.10	39.92	23.00
Wheat	Varietal (Late sown)	K-9423, Unnat Halna	Promotion of late variety in paddy-wheat cropping system	15	35	30.19	24.62	22.60
Wheat	INM	DBW-187	NPK20:20:20 @ 0.5% solution	1	4	53.5	47.5	12.63
Total				**139.8**	**375**	**50.24**	**42.74**	**17.54**

Maize: The demonstrations on maize crop were conducted at 83 farmers' fields on 29 ha area under four thematic areas. The average yield of 58.11 q/ha was achieved in demonstrations, which was 13.34 % higher over local check (51.27 q/ha). The highest yield 67.25 q/ha was obtained under RCT with hybrid varieties followed by under IDM 61.0 q/ha and IWM (56.97 q/ha), respectively. The yield advantage under different thematic area was realized from 10.97 % to 18.72 % with improved technologies.

Crop	Thematic Area	Variety	Technology	Area	Demo	Yield (q/ha)		% Increase in yield
						Demo	Local	
Maize	INM	Hybrid	Zinc sulphate @25/ha	4	20	55.5	46.75	18.72
Maize (Kharif)	Weed Mgt	Hybrid	Pendimathaline @3.3l/ha	20	50	56.97	50.5	12.80
Maize	IDM	Hybrid	Cartaphydrocloride 50% SP@ 0.2%	2	5	61.00	54	12.96
Maize	RCT	Hybrid	Ridge shown	3	8	67.25	60.6	10.97
Total				**29**	**83**	**58.11**	**51.27**	**13.34**

Pearl Millet: The demonstrations on pearl millet crop were conducted at 18 farmers' fields on 10 ha area under varietal evaluation and weed management. The average yield of 24.55 q/ha was achieved in demonstrations, which was 20.52 % higher over local check (20.37 q/ha). The highest yield (26.5 q/ha) was obtained under weed management with hybrid Proagro-1 (FMH 3). The yield advantage under different thematic area was realized from 17.78 % to 23.90 % with improved technologies.

Crop	Thematic Area	Variety	Technology	Area	Demo	Yield (q/ha)		% Increase in yield
						Demo	Local	
Pearl millet	Varietal evaluation	Proagro-1(FMH 3)	Proagro-1 (FMH 3)	5	13	22.6	18.24	23.90
Pearl millet	Weed mgt.	Proagro-1(FMH 3)	Pendimethaline @3.3l/ha	5	15	26.5	22.5	17.78
Total				**10**	**18**	**24.55**	**20.37**	**20.52**

Barley: KVK Fatehpur conducted 65 demonstrations on barley with two varieties K 1425 and K1055 for promotion of late variety in paddy-wheat cropping system on 10.5 ha area. The average yield of 31.46 q/ha was achieved in demonstrations, which was 63.01 % higher over local check (19.30 q/ha).

Crop	Thematic Area	Variety	Technology	Area	Demo	Yield (q/ha)		% Increase in yield
						Demo	Local	
Barley	Varietal evaluation	K-1425, K-1055	Promotion of late variety in paddy-wheat cropping system K-1425 and improved K 1055	10.5	65	31.46	19.3	63.01
Total				**10.5**	**65**	**31.46**	**19.3**	**63.01**

Sugarcane: KVK Lakhimpur conducted 18 demonstrations on sugarcane variety CO-0118 under INM and intercropping with coriander on 10.5 ha area. The average yield of 959.17 q/ha was achieved in demonstrations, which was 5.40 % higher over local check (910 q/ha) However in intercropping the extra yield of 3.37 q coriander was obtained which gave extra monetary return to the farmers.

Crop	Thematic Area	Variety	Technology	Area	Demo	Yield (q/ha)		% Increase in yield
						Demo	Local	
Sugarcane	INM	CO-0118	Chelated zinc	4	10	963.5	910	5.88
Sugarcane		CO-0118	Coriander as intercrop	2	8	950.5	910	4.45
Coriander	intercrop		Coriander yield as intercrop with sugarcane			3.37	-	-
Total				**6**	**18**	**959.17**	**910.00**	**5.40**

Vegetables

Bottle gourd: The demonstrations were conducted by 2 KVKs at 55 farmers' fields on 6.50 ha area. Average yield 383.23 q/ha was recorded in demonstrations, which was 107.15 % higher over local check (185.0 q/ha). The highest yield of 438.2 q/ha was recorded for Kashi Ganga variety in district Mainpuri.

Bitter gourd: KVK Hardoi conducted 12 demonstrations on 1.2 ha area on IPM and varietal evaluation. The demonstrations yielded 245 q/ha against 180 q/ha in local check showing an increase of 36.11 %.

Pumpkin: Two KVKs namely Firozabad and Farrukhabad conducted demonstrations on pumpkin varieties Chakra and VMRP 1. Average yield 257.5 q/ha was recorded in demonstrations, which was 25.61 % higher over local check (205 q/ha). The highest yield was obtained with variety Chakra which gave (295 q/ha) yield which was 28.26 % higher over farmer's practice.

Sponge gourd: A total of 35 demonstrations were conducted by 2 KVKs, exhibited 166.08 q/ha of yield against local check (140.56 q/ha) showing an increase of 18.16 % higher. The highest yield of 186 q/ha was recorded under IPM followed by Kashi Sneha (158.97q/ha).

Pointed gourd: KVK Lakhimpur conducted 10 demonstrations

on 4 ha area under RCT i.e. trailing and staking. Demonstrated field exhibited yield of 17.9 q/ha against local check (15.3 q/ha) showing an increase of 16.99 % in demonstrations.

Ash gourd: KVK Kannauj conducted 17 demonstrations on 7.16 ha area on variety Mahi 1. Demonstrated field exhibited yield of 767.5 q/ha against local check (650 q/ha) showing an increase of 18.08 % in demonstrations over farmer's practice.

Cowpea: KVK Auraiya conducted 10 demonstrations on 1.0 ha area on variety Kashi Kanchan. Demonstrated field exhibited yield of 144.8 q/ha against local check (129.6q/ha) showing an increase of 11.73 % in demonstrations over farmer's practice.

Tomato: Five KVKs laid out thirty two demonstrations on five different components with average yield of 337.67 q/ha showing an increase of 21.25 % over local check (278.49 q/ha). The highest yield of 385 q/ha was obtained under IDM and IPM with variety Navkiran and Ambuja 34 followed by under RCT (379.35 q/ha).

Vegetable Pea: KVK, Kannauj and Farrukhabad laid out 45 demonstrations on 6.68 ha area with IDM and ICM aspects. The average yield was observed 119.50 q/ha showing an increase of 17.63 % over local check (101.65 q/ha).

Chilli: Four KVKs conducted 33 demonstrations on 5.0 ha area on variety Kashi Anmol with ICM aspect. Demonstrated field exhibited yield of 236.38 q/ha against local check (197.95 q/ha) showing an increase of 19.41 % in demonstrations over farmer's practice.

Brinjal: A total of 34 demonstrations were carried out on 9.0 ha area in the field of RCT, IPM and varietal interventions showed yield potential of 213.72 q/ha against 180.83 q/ha in checks, showing an increase of 18.19 %. The variety Kashi Sandesh resulted yield of 360.0 q/ha followed by variety VNR 218.

Potato: Four KVKs namely Etawah, Kannauj, Farrukhabad and Mahamaya Nagar conducted 210

demonstrations on 47.10 ha area with INM, IDM and IPM aspects. The average yield of 313.73 q/ha was achieved in demonstrations, which was 10.85 % higher over local check (283.02 q/ha). The highest yield 315.56 q/ha was obtained under IDM (Seed treatment with fungicides+soil treatment with *Trichoderma*) followed by under INM aspect (315 q/ha). The yield advantage under different thematic area was realized from 7.25 % to 23.96 % with improved technologies.

Cauliflower: A total of 43 demonstrations were conducted on 4.96 ha area on cauliflower with variety and ICM. The average yield of 279.92 q/ha was obtained which was 19.03 % higher over farmer's practice (235.17 q/ha). The highest yield of 229.5 q/ha was obtained under ICM.

Okra: KVKs conducted demonstrations on 6.0 ha area with involvement of 24 farmers on RCT, IPM and varietal aspects. The average yield of 11.82 q/ha was obtained against 90.11 q/ha in local check with an increase of 24.10 %. The highest yield of 126.0 q/ha was obtained under IPM followed by 110.0 q/ha under RCT aspects (Staking).

Radish: KVK Kanpur Dehat, conducted ten demonstrations in an area of 0.1 ha with yield level of 470 q/ha against check yield of 355 q/ha showing an increase of 22.97%.

Cucumber: KVK Hardoi, Kasganj, Mainpuri and Raebareli I conducted 29 demonstrations on 6.7 ha area on the varietal and IPM aspects. The average yield of 206.79 q/ ha was obtained under demonstrations which was 38.24 % higher over farmer's practice (149.59 q/ha). However, the highest yield (212 q/ ha) was obtained under IPM technology.

Colocasia: KVK Hardoi, conducted ten demonstrations in an area of 2 ha with IPM technology on variety Narendra Banda 1. The demonstrated field yielded 285 q/ha against check yield of 232 q/ha showing an increase of 22.84%.

Coriander: KVK Kannauj conducted 17 demonstrations on 2.5 ha area on IDM technology. The demonstrations yield was 40.3 q/ha against 34.3 q/ha in local check showing an increase of 16.91 %.

Onion: KVK Kannauj and Mainpuri laid out 18 demonstrations on 0.8 ha area with variety Bheema Kiran and Gaurav light red. The average yield was observed 227.9 q/ha showing an increase of 7.42 % over local check (212.15 q/ha). However, the highest yield (232.4 q/ ha) was obtained with variety Bheema Kiran.

Garlic: KVK Farrukhabad conducted 5 demonstrations on 2.0 ha area on INM technology. The demonstrations yield was 150.0 q/ha against 145.0 q/ha in local check showing an increase of 3.45 %.

Name of Crop	Thematic Area	Variety/Technology	Area (ha)	No. of Demo	Yield (q/ha)		% Yield increase
					Demo	Local	
Bottle gourd	ICM	Aruna withdouble row on furrow system	1.5	5	200	155	29.03
Bottle gourd	Varietal evaluation	Kasi ganga	5	50	438.2	194	125.88
			6.5	55	383.23	185.00	107.15

Bitter gourd	ICM	Raja and management of virus diseases	1.2	12	245	180	36.11
			1.2	12	245	180	36.11
Pumpkin	Varietal evaluation	Chakra and VMRP-1	2.2	12	257.5	205	25.61
			2.2	12	257.5	205	25.61
Sponge gourd	ICM	Kashi Sneha, and management of insects and diseases	1.5	15	158.97	105.44	50.77
Sponge gourd	RCT	NS18978 and ON FERB Double row system	1.5	5	93.5	77.9	20.03
Sponge gourd	IPM	Fruit fly Trap 25/ha	6	15	186.0	165	12.73
			9	35	166.08	140.56	18.16
Pointed gourd	RCT	Staking and Trailing	4	10	17.9	15.3	16.99
			4	10	17.9	15.3	16.99
Ash gourd	Varietal evaluation	Mahi-1	7.16	17	767.5	650	18.08
			7.16	17	767.5	650	18.08
Cowpea	Varietal evaluation	Kashi Kanchan	1	10	144.8	129.6	11.73
			1	10	144.8	129.6	11.73
Tomato	INM	Boron	2	10	275	255	7.84
Tomato	Varietal evaluation	Kashi Aman and NS4266	1.5	4	295	235	25.53
Tomato	RCT	Staking	2	5	379.35	315.3	20.31
Tomato	IDM	Allora Ambuja-34 and	0.24	3	385	310	24.19
Tomato	IPM	Navkiran and NPV	2	10	385	294	30.95
			7.74	32	337.67	278.49	21.25
Vegetable pea	ICM	AP-3 and soil treatment with*Trichoderma* @2.5 Kg/ha and seed treatment Rhizobium culture @10 Kg seed/Packet (200 gm)	5.68	26	121.25	103.70	16.92
Vegetable pea	IDM	G 10 + *Trichoderma*	1	19	110	90	22.22
			6.68	45	119.57	101.65	17.63
Chilli	ICM	Kashi Anmol, NS-1101 and IDM+IPM	5	33	236.38	197.95	19.41
			5	33	236.38	197.95	19.41
Brinjal	Varietal evaluation Hy.	Hybrid VNR-218	1.5	6	235	190	23.68

Brinjal	Varietal Evaluation Improved	Kashi Sandesh	1	10	360	280	28.57
Brinjal	RCT	Double row planting	0.5	3	190	145	31.03
Brinjal	IPM	Fruit fly trap 25/ha	6	15	186	165	12.73
			9	34	213.72	180.83	18.19
Potato	INM	Kufri Badshah, Kufri Chipsona and Borax 18 kg /ha	6.5	35	315.0	285.9	10.35
Potato	IDM	Seed treatment with fungicides+soil treatment with Trichoderma	35.4	151	315.16	283.93	11.00
Potato	Varietal Evaluation	Kufri bahar and Kufri sangam	1.2	4	297.5	240	23.96
Potato	INM	Soil application of PSB culture @ 5 kg/ha and Azotobactor @ 5 kg/ha	2	10	300.2	279.5	7.41
Potato	IPM	Use of Beauvaria bassiana @ 5 kg/ha	2	10	307.6	286.8	7.25
			47.1	210	313.73	283.02	10.85
Okra	RCT	Ferb Planting	1	4	110	95	15.79
Okra	IPM	Neem oil	2	10	126	98.5	27.92
Okra	Varietal	VRO-6 and super lady luck	3	10	102.98	82.88	24.25
			6	24	111.82	90.11	24.10
Cauliflower	Varietal evaluation	Shentha, Sabor Agrim, NS-106	2.2	29	343.17	262.23	30.87
Cauliflower	ICM	Soil treatment Trichoderma @2.5 Kg/ha and foliar spray of Nano urea @1.25 liter/ha @ 0.625liter/ha	2.76	14	229.5	213.6	7.44
			4.96	43	279.92	235.17	19.03
Raddish	Varietal evaluation	Korian	0.1	10	455	370	22.97
			0.1	10	455	370	22.97
Cucumber	IPM	(Pheromone Trap @ 6 trap/acre)	5	13	212	156	35.90
Cucumber	Varietal evaluation	Nandini, Malini, Super 40, Kashi Nutan	1.7	16	191.47	130.73	46.46
			6.7	29	206.79	149.59	38.24

Colocasia	Varietal evaluation	Narendra Banda-1	2	10	285	232	22.84
			2	10	285	232	22.84
Coriander	ICM	Soil treatment Trichoderma @2.5 Kg/ha and foliar spray of Sagarika @ 0.625liter /ha	2.52	17	40.1	34.3	16.91
			2.52	17	40.1	34.3	16.91
Onion	Varietal evaluation	Bheema Kiran and Gaurav Light red	0.8	18	227.9	212.15	7.42
			0.8	18	227.9	212.15	7.42
Garlic	INM	Use of liquidfertilizer on garlic G282	2	5	150	145	3.45
			2	5	150	145	3.45
Grand Total			**131.66**	**661**			

Fruits

Banana: KVK Farrukhabad conducted 3 demonstrations on 1 ha area on INM technology. The demonstrations yield was 405 q/ha against 370 q/ha in local check showing an increase of 9.46 %, while KVK Lakhimpur conducted 5 demonstrations on 2 ha area on IPM technology. The demonstrations yield was 1015.50 q/ha against 952.5 q/ha in local check which was 6.61 % higher over farmer's practice.

Papaya: KVK, Raebareli I conducted 5 demonstrations on 1.0 ha area with variety Taiwan 786. The average yield was observed 505 q/ha showing an increase of 23.17 % over local check (410 q/ha).

Strawberry: KVK Raebareli I conducted 5 demonstrations on 1.0 ha area with variety Sweet Charlie. The demonstrations yield was 80.0 q/ha against 64.0 q/ha in local check showing an increase of 25.0 %.

Name of Crop	Thematic Area	Variety/Technology	Area (ha)	No. of Demo.	Yield (q/ha)		% Yield increase
					Demo.	Local	
Banana	INM	INM in variety G-9	1	3	405	370	9.46
Banana	IPM	Fipronil	2	5	1015.5	952.5	6.61
Papaya	Varietal Evaluation	Taiwan 786	1	5	505	410	23.17
Strawberry	Varietal Evaluation	Sweet Charlie	1	5	80	64	25.00
Total			**5**	**18**			

Flowers

Tuberose: KVK Farrukhabad conducted 2 demonstrations on 0.5 ha area on Rajat Rekha variety with ferb technology. The demonstrations yield was 85 q/ha against 70 q/ha in local check showing an increase of 21.43 %.

Gladiolous: KVK Farrukhabad conducted 2 demonstrations on 0.5 ha area with variety Friendship along with ferb technology. The demonstration yield was observed 1.45 q/ha showing an increase of 45 % over local check (1.0 q/ha), while KVK Kannauj observed 169800/ha spikes against local check (161400/ha) showing an increase of 5.20%.

Name of Crop	Thematic Area	Variety/Technology	Area (ha)	No. of Demo.	Yield (q/ha)/ No. of Spikes		% Yield increase
					Demo.	Local	
Tuberose	ICM	Firb system of Planting (Rajat Rekha)	0.5	2	85	70	21.43
Gladiolus	RCT	Friendship	0.5	2	1.45	1	45.00
Gladiolus	IDM	Soil treatment with Trichoderma @ 5 kg/ha	4	20	169800	161400	5.20
Total			**1.4**	**24**			

Fodder Production

The fodder production on different fodder crops *viz.,* oat, barseem, sorghum, sweet sorghum, and napier grass were organized on 37.05 ha area with active involvement of 237 farmers. Under these demonstrations various varieties and technologies were demonstrated on these crops. The results show that the demonstrated varieties and technologies enhanced the yield of crops between 21.85 to 40.63 % higher over farmer's practice.

Name of Crop	Thematic Area	Variety/Technology	Area (ha)	No. of Demo.	Yield (q/ha)/ No. of Spikes		% Yield increase
					Demo.	Local	
Oat	Varietal evaluation	JHO-2009	5.75	47	468.5	384.5	21.85
Barseem	Varietal evaluation	Vardan, Jawahar Barseem 2, BB1, BL 180	10	58	549.13	408.5	34.42
Sorghum	Varietal evaluation	Sudan chari, Hari – rani, MFSH-4 SSH-400, Bundela	14.8	75	380	306	24.18
Sweet sorghum	Varietal evaluation	Advanta sweet sorghum	1.5	7	718	523	37.28
Napier grass	Varietal evaluation	Hybrid NB-1	5	50	1125	800	40.63
Total			**37.05**	**237**			

Livestock

Demonstrations on different interventions on livestock were carried out. A total of 203 demonstrations with 650 animals were laid out on enhancing milk yield, disease management and nutritional management. The results are summarized in the table.

Name of Animal	Breed	Technology	No. of Farmer	No. of Units	Demo	Local check	% increase
Buffalo	Murrah	Deworming against endo-parasite (Fenbendazole, bolus)	40	142	4.7	4.1	14.63
Goat		Albandazol	25	100	100	25	300.00
Buffalo	Murrah	Agrimin forte mineral mixture calcium	30	30	5.63	4.67	20.71
Buffalo	Murrah	FMD vaccination	38	151	No disease	40%	-
Buffalo	Murrah	HS vaccination	70	227	No disease	34%	
			203	650			



Demonstrations under Crop Residue Management

A total of 937 demonstrations were conducted on 415 ha are under crop residue management in wheat and rice crop. The demonstrations were carried out with the use of Mulcher, Happy seeder, Super Seeder under RCT and decomposer (HALO CRD) and Pusa decomposer under INM. The results of the technologies are summarized in the table.



Crop	Thematic Area	Variety	Technology	Area	Demo	Yield (q/ha)		% Increase in yield
						Demo	Local	
Wheat	RCT	HD 2967	Use of Mulcher, followed Happy seeder	250	100	49.34	41.8	18.04
Wheat	RCT	DBW-187	Mechanization	5	15	65	51.1	27.20
Wheat	RCT	K-1317	Decomposer (Halo CRD)	50	20	51.25	48	6.77
Wheat	RCT	K-1317	Machinery	512	169	45.5	43.25	5.20
Wheat	RCT	HD 2967	Super Seeder	20	11	46.2	43.5	6.21
Wheat	RCT	HD 2967	Pusa Decomposer	50	50	44	42.5	3.53
Total				**365**	**887**	**47.48**	**43.34**	**9.56**
Rice	RCT	PB-1509	Mechanization	50	50	62.5	50.2	24.50
Total				**50**	**50**	**62.5**	**50.2**	**24.50**
Grand Total				**415**	**937**			

TECHNOLOGY ASSESSMENT (OFT)

Krishi Vigyan Kendra organized 120 On Farm Trials (OFT) on farmer's fields in cereals, pulses, oilseeds, horticultural crops, other crops and enterprises and livestock management. Out of 120 trials 48 were organized in cereals, 33 in vegetables, 03 in pulses, 09 in oilseed 06 in spices, 03 in fruit crops and 12 in livestock. Various technologies related to crops were tested including 27 in varietal assessment, 17 in IPM, 09 in ICM, 19 in IPNM, 13 in IDM and many others in RCT, value addition, nutritional security etc. In livestock management related technologies 05 in disease management, 03 in feed and fodder management and 04 in nutrition management. Some important OFTs organized by the KVKs are also elaborated.

Crops

Thematic Area	Cereals	Pulses	Oilseeds	Vegetables	Fruits	Flowers	Spices	Cash Crops	Total
Varietal Evaluation	14	1	2	6	-	-	4	-	27
ICM	5	-	-	2	1	-	-	1	9
IWM	8	-	-	-	-	-	-	1	9
IPM	3	2	-	10	-	-	1	1	17
IDM	3	-	-	10	-	-	-	-	13
INM	5	-	4	5	2	-	-	3	19
RCT	-	-	1	-	-	-	1	-	2
Value Addition	4	-	-	-	-	-	-	-	4
Nutritional Security	6	-	2	-	-	-	-	-	8
Total	**48**	**3**	**9**	**33**	**3**	**0**	**6**	**6**	**108**

Livestock

Thematic Area	Crops	Buffaloes	Cattle	Sheep	Goat	Birds	
Disease Management	-	4	1	-	-	-	5
Evaluation of Breeds	-	-	-	-	-	-	-
Feed and Fodder Management	1	2	-	-	-	-	3
Nutrition Management	-	3	1	-	-	-	4
Production Management	-	-	-	-	-	-	-
Total	**1**	**9**	**2**	**-**	**-**	**-**	**12**

Evaluation of high yielding variety of cowpea

Krishi Vigyan Kendra, Auraiyaconducted on farm trial to evaluate the HYV of cowpea Kashi Nidhi to compare with farmer's variety Kashi Kanchan. The results revealed that the variety Kashi Nidhi was superior over the Kashi Kanchan. It gave 162.6 q/ ha yield over farmer's variety (145.8 q/ha) with net return of Rs. 126100/ha in comparison to farmer's practice which gave net return of Rs. 109300/ha only.

Technology Option	No. of trials	Yield (q/ha)	% Increase in yield over farmer's practice	Gross Cost (Rs/ha)	Gross return (Rs/ha)	Net Return (Rs/ha)	B:C ratio
T_1- Kashi Kanchan	05	145.8	-	36500	145800	109300	3.99
T_2- Kashi Nidhi		162.6	11.52	36500	162600	126100	4.45

Evaluation of high yielding varieties of kharif onion.

KVK Fatehpur conducted on-farm trial to assess the HYV of kharif onion. The results revealed that the variety Bhima Super was superior over the farmers practice (N-53). It gave 338 q/ ha yield over farmer's variety (255 q/ha) which was 32.54 % higher over it. Bhima Super recorded for highest net income of Rs. 282000/ha as compared to Rs. 200000/ha from N-53. Thus, variety Bhima Super emerged as the best variety with benefit cost ratio 6.03 as compared to N-53 with benefit cost ratio of 4.63 only.

Table: Performance of high yielding Kharif Onion variety.

Technology Option	No. of farmers	Yield (q/ha)	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Returns (Rs/ha)	B:C Ratio
T_1 - Farmers Practice (N-53)	3	255	55000	255000	200000	4.63
T_2 - (Bhima Super)		338	56000	338000	282000	6.03

Assessment of high yielding variety of potato.

Potato is an important and popular crop of District Firozabad. The farmers are growing old variety Kufri Bahar which gives low yield. To mitigate this problem KVK conducted onfarm trial with two HYV namely Kufri

Mohanand Kufri Khyati alongwith farmers practice. The results revealed that Kufri Mohan variety of potato gave 282 q/ ha yield which was 24.23 % higher yield over Kufari Bahar. Kufri Khyati was superior over the Farmers Practice which was 9.69% higher over it.Kufri Mohan recorded for highest net income of Rs. 127400/ha as compared to Rs. 92000/ha from Kufari Bahar.

Table:- Evaluation of Potato variety

Technology Option	No. of trials	Yield (q/ha)	Increase in yield %	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Returns (Rs/ha)	B:C Ratio
Farmers practice (Kufri Bahar)	09	227	-	135000	227000	92000	1.68
Kufri Mohan		282	24.23	154600	282000	127400	1.82
Kufri Khyati		249	9.69	146200	249000	94400	1.61

Assessment of suitable variety of kharif onion

KVK Kannauj conducted on farm trial to assess the HYV of kharif onion. The results revealed that the variety Line 883 was superior over the farmers practice (N-53). It gave highest yield 218.75 q/ ha and net returns (Rs.569700/ha) followed by T_2 Agrifound Dark Red (187.50 q/ha and Rs. 475950/ha) while the lowest yield (162.50 q/ha) and net return (Rs. 407200/ha) was obtained from farmers practice.

Table: Performance of kharif onion

Technology Option	No. of Farmers	Yield (kg/sqm)	Yield (q/ha)	% increase	Gross cost (Rs/ha)	Net returns (Rs/ha)	B:C Ratio
T_1- Farmers Practice (N-	5	1.71	162.5	-	80300	407200	6.0
T_2- Agrifound Dark Red		1.93	187.5	13.3	86550	475950	6.5
T_3- Line 883		2.28	218.75	25.7	656250	569700	7.5

Assessment of high yielding variety of barseem

Krishi Vigyan Kendra, Gwari Auraiya conducted on farm trial on assessment of high yielding fodder variety of barseem namely BB-3 as compared with local variety Miskavi (Farmers practice). The results revealed that the variety BB-3 was superior over the Miskavi. It gave 9 cuttings and 1050 q/ ha fodder yield over farmer's variety Miskavi which gave only 840 q/ha fodder yield with 5 cuttings only. The net return of Rs. 51080/ha was obtained with BB 3 variety in comparison to farmer's practice which gave net return of Rs. 33640/ha only.

Table-Performance high yielding fodder variety of barseem

Technology Option	No. of trials	Yield (q/ha)	No. of Average Cutting	Cost of Cultivation	Total Return	Net Returns (Rs./ha)	B :C Ratio
T_1 Farmers practice	05	840	05	38000	71640	33640	1.89
T_3 BB-3		1050	09	40000	91080	51080	2.28

Assessment of high yielding variety of rice in salt affected soil

District Hardoi has large area of salt affected soil. KVK Hardoi conducted on farm trial to assesshigh yielding variety of rice in salt affected soil during Kharif 2023. The HYV CSR-60 in rice was tested against farmer's variety Chinnaur. The HYV CSR 60 gave 33.80 % increase in yield per ha over farmer's practice and realized net return of Rs. 58710/ha as compared to the farmer's practice (Chinnaur) with net returns of Rs. 42920/ha.

Table: Performance of high yielding variety (CSR 60)

Technology Option	No. of farmers	No. of tillers/m^2	Yield (q/ha)	Increase in yield in %	Gross Cost (Rs/ha)	Gross Return (Rs)	Net Return (Rs/ha)	B:C Ratio
T_1- Farmers Practice (Chinnaur)	5	186	38.0	-	30800	73720	42920	2.39
T_2- CSR 60		238	46.5	33.30	31500	90210	58710	2.86

Evaluation of wheat variety suitable for salt affected areas.

District Raebareli has large area of salt affected soil. KVK Raebareli conducted on farm trial to assess high yielding variety of wheat in salt affected soil. The variety KRL-283 in wheat was tested against farmer's variety PBW-550 under salt affected conditions. The variety KRL-283 gave 36.60 q/ha yield in compare to PBW-550 (31.20 q/ha). The yield of KRL-283 was 17.0 % higher over farmer's practice and realized net return of Rs. 45149/ha as compared to the farmer's practice (PBW-550) with net returns of Rs. 36068/ha.

Table: Performance of high yielding variety (KRL-283)

Technology Option	No. of farmers	Yield (q/ha)	Increase in yield in %	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
Farmers Practice (Var. PBW-550)	5	31.20	-	26800	62868	36068	2.3
Use of Variety KRL-283		36.60	17.0	28600	73749	45149	2.6

Management of shoot and fruit borer of brinjal:

Brinjal (*Solanummelongena*L.) is an important vegetable crop. Shoot and fruit borer *(Leucinodesorbonalis)* is a common problem in brinjal crop and farmers are using several chemicals indiscriminate manner to the management of this devastating problem. These chemicals are health hazards to human being, developing the resistance power in the pests, pollutants to the environment and are very costly also. So, keeping in view the importance of the problem, KVK Farrukhabad conducted on farm trial on three farmer's fields.

Although, spray of Coragen 0.05% (Chlorantraniliprole 18.5 % SC) was found most effective treatment but, other treatment mentioned with spray of Indoxacarb 14.5 % SC (0.03 %) in alternation spray of Neem leaf extract (5%) were found best treatment in terms of net return in per ha area and environment security. Hence, the farmers can applied Indoxacarb 14.5 % SC (0.03 %) in alternation with Neem leaf extract (5%) to protect the brinjal crop from shoot and fruit borer.

Table: Performance of technologies in management of shoot and fruit borer of brinjal.

Treatments	No. of trials	No. of Fruit/Shoot affected by larvae/m^2	Yield (q/ha)	Gross Cost (Rs./ha)	Gross Return (Rs./ha)	Net Return (Rs./ha)	BC Ratio
T_1-Farmer Practice (use of 10 spray of Chlorantraniliprole 18.5 % SC	3	7	328	131500	328000	196500	2.49
T_2- Three spray of Indoxacarb 14.5 % SC (0.03 %) in alternation with three spray of Neem leaf extract (5%)		8	322	120000	322000	202000	2.68

Suitability of insecticides in management of yellow stem borer of rice.

Rice is an important Kharif crop of U.P. The high infestation of yellow stem borer in rice resulted in high yield losses. Therefore, an On Farm Trail by KVK Etawah conducted at farmer's field on five locations. Application of Cartap hydrochloride 4G@ 18 kg/ha reduced the insect population 1.5/ sq m after 14 days of application and enhanced the yield by 12.23 % over farmer's practice while application of Emamectin Benzoate @ 200 g/ reduced the insect population 1.8/ sq m after 14 days of application enhanced the yield by 7.04 % over farmer's practice.

Table: Performance of insecticides in management of yellow stem borer.

Technology Option	No. of insect/sq meter			Yield (q/ha)	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
	Just before application	7 days after application	14 days after application					
Farmers Practices (Spray of Quinolphos @ 1.0l/ha)	2.1	6.2	5.3	57.25	38000	111065	73065	2.92
Emamectin Benzoate @ 200 g/ ha	2.1	3.1	1.8	61.28	39600	118883	79283	3.00
Cartap Hydrochloride @ 18 kg /ha	2.1	2.8	1.5	64.25	40500	124645	84145	3.08

Management of yellow vein mosaic disease of urdbeen

Urdbean is an important *Kharif* and *Zaid* crop of Firozabad. The high infestation of yellow vein mosaic in urdbean resulted in high yield losses. Therefore, an on farm trailconducted by KVK at farmer's field to find out suitable control measures of the disease. Spraying of thiomethoxam @ 1 l/ha at 25 days after sowing, second spray after 45 day of sowing reduced the disease infestation from 50% to 10 % and enhanced the yield by 42.31% over farmer's practice.

Technology Option	Yield (q/ha)	Increase in yield %	Disease Infection %	Gross cost (Rs/ha)	Gross return (Rs/ha)	Net Return (Rs/ha)	B:C ratio
T_1 – No use of insecticide	5.20	-	50	20200	34320	14120	**1.70**
T_2 – Spray of thiomethoxam @200 g/ha spray of 25 day after sowing second spray 45 day after sowing.	**7.40**	**42.31**	**10**	**20500**	**48840**	**28340**	**2.38**

Management of falls army worm (*Spodoptera frugiperda*) in maize.

KVK, Hardoi conducted onfarm trial in *Kharif*2023 to evaluate the insecticides in maize for management of falls army worm. Application of Emamectin benzoate 5%SG @10g a.i./ha gave 63 q yield which was 125 % higher over farmer's practice and realized the net return of Rs.79810/ ha as compared to the farmer's practice with net returns of Rs 20360/ha.

Table: Performance of insecticides for the management Falls army worm (*Spodoptera frugiperda*) in maize.

Technology Option	Yield (q/ha)	% increase in yield	Gross Cost (Rs /ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
T_1- Farmer practice indiscriminate use of pesticide and no proper management practice of army worm	28	-	32000	52360	20360	1.6
T_2- Emamectin benzoate 5%SG@10g a.i./ha.	63	125	38000	117810	79810	3.1

Management of false smut of rice (variety sugandha-05)

Rice is an important crop of India. However, there is high incidence of false smut resulting in yield losses upto 50 %. KVK Aligarh conducted an onfarm trial toassessthe control measure of the disease. The spraying of Trifloxystrobin 25% + Tebuconazole 50% (Nativo 75WG) @ 0.4g/l at 100% panicle emergence and spraying of Propiconazole 25 EC (Tilt or Result) @ 1ml/l at 100% panicle emergence stage were tested against farmer's practice. Results shown that spraying of Propiconazole 25 EC @ 1ml/l at 100% panicle emergence stage registered the highest yield 52.5 q/ha and net income Rs. 99750/ha and resulted the lowest incidence of the disease.

Table: Management of false smut of rice (variety sugandh-05)

Technology Option	Yield q/ha	Disease Incidence (%)	Increase Yield (%)	Gross Cost (Rs /ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
T_1:Farmers practice (Spraying of substandard fungicides after disease appearance)	35.5	31.5	--	45500	102950	57450	2.26
T_2:Spraying of trifloxystrobin 25%+ tebuconazole 50% (Nativo 75WG) @ 0.4g/l at 100% panicle emergence stage	43.1	13.2	21.40	*51500*	124990	73490	2.42
T_3: Spraying of propiconazole 25 EC (Tilt or Result) @ 1ml/l at 100% panicle emergence stage	52.5	6.8	47.90	*52500*	152250	99750	2.90

Management of blast disease of rice

Rice is an important staple food crop of the district Hathras in *Kharif*. The heavy incidence of blast disease of rice reduced the yield of rice crop. Due to improper disease management practices there is heavy loss of crop yield. KVK Hathras conducted an OFT to find out suitable fungicide for this disease. The two sprays of Tricyclazole @ 2 ml/lit at 15 days intervals reduced the incidence of disease from 18 to 06 % and yield was increased 26.5 percent.

Table: Management of rice blast through fungicides.

Technology Option	No. of trials	Disease Incidence (%)	Yield (q/ha)	% Increase in yield
T_1-Farmers practices (no seed, nursery and seedling treatment)	05	18	36.5	-
T_2-Spray of Tricyclazole @ 2 ml/lit 2 spray at 15 days interval		06	46.2	26.5

Assessment of new fungicides for black scurf disease of potato:

Potato is one of the important crops of the district Etawah and adversely affected by black scurf disease and resulted loss in yield, quality and income. KVK conducted an on farm trial to evaluate new fungicides as seed treatments i.e. farmer's practice,seed treatment with Thifluzamide @ 750 ml /ha and seed treatment through Penflufen @ 750 ml/ ha.Seed treatment with Penflufen @ 750 ml / ha was found very effective in enhancing yield of potato by 11.96 % and additional net returns Rs. 24616/ha over farmers practice. Thifluzamide @ 750 ml /ha also increased tuber yield by 8.41%.

Table: Performance of fungicides on yield and disease management of potato.

Technology Option	Germination % at 15 DAS	Infected tubers (%)	Yield (q/ha)	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
Farmers Practices (Azoxystrobin @ 100 ml per ha seed)	18.25	27.19	286.18	81000	228944	147944	2.82
Seed treatment with Thifluzamide @ 750 ml/ha	22.50	15.25	310.25	83500	248200	164700	2.97
Seed treatment through Penflufen @ 750 ml / ha.	25.45	10.40	320.45	83800	256360	172560	3.06

Assessment of effective herbicide for weed management in transplanted rice.

KVK, Hardoi conducted on farm trial to find out effective herbicide for weed management in wheat crop. Application of Cladinofop 15 % @ 400 g/ ha + Metsulfuran methyl 1% WG @ 20 g /ha at 25 to 30 DAS gave 47.46 q/ ha yield which was 24.24 % higher over farmer's practice and realized a net return of Rs. 56231/ha as compared to the farmer's practice (Rs. 48273 /ha). It is observed that Cladinofop 15 % @ 400 g/ ha + Metsulfuran methyl 1% WG @ 20 g /ha at 25 to 30 DAS suppressed the growth of the weeds and increased the yield and economics.

Table: Performance of Herbicides on wheat

Technology Option	No. of farmer	No. of tillers /m^2	Yield (q/ha)	Increase in yield %	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
T_1-Farmer Practice (Use of Sulfosulfuran 75 % + Metsulfuron methyl 5%WG @ 40 g/ ha	5	260.50	38.20	-	28700	76973	48273	2.68
T_2- Use of Cladinofof 15 % @ 400 g/ ha + Metsulfuran methyl 1% WG @ 20 g /ha at 25 to 30 DAS		315.61	47.46	24.24	29400	95631	56231	3.25

Evaluation of herbicide for management of *Leptocloha chinensis* in rice

Weeds affect rice yield adversely. Bispyribac Sodium 10%, Almix @20 g/ha and Fenoxyprop ethyle @ 1.0 l/ha were tested by KVK Etawah on farmer's fields. It is observed that Fenoxyprop ethyle @ 1.0 l/ha suppressed the growth of the weeds and increased the yield and economics followed by the Almix @20 g/ha. Performance of Bispyribac Sodium10% was recorded the lowest yield and income.

Table: Performance of herbicides on yield of hybrid paddy.

Technology Option	No.of trials	Weed count/ m^2	Yield (q/ha)	% increase yield	Gross Cost (Rs/ha)	Gross Returns (Rs/ha	Net Returns (Rs / ha)	B:C Ratio
Farmer practice Bispyribac Sodium 10%) @ 200 ml/ha	15	15	48.55	-	38952	94187	55235	2.41
Allmix @20 g/ha		12	51.20	5.46	38550	99328	60778	2.57
Fenoxyprop Ethyle @ 1.0 l/ha		7	54.25	11.74	39520	105245	69995	2.68

Assessment of post emergence weedicide for control weeds in rice.

KVK Raebareli I conducted on farm trial on post emergence weed management in rice by use of post emergence herbicides Triafamone 20%+ Ethoxysulfuron 10% WG @ 225 gram/ha at 0-15 DAT. The results indicated that use of herbicide Triafamone 20%+ Ethoxysulfuron 10% WG @ 225 gram/haat 10-15 DAT gives higher yield 46.2 q/ha than farmer's practice.

Table Effect of weedicides Triafamone 20%+ Ethoxysulfuron 10% WG on weed control and yield of rice

Technology Option	No. of trials	Yield (q/ha)	Increase in yield (%)	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
Use of post-emergence weedicide spray Nominigold @ 100ml/acre at 15-20 DAT (Farmers practice) var. Arize 6444 Gold	*5*	39.0	-	30400	86302	55902	2.84
Triafamone 20%+ Ethoxysulfuron 10% WG @ 90gram/acre at 10-15 DAT var. Arize 6444 Gold		46.2	18.0	29700	72852	43152	2.45

Management *Phalaris minor* in wheat

Wheat is an important crop in mid plains of U.P. However, there is more infestation of *Phalaris minor* reduced the wheat yield. KVK, Raebareli II conducted on farm trail to assess the herbicides for management of *Phalaris minor*in wheat crop. Results indicated that the application of Pinoxaden@1000g/ha resulted reduction in population of *Phalaris minor* from 13 to 6 m^2 and yield was increased by 16.25 percent.

Technology Option	No. of trails	Yield (qt/ha)	Net return (Rs./ha)	No. of Phalaris minor/m^2	% change in yield	BCR
Farmer's practice (Sulfosulfuron 33.3g/ha)	05	36.3	39860	13	-	1.10
Pinoxaden@1000g/ha		42.2	52840	6	16.25	1.32

Assessment of Nano urea spray on turmeric variety Kesari

KVK, Raebareli II conducted an onfarm trial to assess effect of nano urea spray on turmeric variety Kesari. The Results indicated that nano urea spray gives 11.9 % higher yield than farmer's practice no spray.

Table: Comparative study of different variety of turmeric

Technology Option	No. of farmers	Yield (q/ha)	% increase in yield	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	BC Ratio
T_1-Farmer's practice (no spray)	4	295	-	58250	144550	86300	2.48
T_2Use of spray of nano urea @ 6ml/l of water 1st 30-35 and 2nd 20-25 days after first application		330	11.9	62250	161700	99450	2.60

Effect of Boron & zinc on tomato variety NS-5018 on BBFS planting system

Tomato is an important crop of Farrukhabad. Farmers are not using micronutrient, so the yield is low. KVK Farrukhabad conducted on farm trial to know the performance of boron & zinc on tomato variety NS-5018 on BBFS planting system in tomato crop. The experiment was laid out in broad bed furrow system (90x30 cm) planting distance 60x45 cm with staking. The OFT was conducted two treatments as farmers practice (Anup, FP-100%NPK-120:80:80) and NS-5018 (FP + boron@100 ppm + $ZnSo_4$ @ 100ppm). The first spraying of boron and zinc was done at just before flowering, 2nd spraying at time of fruit setting and 3rd spraying was done at 15 days after fruit set. The result was observed that T_2 found highest yield 342 q/ha. The treatment T_2 was also recorded highest gross income Rs. 300850/ha with net return Rs. 213650/ha and maximum benefit cost ratio (3.32) in comparison to T_1 Farmers practice (2.96) that was indicating an economically better response of T_3 to the among farmers.

Table: Performance of Boron & zinc on tomato variety NS-5018 on BBFS planting system:

Treatments	Number of Branches/ plant	Plant Height (cm)	Fruit weight (g)	Number of Fruits /plants	Fruit yield (qt/ha)	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
T_1-Farmers practice (Anup, FP-100 % NPK)	9.90	101.10	48.60	48.80	275	87850	260500	172650	2.96
T_2-NS-5018 (FP+ Boron-100 ppm + $ZnSo_4$ -100 ppm)	11.5	116.30	56.20	52.50	342	90350	300850	213650	3.32

Assessment of suitable dose of fertilizer for rose.

In district Kannauj, rose is cultivated in about 280 ha area in the radius of 10 km. Farmers were realizing low yield and economic benefits. Hence, an on farm trail was conducted with three treatments ie. (i) Farmers practice (ii) recommended dose of fertilizers (90:60:60 NPK) and (iii) soil test basis recommendation (120:80:60

NPK). Half dose of all the nutrients was applied in the month of December, 2023 and remaining will be applied in the first week of July, (2023). Analysis of data shown, that the fertilizer used on the basis of soil test produced the highest quantum of flowers (119.7 q/ha) and net returns (Rs.581800/ha) followed by recommended dose of fertilizers (114.90 q/ha flower and Rs 554150/ha) but the lowest yield (101.70 q/ha) and net return (Rs. 475950/ha) was received from farmers practice.

Table: Performance of fertilizers on rose flower production

Treatment	No. of Farmers	Area (ha)	Flower Yield (q/ha) during 2023											% age increase
			March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
T1- FP (250-310 Kg. DAP) i.e. 45-56 Kg. N + 112-140 Kg. P)	5	0.4	28.1	15.0	2.3	2.3	3.9	4.8	10.3	12.8	13.5	8.7	**101.7**	-
T2- RDF 90:60:60 NPK			32.8	15.9	2.8	2.6	4.3	5.5	11.8	13.9	14.8	10.5	**114.9**	13.0
T3- Use of fertilizer soil test base (120: 80: 60 NPK)			33.3	16.3	3.0	2.6	4.5	5.8	12.3	14.8	15.3	11.8	**119.7**	17.7

Economics

Technology	Gross Cost (Rs./ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	Additional Profit (Rs/ha)	BC Ratio
T_1- Farmers Practice	134250	610200	475950		4.5
T_2- Recommended Dose of Fertilizer 90:60:60 NPK	135250	689400	554150	78200	5.1
T_3- Use of fertilizer soil test basis (120 Kg. N, 80 Kg. P, 60 Kg. K)	136400	718200	581800	105850	5.3

Market Value: Rose Flower @ Rs 60/Kg.

Balance feeding with supplement in goat.

KVK, Hathras assessthe technology of nutrient management by the application of effect of application of balance ration @ 250 gm/ goat and mineral mixture@20gm /goat as balanced nutrition in goat and found that the same had enhanced the milk yield by 400 g compared to farmers practice and improved the health through supplement.

Technology Option	No. of trials	Yield liter (90 days)	Net Returns Rs.	B:C Ratio
T_1 - Grazing + feeding Ration (home made)	05	63.5	2858	-
T_2 – Grazing + balance feeding (400 g) + supplement (totavit strong @ 20 g)/day/goat.		205	92225	3.22

Use of Mineral Mixture with Deworming in buffalo.

KVK, Hathrasassess the technology of nutrient management by the feeding effect of deworming 3.0 gm bolus and mineral mixture @ 50gm/ buffalo as balanced nutrition found that the same had increased the milk production by 27.75% compared to farmers practice and improved the health condition of buffalo.

Technology Option	No. of trials	Yield (90 days)	Net Returns Rs.	B:C Ratio
T_{1}- -Straw (05 kg) + green fodder (10 kg) + concentrate /animal	05	1950	87,750	-
T_2 - Straw- 05 kg + green fodder (10 kg) + mineral mixture+ with deworming/ animal		2475	1,11,375	1.26

Assessment of effect of bypass fat for increase in milk production

KVK, Fatehpur conducted on farm trial to find out suitable technique to improving milk production. Feeding of bypass fat to milch cows with per day dose of 100 gram after deworming with Fenbedazole + Ivermectin combination results in better average milk yield in T_2 that was 9.90 kg per day with 41.43% increase from farmers practice (T_1) and net return of Rs. 9615 per year and BCR 2.67

Table: Feeding of bypass fat to milch cows

Technology Option	No. of trials	Average milk yield (Kg/day)	Increase in yield (%)	Net Return (Rs /ha)	B:C Ratio
T_{1}- Farmers practice (Not fed bypass fat, not regular deworming)	5	7.00	-	2960.00	1.41
T_2- Bypass fat 100gm/day after deworming with 1bolus Fenbendazole + Ivermectin once		9.90	41.43	9615.00	2.67

Need based information sharing with the farmers through Whatsaap group

KVK Hathras has assessed the effect of need based information sharing through Whatsaap group on enhancement in knowledge level of farmers. A Whatsapp group was formed before sowing time of mustard. Need based information on mustard cultivation practice was shared through the Whatsaap group throughout the season as the information need emerged of the farmers according to the stages of the crop. Pre and post knowledge level about the mustard cultivation practices of the group member farmers was recorded. Although, all the group members have not filled up the knowledge test questionnaire. Data was recorded of 25 farmers of Whatsaap group. Pre and post knowledge test score of 25 farmers was also recorded, who were not the members of Whatsaap group. These farmers were taken as control group.

Overall 30.09 percent enhancement in knowledge level of the farmers was observed with whom information on mustard cultivation practices was shared through Whatsaap. Only 5.05 percent enhancement in knowledge level of farmers was observed in the control group. It can be said 25.04 % enhancement in knowledge level regarding mustard cultivation practices was observed as result of need based information sharing through Whatsaap group.

Technology Option	Cumulative Knowledge level score of 25 farmers (Pre-test)	Cumulative Knowledge level score of 25 farmers (Post-test)	Increase in Cumulative knowledge level score	% increase in knowledge level score over pre-test	% age gain in knowledge level
T_1:Farmers practice : Receiving agricultural information from sources available in the information environment	198	208	10	05.05	-
T_2:Learning through Whats Aap group	206	268	62	30.09	25.04

FLAGSHIP PROGRAMME

This flagship programmeswere organized by all KVKs during 2023-24. During this period served campaign, train, aware and motivation to the farmers and farmwomen and stake holder, regarding Awareness under Mission Meri LiFE, Vrihad Vrikchharopad program, Kisan Bhagidari Prathmikta Hamari 2023, Swachhata Hi Seva (Celebration of Parthenium week), Akhil Bharatiya Kisan Mela and Krishi Udyog Pradarshani, PM Kisan flagship programme 2023 (Live telecast of PM Kisan Samman Nidhi 15th instalment released program), Viksit Bharat Sanklap Yatra and PM Kisan flagship programme 2024 (Live telecast of PM Kisan Samman Nidhi 16th instalment released program). In these programmes 70905 farmers and farm women were participated activity.

S. No.	Name of Flagship programme	Duration/Date	Organized by	Total Participant
1	Awareness under Mission Meri LiFE	23-05-2023 to 05-06-2023	15 KVKs	3860
2	Vrihad Vrikchharopad program (As per the instructions of the Honourable Chief Minister, UP, massive plantation)	22-07-2023	15 KVKs	2340
3	Kisan Bhagidari Prathmikta Hamari 2023 (Live telecast of PM Kisan Samman Nidhi 14th instalment released program)	27-07-2023	15 KVKs	3210
4	Swachhata Hi Seva (Celebration of Parthenium week)	16-08-2023 to 22-08-2023	15 KVKs	3870
5	Akhil Bharatiya Kisan Mela and Krishi Udyog Pradarshani	08-10-2023 to 10-10-2023	DOE, CSAUA&T, Kanpur	2645

6	PM Kisan flagship programme 2023 (Live telecast of PM Kisan Samman Nidhi 15th instalment released program)	15-11-2023	15 KVKs	4560
7	Viksit Bharat Sanklap Yatra (Awareness about government policies, Meri Kahani Meri Jubani, Krishi men Satat vikas, Jaivik kheti, Drone, Soil health programme organized through Kisan Ghosthi and VBSY rath)	21.11.2023 to 26.01.2024	15 KVKs	47470
8	PM Kisan flagship programme 2024 (Live telecast of PM Kisan Samman Nidhi 16th instalment released program)	28.02.2024	15 KVKs	2950
Total				**70905**




IMPORTANT DAYS

During 2023-24, KVKs organised about 11important days to train and aware the farmers, farmwomen and stake holder, regarding National Science Day (Meri Mati Mera Desh), 77th Independence day celebrated on 15 Aug., 2023, 78th ICAR foundation day, Women Kisan day, Constitution day, World soil day, National farmers day- Kisan samman diwas, International women day and Earth dayet. In the programmes 12812farmers and farm women were participated activity.

S. No.	Name of Programme	Duration	Organized by	Total Participant
1	National Science Day (Meri Mati Mera Desh)	09-08-2023 to 30-08-2023	15 KVKs	3125
2	77th Independence Day celebration	15.08.2023	15 KVKs	1645
3	77th Independence Day celebration	15.08.2023	DOE, CSAUA&T, Kanpur	128
4	78th ICAR foundation day	16-07-2023 to18-07-2023	15 KVKs	1494
5	Women Kisan day	15.10.2023	15 KVKs	1582
6	Constitution day	26.11.2023	15 KVKs	745
7	World soil day	05.12.2023	15 KVKs	710
8	National farmers day- Kisan samman diwas	23.12.2023	15 KVKs	1315
9	Republic day	26.01.2024	15 KVKs	878
10	International women day	08.03.2024	15 KVKs	767
11	Earth day	22.04.2024	15 KVKs	423
Total				**12812**

ADOPTED VILLAGES

Every Krishi Vigyan Kendra adopted atleast two villages to transfer various crop, vegetable, fruit, animals and enter programme related technologies to the farmers for doubling their income.

S.N.	KVK	Adopted village	Major activities
1	Etawah	Daulatpur, Sirhaul	Propagation of potato and mustard varieties for value addition and production
2	Hardoi	Mujahirpur, Darbeshpur	Mustard production and honey production, flower production
3	Kasganj	Tikampura, Nagala Pipal	Production and value addition of vegetables and peas
4	Kanpur Dehat	Phoolpur, Bakhariya, Anooppur	Development of nutrition garden to remove malnutrition
5	Kannauj	Panchpukhara, Routamai	Value addition of maize, millet, sorghum and promotion of perfume industry.
6	Hathras	Ahibaranpur, Nagala Gallia	Quality production and value addition of guava
7	Mainpuri	Bhadoura, Badepur	Quality production and value addition of peanuts and garlic
8	Lakhimpur	Maharajganj, Bhaithiya	Banana cultivation by tissue culture

9	Aligarh	Dhaurapalan, Manpur	Mustard production and honey production, vegetable production
10	Raebareli	Pure Ummidpur, Ashanandpur	Protected vegetable, flower and mushroom production
11	Farrukhabad	Nagala Jaitpur, Niyamat Thakuran	Propagation of potato varieties for crop value addition
12	Firozabad	Hajarat Pur, Binouli	Value addition in pulses and oilseed crops
13	Fatehpur	Aong, Chitouli, Dhamouli	Quality production of Kharif onion and banana through tissue culture.
14	Raebareli	Amawa, Sarai Bairiya Kheda	Vegetable production, natural farming, farmer producer organization
15	Auraiya	Purawa Udai, Nirgawa	coarse grain production and vegetable production

TECHNOLOGY DEMONSTRATION UNIT

Krishi Vigyan Kendra established number of demonstration unit to demonstrate technologies to the farmers, farmwomen and rural youth through skill training, learning by doing and seeing and quality material availability. All the 15 KVKs established 69 units like crop cafeteria, Azola unit, Nursery unit etc.

Crop Cafeteria	**15**
Azola Unit	**13**
Orchard Unit	**12**
Nursery Unit	**13**
Poultry Unit	**11**
Green Fodder Unit	**10**
Fishery Unit	**04**
Mushroom Production	**11**
Honey Bee Unit	**06**
Vermi-compost Unit	**14**
Nadep Unit	**14**
Duckery Unit	**05**
Nutri Kitchen Garden	**11**
Medicianal & Aromatic	**9**
Natural Faming component	**11**
Total of 16 Units	**85**

SEED, SAPLING, BIO-PRODUCT & LIVESTOCK PRODUCTION

A total of 2613.5 quintal quality seed of cereals, oilseeds, pulses, vegetable and spices, 681417 saplings of vegetables, fruits and fodder and 25524 kg bio-products like vermi-compost and NADEP- compost were produced by the KVKs and provided to the farmers at reasonable costs. Total revenue generated by seeds of different crops Rs. 2995012, by vegetable sapling Rs. 202020 and from bio product Rs. 71000.

A. SEED PRODUCTION

Enterprise	Name of crop	Quantity (q)	Value (Rs)	Distributed to	No of Village
				No. of farmers	Covered
Cereals	Wheat	873.13	1795300	579	54
	Paddy	15.63	55000	30	6
	Total	**888.76**	**1850300**	**609**	**60**
Oilseeds	Mustard	304.41	450300	249	59
	Toria	50.09	36500	0	0
	Total	**354.5**	**486800**	**249**	**59**
Pulses	Pigeon pea	43.34	0	0	0
	Lentil	12	0	0	0
	Field pea	71.5	444702	0	0
	Chick pea	30	204710	0	0
	Urdbean	8.9	0	0	0
	Total	**165.74**	**649412**	**0**	**0**
Vegetables	Chilli	1200	0	0	0
	Total	**1200**	**0**	**0**	**0**
Spices	Turmeric	4.5	8500	0	0
	Total	**4.5**	**8500**	**0**	**0**
	Grand Total	**2613.5**	**2995012**	**858**	**119**

B. PLANTING MATERIAL PRODUCTION

Enterprise	Name of crop	Quantity (No.)	Value (Rs)	Distributed to	No of Village
				No. of farmers	Covered
Vegetables	Brinjal	82880	28215	418	23
	Chilli	92900	25500	358	30
	Tomato	147650	58400	1028	28
	Cabbage	14050	4500	204	0
	Cauliflower	18050	9000	398	10
	Broccoli	1600	1600	16	0

	Capsicum	5350	3850	11	0
	Onion	215200	22350	323	10
	Bottle gourd	643	643	3	0
	Sponge gourd	29791	16991	24	10
	Summer Squash	17786	17786	5	0
	Others	12000	1200	9	0
	Total	**637900**	**190035**	**2797**	**111**
Fruits	Aonla	1750	0	0	0
	Papaya	8647	2985	260	4
	Guava	1400	2000	6	5
	Citrus	25	0	5	0
	Jamun	500	0	0	0
	Total	**12322**	**4985**	**271**	**9**
Ornamental	Marigold	13560	0	44	6
	Rajnigandha	0	0	0	0
	Chrysanthmum	250	0	8	0
	Rose	100	0	0	0
	Others	200	0	0	0
	Total	**14110**	**0**	**52**	**6**
Medicinal & Aromatic	Lemon Grass	1000	3000	5	4
	Satawar	5000	0	5	5
	Others	35	0	10	0
	Total	**6035**	**3000**	**20**	**9**
Forestry/plantation	Other forestry	1800	4000	90	0
	Total	1800	4000	90	0
Fodder	Napier	2650	0	55	11
	Sudax Chery	4000	0	10	5
	Others	2600	0	50	8
	Total	**9250**	**0**	**115**	**24**
	Grand Total	**681417**	**202020**	**3345**	**159**

C. PRODUCTION OF BIO-PRODUCT

Bio-product category	Bio-product	Quantity (Kg)	Value (Rs)	No. of farmers	No of Villages Covered
Bio-fertilizer	Vermicompost	8400	23000	33	17
	Nadep compos	4350	12500	10	10
	P.S.B. Culture	12	0	0	0
	Total	12762	35500	43	27
	Grand Total	**25524**	**71000**	**86**	**54**

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PATENT

A Patent is obtained by Govt. of India for device to extract solar grade biosilica from rice husk to Dr. Harikesh, Dr. Deelip Kumar Tiwari, Dr. Shushil Kumar Singh, Dr. Rajendra Kumar Yadav, Dr. Sandip Kumar and Dr. atul Yadav in the year 2024.

AWARD

- Dr. Devendra Swaroop recieved "**Certificate of Excellence"** by The American University U.S.A. at R.D.V.V. Jabalpur during International Conference on 05-05-2023.
- Dr. Devendra Swaroop recieved Honoured by Honorary Degree of **DOCTOR OF SCIENCE** , in Animal Science by The American University of U.S.A. in Convocation Function organized at R.D.V.V.,Jabalpur on 05-05-2023.
- Dr. Khalil Khan recieved **"Rashtra Ratna Samman"**by Vishwa Sahitya Sewa Trust and Department of Agril. Extension CSAUAT, Kanpuron 18.06.2023.
- Dr. Vinod Prakash received "**KVK Senior Scientist Award-2024"** for outstanding contribution and recognition in the field of research and publication by Agriculture and Forestry University, Rampur Chitwan, Nepal, Sam Higginbottom University of Agriculture, Technology and Sciences, and R. S. Krishi Shodh Sasthan, Prayagraj, Uttar Pradesh, India-211002 at**International Conference AFU, Nepal** on 18-19 June, 2024.

- **Dr. Arvind Kumar** received "Certificate of recognition for appreciable performance" by Hon'ble Dr Panjab Singh Ji Ex-Vice Chancellor BHU, Ex. DG, ICAR and Chancellor of RLB Central Agril. Univ. Jhansi on 30th June, (2023)
- Dr. Vinod Prakash received "**Adarsh Vidya Saraswati Rashtriya Puraskar (National Award of Excellent 2023"** for outstanding contribution and recognition in the field of research and publication by Glacier Journal Research Foundation, Global Management Council on 27th July, 2023.
- Dr. Devendra Swaroop recieved "**Dr. Gopal Pandey Memorial Award-2023"** by Society of Biological Sciences and Rural Development , Prayagraj in 9th Dr. Gopal Pandey Memorial Lecture function on 27th July 2023.
- Dr. **Awanindra Kumar Tiwari** recieved **"**Bharat Harit Kranti Award**"**by ICAR-IISR, HARWS, IIMT University, Sri Krishna University, UP India on 14.10.2023.
- Dr. Devendra Swaroop recieved "**Life time Achievement Award"** by GESA, New Delhi in 5th International conference at RMLAU, Ayodhaya on 09.12.2023
- Dr. **Awanindra Kumar Tiwari** recieved **"**Excellence in Extension Award**"**by Gujrat Natural Farming and Science University, Anand, HARWS & IIMTU Meerut, UP. Indiaon 26.12.2023.
- Dr. Pradeep Kumar Bisen recieved **"Best Paper Presentation Award 2023"**by RASSA, New Delhion 29.12.2023.
- Dr. **Awanindra Kumar Tiwari** recieved **"**Best KVK Scientist Award**"**by ICAR-IISS Bhopal, AGRI MEET Foundation, RVSKVV, Gwalior, MP in the year 2023.
- Dr Pradeep Kumar Bisen recieved **"Certificate of Excellence in Reviewing"**by International Journal of Environment and Climate Changeon 04.06.2024.
- Dr. R.K. Yadav, Director of Extension, CSA University of Agriculture and Technology, Kanpur with the **Excellenceof Honor** for ensuring effective functioning of the Krishi Vigyan Kendras and providing efficient leadership to the centers on the aspecious occasion on 16th foundation day of ICAR, New Delhi and workshop on natural farming by ICAR-ATARI, Kanpur on dated 19.03.2024.

SUCCESS STORIES/ CASE STUDIES

Success story I

Impact of start up on production of potato seed through tissue culture in Etawah:

Situation analysis/ Problem statements: Etawah is situated on of 26.81' latitude and the 79.03' longitude, delineated in south western semi arid zone of Uttar Pradesh. It is comprised of 5 Tahsils, viz., Bharthana, Etawah, Saifai, Takha, and Jaswant Nagar and 8 development blocks viz., Badhpura, Basrehar, Jaswantnagar, Mahewa, Saifai, Chakarnagar, Takha, and Bharthana. Average rainfall of the district is 620-750 mm and Maximum and minimum temperature are 45.6 ^{0}C 7.4 ^{0}C with average humidity is 60%. The district is categorised in four agro ecol;ogical situation. On the basis of the natural features of AES, they are named as Pachar, Ghar, Karka and Par. Paddy, maize, pearl millet, potato, wheat, mustard and vegetables etc. are the major crops of district in Rabi season. Potato is one of the major crop and grown in area of 16129 ha. The average productivity of potato in the district is about 220q/ ha which is 50 % of the potential yield of improved varieties of potato recommended for central plain zone. Among several yield limiting factors poor availability of quality seeds of improved varieties is predominant.

Plan, Implement and Support: To enhance the productivity and quality of potato as well as availability of potato seed, KVK Etawah conducted on farm trials and FLDs on the farmer's field in village Navali of block Basrehar.

Output: Consequently the productivity enhanced by 52 % but the availability of seeds of improved cultivars of potato increased non significantly. In order to solve the problem of potato seeds, KVK initiated the seed production programme of potato by facilitating technical knowledge to Shivam Tiwari, an young farmer, native of village Navli, block Basrehar of district Etawah. He got advance training in seed production of potato from ICAR-CPRI, Shimla on recommendation of KVK Etawah and establish a tissue culture lab during 2018 and consequently started production of potato seed through tissue culture on large scale within 3 years.

Outcome: At present he is supplying the seed of potato of improved varieties viz., Kufri Sangam, Kufri fryom, Kufri Lima, Kufri Sukhyati, Kufri Khyati, Kufri Bahar, Kufri Mohan, Kufri Neelkanth. Kufri Chipsona and Kufri Laukar in Etawah district as well as other states viz., M.P., Rajasthan, Haryana, Chhattisgarh and Punjab.

Impact: With the production and supply of quality potato seeds, his annual income increased from Rs. 30.00 lakh to Rs.1.05 crore. His start-up has become source of inspiration for other unemployed youth in the district Etawah.

Success story II

Livestock and fisheries based IFS for higher farmers income :

Situation analysis/ Problem statements: Babu Singh of village : Hardauli, post-Deegh of block:Malwan district Fatehpur is a small farmer having 2.0 ha land and grows traditional crops like cereals, pulses, vegetables and spice. His income was very low due to these crops. Due to financial crunch he could not go for higher studies, Mr Babu Singh started farming with his ancestral land, due to lack of scientific technologies his annual income was very less.

Plan, Implement and Support: Under the changing climatic condition it was a challenge for him to enhance his income. After participation in programmes and trainings of KVK and fisheries department, he got an idea of Livestock and fisheries based IFS for higher farmers income, he made it possible with the help of KVK.

Output:

Mr.Babu Singh has developed an excellent model of livestock and fisheries based IFS for doubling the farmers income. Mr.Singh is now cultivates cereals / pulses in 0.8 ha, fodder in 0.2 ha, vegetable/spices in 0.25 ha and having a pond of 0.75 ha in this pond he rears catla and grass carp, keeps 4-5 buffaloes, 10-12 goats and 25-30 ducks. He has a very strong linkage with KVK. Fish crop is sold from the pond in local market and extra male goats are sold during Bakreed festival for higher returns. His innovative practices are economically viable in the farming system.

Outcome:

The Integrated farming system with livestock and fisheries this has helped in daily returns, and enhanced his weekly as well as annual income. Livestock in addition to providing milk helps in enriching the soil fertility as well provides manure for fish pond.

Impact:

(a)Technological: Mr. Singh adopted IFS with livestock and diversification, he always tries to use new cultivars and high yielding varieties, practices seed replacement and seed treatment as well as proper management practices for livestock and fish pond. The farmers of the area for in touch with Mr. Singh and adopt the techniques for higher return.

(b) Economic: Mr.Singh's net income during 2019-20 was only Rs.1.30 lakh, after the intervention of KVK scientist, his income gradually increased year by year.With Livestock and fisheries based IFS model his annual income for the year 2023-24 is 6.95 lakh (fisheries 1.35 lakh, buffaloes 0.95, goatery 0.65, duckery 0.40 and crops 3.60 lakh) and total expenditure is Rs.2.75 lakh per annum. The net income of the farmer is now Rs.4.20 lakh.

(c) Social: Livestock base IFS has made fruitful impact on the farmers of the area, thus seeing the benefit of IFS and getting inspired around 15-20 farmers have practiced livestock based IFS in surrounding area.

Success Story III

Dairy Farming if more profitable for farmer and rural community: Kasganj

Situation analysis/ Problem statements: Mrs Lata Chauhan, village Mohanpura, Post Mohanpura, Block: Kasganj, District: Kasganj, a farmer who was selected for this activities. She was earlier involved with local breed of buffalos. These breed were low in yield

Plan, Implement and Support: KVK kasganj tries to make them aware regarding Scientific dairy farming in 2022. That starts from purchase and breed improvement. This KVK has encouraged the farmer for successful & profitable dairy farming.

Output: Mrs Lata Chauhan adopted the the balanced dose of Feed and Fodder and 03 animals (Murrah Buffalos) purchased with 02 own animal total animals 05 and she get 30 ltr milk in a day. The economic gain in terms of per unit expenditure Rs. 700.0 per day gross income Rs. 1650.0 per day, net return Rs. 950.0 per day.

Impact:

Mrs Lata Chauhan is becoming one of the progressive and learned farmers for others with regards to popularization of Dairy Farming. This technology helps him for livelihood, empowerment and make him enthusiastic regards dairy farming. She is one of the progressive farmer after a becoming a part of KVK activities and get their effectiveness for his own development. MrsChauhan is very happy with this improved production and management dairy and set forth example for other farmers of the district.

Success Story IV

A farmer who has changed the scenario of tribal village in district Lakhimpur – Kheri (U.P.)

Situation analysis: District Lakhimpur-Kheri comprises two distinct agro- climatic zones mid plains and tarai having fifteen blocks. The story is from block Palia Kalan which is located in Tarai region of Uttar Pradesh where the alluvial soil is prevalent and water table is high. It has been observed that weed infestation, disease incidence, improper spacing, low yielding old varieties and other faulty cultural methods lead to reduction in yield. KVK, Scientists Lakhimpur-Kheri-I has advised during interface as well as through demonstration that the spray of suitable herbicides, judicious use of the fungicides, proper spacing, improved varieties and timely sowing to be taken under consideration, while cultivation of crops.

Planning, implementation, support and linkage with KVK: After the analysis of the situation of Sri Kanhaiya Lal's (Village-Gubraula, Block-Palia Kalan) field and cropping system, recommendations were given related to reduction in cost of cultivation by adopting the improved varieties, the least use of agrochemicals, ridge- furrow method of planting and sowing. Sri Kanhaiya Lal has been linked with the KVK, Lakhimpur- Kheri – I since 2016-17 and interacted time to time on mobile phone and in different goshthies at village and block levels.

Output: Before linkage with the KVK, his earning was only Rs.165000/- (2016-17), but after the adoption of improved technologies his current earning is Rs.318500/- from 2.75 acre area of crop field and fishery (0.5 acre allotted).

Outcome: He is cultivating crops like rice, wheat, vegetables, as well as doing fishery. In spite of that he is also having back yard poultry for his own need as well as surplus sell to nearby market. His crop rotation mainly is rice- wheat. Proper use of agrochemicals, fishery, timely sowing of crops and systematic kitchen gardening increased his earning.

Impact:

Technological: He is cultivating cereal crops with improved package of practices. Also his intention was how to use judiciously agrochemicals. Generally he is using agrochemicals after consulting with KVK scientists. In fishery he is having proportionate population of different breed of fish and he is also approaching towards least synthetic chemical use.

Economic: Before intervention of the KVK activities, his return was only Rs.165000/- and after intervention is Rs. 318500/- change in the return in the tune of 93.03 % and 1.93 times than preceding year.

Social: He is using his earning for the education of his children and alleviates the standard of living. Now he is a role model for his area.

Table: Economics of crops/enterprises

Total cultivated area =2.75 acre

*0.5 acre (allotted by Gram Sabha for Fishery)

S. No.	Crops/ Enterprises	Area (acre)	Production (q)/ha	Gross Cost (Rs.)	Gross Return (Rs.)	Net Return (Rs.)
1.	Rice	2.75	64.0	54000.00	115000.00	64000.00
2.	Wheat	2.75	55.0	45500.00	121000.00	75500.00
3.	Kitchen garden	220 m^2	-	5000.00	32000.00	27000.00
4.	Backyard poultry	-	2100 (Eggs)	1600.00	18600.00	17000.00
5.	Fishery	0.5 (allotted)*	12.0	45000.00	180000.00	135000.00
		Total				**318500.00**





Success story V

Self Employment through Bee Keeping

Situation analysis/ Problem statements: Mr. Abhishek Singh S/O shri Harisharan Singh is a youth belongs to the village- Rausi, Post-Rausi, Block-Dalmau. Previously he visit KVK with his uncle Sri Brijesh Singh who is a farmers who comes KVK to participate in training programme and sometime to collect seed for Front line demonstration purpose. During the year 2019 he came to KVK and shown his interest in Bee Keeping. KVK Scientist given him some basic idea and given some farmers address to meet with them and get some practical information.

Plan, Implement and Support: As he has shown his interest in adopting Bee Keeping as self entrepreneurship KVK made him aware and given some farmers address to meet with them and get some practical information. Since than he is in contact with KVK Scientist and started Bee Keeping with 20 boxes. To feed bees in rabi season bees get their pollen from mustard flowers and in other season they feed on Eucalyptus flower.

Output: Mr. Abhishek Singh started Bee Keeping with 20 boxes with taking all precautionary measures as bees are very sensitive and at the time when there is no flowers in the field they are kept alive sugar solution as their feed. In first year from 20 boxes he got 5 quintals of honey and sold it worth rupees 75000/- @ Rs 15000/- per quintal and 10 kg wax of Rs 2000/- . Presently he has managed 50 boxes and get about 15 quintals of honey that he sold @ Rs 16000/- per quintal and earn Rs 2,40,000 with 30 kg wax of Rs. 6000/-

Outcome: With the adoption of Bee Keeping as self entrepreneur Mr. Abhishek is successfully running his Bee Keeping and in this year he will get 50 more boxes from Department of Horticulture, Raebareli. Abhishek is very much satisfied with his Bee Keeping component as he is also engaged in farming in which he adopted DSR technology of Paddy and sowing wheat through Super Seeder and using high yielding varieties of different crops with getting intensive technological details with KVK scientist.

Impact: Mr. Abhishek is becoming one of the progressive and learned Youth/farmers for others with regards to adopting Bee Keeping and improved technology for cultivating different crops in the district. This helps him for livelihood, empowerment and as a youth he is fully engaged in Agriculture and not as a job seeker. He is one of the progressive farmer after a becoming a part of KVK activities and get their effectiveness for his own development.



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