



ANNUAL PROGRESS REPORT-2023
(JANUARY-DECEMBER 2023)



KRISHI VIGYAN KENDRA
ICAR-NATIONAL DAIRY RESEARCH INSTITUTE
KARNAL-132 001 (HARYANA)

Under the aegis of
The Director, ICAR-NDRI Karnal-132001

Ph: 0184-2259338

Email: kvkkarnal@gmail.com



Krishi Vigyan Kendra Karnal under the aegis of ICAR-NDRI Karnal is the single window of agricultural technology information with production of quality technology products/inputs (seeds, planting materials, bio-agents, fingerlings etc.) to make them available to farmers. In addition Krishi Vigyan Kendra Karnal also identifies and document selected farmer-led innovations with on-going schemes and programmes within the following mandates of KVK:

- 1) Technology assessment and demonstration for wider application in operational area.
- 2) Capacity development programmes for stakeholders (Practicing farmers, farm women, extension functionaries of line departments and rural youth/entrepreneurs).
- 3) Technology product and inputs production and promotion.

For cultivation and promotion of science at farmers field, the KVK works at grass root level for (i) Showcasing the frontier technologies, (ii) Capacity development of farmers & other stakeholders, (iii) Front runner in technology application, (iv) Making available technological information and inputs to the farmers, (v) Practicing participatory approaches in planning, implementing, executing and evaluation and (vi) Pursuing assessment of technologies to suit different micro-climatic condition in close partnership with farmers. Accordingly the operational area of KVK Karnal covers the district of Karnal being the focus on/to in following thrust areas:

1. Capacity building of farmers in Dairy Farming & Milk processing, Crop production, Post-harvest management, Fisheries, Bee-keeping etc.
2. Vocational training to the farmers & rural youth for self-employment.
3. Out scaling of Natural farming through capacity building & awareness.
4. Out scaling of CRM technology for promotion of in-situ crop residue management
5. Promotion of Dairy based Integrated Farming System (IFS) model.
6. On-farm testing to assess the location specificity of agricultural technologies
7. Capacity building of extension personnel to update their knowledge and skills.
8. Knowledge and Resource Centre for farmers in the operational area.
9. Demonstration of proven technology for establishing production potential& generating data.
10. Farm advisories through *GRAMIN KRISHI MAUSAM SEWA* under District Agro-Met Unit
11. Data documentation, characterization and strategic planning of farming practice in district

Description of mandates:

1. Technology assessment and demonstration for wider application: Technology assessment consists of On Farm Testing (OFT) i.e. to evaluate production practices under realistic growing conditions at farmers' field. On Farm Testing (OFT) are used to predict responses to products, practices and technologies when used in the same or neighbouring fields. However, Technology demonstration for wider application is the Front line demonstration (FLD) of proven technology to establish the production potential of technology at farmers' field and generating the data for wider application under field extension of technology.
2. Capacity development: Capacity development is the training of farmers and other stake holders to impart knowledge skills and competencies for improved performance on current job.
3. Technology product and inputs production and promotion: Seed and planting material is produced for the sale to farmers through Agricultural technology information centre (ATIC).
4. Flagship Programme: These are the most important programme of the government and address major national concerns on agriculture, environment, health, education, rural development, employment and other sectors.

INFRASTRUCTURAL FACILITIES AVAILABLE

Since the concept of KVK is learning by doing and seeing is believing, hence the KVK has one demonstration farm with following demonstration units:

- Seed Production unit (30 Acres)
- Crop cafeteria (0.5 Acres)
- Horticulture unit (2 Acres)
- Bee-keeping unit (38 Bee Colonies)
- Fish Farming unit (3.5 Acres water area)
- Fish Seed Production Hatchery unit (0.5 Acres water area)
- Vermi-compost production unit (4 beds size 10'x3')
- Dairy & food processing Laboratories

KVK Staff Details

Sl.No	Name	Discipline	Designation
1.	Dr Pankaj Kumar Saraswat	Soil Science	PS and Head
2.	Sh Kulvir Singh	Agri. Economics	CTO
3.	Sh Ashwani Kumar	Soil Science	ACTO

4.	Dr Santosh Kumar	LPM	ACTO
5.	Smt Deepa Kumari	Home Science	STO (T-6)
6.	Sh Raj Kumar	-	AAO
7.	Dr Arun Kumar T V	Biotechnology	Tech. Assistant (T-3)
8.	Dr Munish Leharwan	Plant Pathology	Tech. Assistant (T-3)
9.	Smt Sunita	-	LDC
10.	Sh Baldev Singh	-	SSS
11.	Sh Aalam Singh	-	SSS
12.	Sh Raghubir	-	SSS
13.	Sh Rajbir	-	SSS
14.	Sh Avneesh	-	SSS

MAJOR PROGRAMMES AS PER MANDATES:

To achieve the mandated targets KVK has the organized following main activities in the field of dairy production, dairy processing, crop production, horticulture, fisheries, bee-keeping, home science and vermin-compost production.

1. On Farm Testing (OFT) for Technology assessment (II Year)

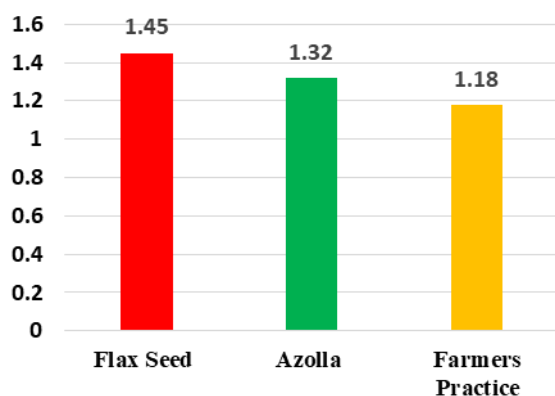
OFT 1: Assessment of Efficacy of Flaxseed and Azolla feeding on Productivity Lactating Goat

Title	Assessment of efficacy of Flaxseed and Azolla feeding on Productivity Lactating Goat
Problem	Low productivity of goat at field condition
Technology Selected	Feeding of Flaxseed Feeding of Azolla Use 1 month before kidding and after 3 month kidding
Source of Technology	ICAR- NDRI, 2021
Thematic area	Nutrition Management
Performance of the Technology	Azolla is a low cost fodder Flax seed improves the milk quality (Fat % increase)

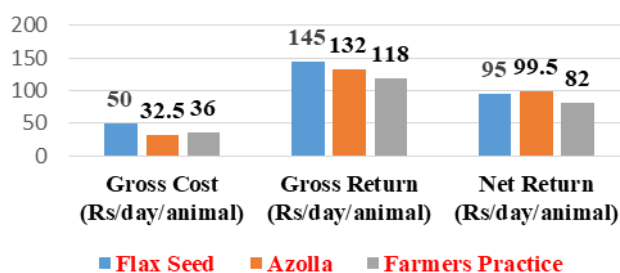
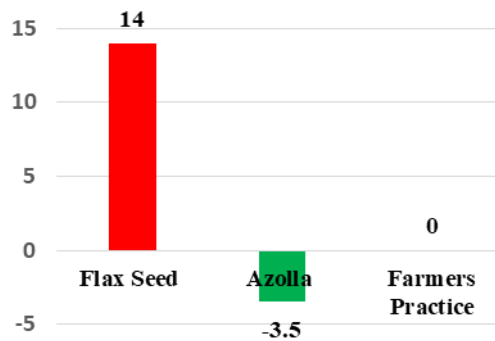
Parameters/ Performances	Demo. Flax Seed	Demo. Azolla	Farmers Practice
Average Yield (l/animal)	1.45	1.32	1.18
% increase in yield	22.8	18.64	
Gross Cost (Rs/day/animal)	50	32.5	36.0

Gross Return (Rs/day/animal)	145	132	118
Net Return (Rs/day/animal)	95	99.5	82
Cost saving	14	-3.5	0
BCR (over feed cost)	2.9	4.06	3.27

Average Yield (ltr/Goat)



Cost saving



OFT 2: Assessment of efficacy of Poly herbal feeding in Dairy Animals

SN.	विभिन्न हर्ब्स की मात्रा/ 100 भाग
1	शतावरी (33.33)
2	आमला (16.67)
3	दालचीनी (16.67)
4	तुलसी (16.67)
5	अजवायन (13.33)
6	फिटकरी (3.33)
	कुल : 100



SN	Observation Parameters	किसानपद्धतिमेंउत्पादन	पॉली-हर्बलमिश्रणखिलानेपरउत्पादन
1.	Average milk yield (kg)	10.5	13.4

2.	Increase milk yield (%)	-	27.6
3.	Average fat (%)	3.8	4.1
4.	Average SNF (%)	8.4	8.6
5.	Av. feed cost/animal/day (Rs):	190.34	211.34
6.	Total feed cost in 90 days	17130.6	19044.0
7.	Total milk yield in 90 days	945.0	1206.0
8.	Difference in milk yield	-	261
9.	Income from milk (Rs)	34492.5	45707.4
10	Increase income (%)	-	32.51
11	लागत -लाभ अनुपातB:C Ratio	1:1.98	1:2.4



शतावरी



आमला



दालचीनी



तुलसी



अजवायन



फिटकरी



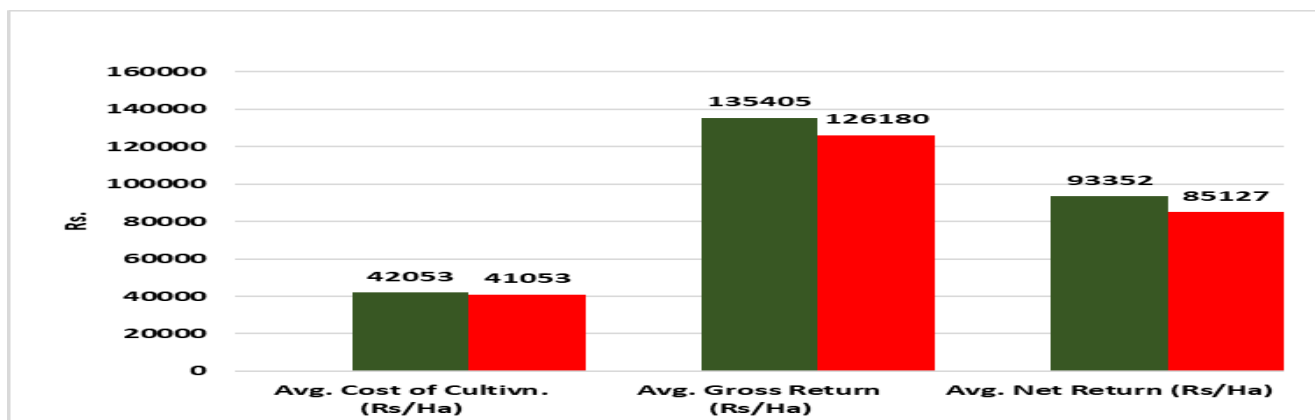
Preparation & demonstration of Poly herbal feeding in Dairy Animals at Rindal village

2.0 FRONT LINE DEMONSTRATION 2023

FLD 1: Popularization of Maize green fodder var. J-1007 for Dairy Animals

Crop / Enterprise	Technology demonstrated	Demonstration Yield (Qt/Ha)			Yield of local Check (Qt/Ha)	Increase in yield	Avg. Cost of Cultivation (Rs/Ha)	Avg. Gross Return (Rs/Ha)	Avg. Net Return (Rs/Ha)	B:C Ratio
		H	L	A		%				

Fodder Maize	Var. J-1007	472.2	430.8	451.35	420.6	7.31	42053	135405	93352	1:1.98
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FLD 2: Mastitis management technologies in milch animals (on-going)

Problem	Incidence of mastitis
Technology Selected	Feeding intervention in the form of mineral mixture @50g/day/animal starting before 1 month and up to 3 month of calving Use of KMNO ₄ solution for milker's hand and animal's udder wash
Source of Technology	NDRI, 2017
Thematic area	Disease Management
Performance of the Technology	The technology was found to be 90% effective.
Farmers Feed back	Farmers adopted the technology.



Field activity on mastitis management and repeat breeding

FLD 3: Popularization of Oat green fodder var. OL-10 for Dairy Animals (on-going)

Crop / Enterprise	Technology demonstrated	Demonstration Yield (Qt/Ha)			Yield of local Check (Qt/Ha)	Increase in yield	Avg. Cost of Cultivation (Rs/Ha)	Avg. Gross Return (Rs/Ha)	Avg. Net Return (Rs/Ha)	B:C Ratio
		H	L	A		%				
Fodder Oat	Var. OL-10	Continue	-	-	-	-	-	-	-	-



FLD 4:- Popularization of Berseem green fodder var. BL-44 for Dairy Animals (on-going)

Crop / Enterprise	Technology demonstrated	Demonstration Yield (Qt/Ha)			Yield of local Check (Qt/Ha)	Increase in yield	Avg. Cost of Cultivation (Rs/Ha)	Avg. Gross Return (Rs/Ha)	Avg. Net Return (Rs/Ha)	B:C Ratio
		H	L	A		%				
Fodder Berseem	Var. BL-44	Continue						Crop in field		



FLD 5:- Popularization of Nutri-Kitchen garden at domestic level

Sr. No	Name of the Village	Name of the Vegetables	No of Demonstrations	Area under kitchen gardening (m ²)	Yield (kg/unit)	Per capita consumption (g/d)	B:C ratio
1	Ghogdi pur	Spinach, Coriander Radish, Tomato, Cauliflower, Brinjal, Carrot and Methi	3	300	101.67	308.00	1:4.12

3.0 CLUSTER FRONT LINE DEMONSTRATIONS ON OILSEEDS, PULSES, CEREALS AND FODDER

CFLD 1:- Mustard

Crop	Thematic area	Variety	Season and year	Area (ha)		No. of farmers/ demonstration		
				Proposed	Actual	SC/ST	Others	Total
Mustard	Crop diversification	Radhika (DRMR-2017-15)	Rabi 2022-23	50	50	24	101	125

Sowing date:- 15th Oct to 5th Nov

Total Rainfall (mm):- 191.1 mm

Source of technology: DRMR, Bhartpur

1. **Crop Sequence:-** Rice-Mustard
Sorghum-Mustard

2. **Situation:-** Irrigated

3. **Soil Type-** Loam and Sandy Loam

Organic Matter- 0.36 to 0.69 %

Nitrogen- 115 to 193 kg/ha

Phosphorus- 9 to 46 kg/ha

Potassium – 126 to 456 kg/ha

4. **Weed Flora:-** *Chenopodium album*, *Chenopodium murale*, *Asphodelus tenuifolius*

5. **Diseases:-** Alternaria Blight (*Alternaria brassicae*), White Rust (*Albugo candida*)

6. **Insect:-** Aphid (*Lipaphis erysimi*)

Particulars		Mustard (2022-23)	Mustard (2022-23)
Area	ha	38.21	10.16
Demonstrations	No	94	25
Farmers	No	94	25
Technology/ Variety		DRMR 2017-15 (Radhika)	PM-32
Maximum Yield	Kg/ha	2706	1855
Minimum Yield	Kg/ha	861	500
Yield (kg/ha)	Demo	1920	1640
	Local	1325	1325
Gross Return (Rs/ha)	Demo	96758	82770

	Local	66913	66913
Net Return (Rs/ha)	Demo	68583	54595
	Local	39693	39693
B: C Ratio	Demo	3.43	2.93
	Local	2.45	2.45
Feedback	1	Farmers appreciated the Mustard varieties PM-32 and Radhika with excellent yield performance, BC ratio and negligible attack of alternaria blight and white rust disease.	
	2	M.S.P be increased and payment of M.S.P be ensured to farmers.	

Training and Field Days organized 2022-23

Training	No. of trainings	No. of farmers
On Campus	2	44
Field visit	4	54
Field day	3	74
Total	9	172



Field Day at Vill-Phurlak



Field Day at Vill-Kaimla



Field Day at Vill-Bansa

Technical Feedback on the demonstrated technologies

S. No	Technical points recorded (Feed Back)
1	Mustard variety Radhika exhibited better performance.
2	Mustard variety Radhika were found Tolerant to Downy Mildew diseases in demonstrated practice than farmer practice

Farmers' reactions on specific technologies

S. No	Technical points recorded (Feed Back)
1	The farmers showed interest in fallow all parameters of crop i.e Optimum seed rate and sowing depth, timely sowing, seed treatment, integrated pest management and integrated diseases management.
2	Farmers of the District Karnal were found less interested in growing Mustard crop because of unorganized marketing facilities, less sale price than MSP.

CFLD2:- Chickpea

Sowing date:-15th Oct to 5th Nov

Total Rainfall (mm):- **191.1 mm**

Source of technology: ARS, ShriGanganagar Rajasthan

- Crop Sequence:- Rice-Chickpea
Sorghum-Chickpea

2. Situation:- Irrigated

3. Soil Type- Loam and Sandy Loam

Organic Matter- 0.36 to 0.69 %

Nitrogen- 115 to 193 kg/ha

Phosphorus- 9 to 46 kg/ha

Potassium – 126 to 456 kg/ha

4. Weed Flora:- *Chenopodium album*, *Chenopodium murale*, *Asphodelus tenuifolius*5. Diseases:- Wilt (*Fusarium oxysporum* f. sp. *ciceris*), Ascochyta blight (*Ascochyta rabiei*)6. Insect:- Gram Pod borer (*Helicoverpa armigera*), Cut Worm (*Agrotis ipsilon*)

Particulars		Chickpea (2022-23)
Area	ha	21.54
Demonstrations	No	53
Farmers	No	53
Technology/ Variety		GNG-2171
Maximum Yield	Kg/ha	2066
Minimum Yield	Kg/ha	1120
Yield (kg/ha)	Demo	1460
	Local	1225
Gross Return (Rs/ha)	Demo	76410.3
	Local	64067.5
Net Return (Rs/ha)	Demo	45065.3
	Local	32223.5
B: C Ratio	Demo	2.43
	Local	2.43
Feedback	1	Farmers are appreciated the Chick pea variety of GNG-2171 its satisfactory yield performance and negligible attack of wilt and Ascochyta blight disease .
	2	The threat of the Blue bull is the hindrance for growing pulses crop in Karnal district.

Training and Field Days organized 2022-23

Training	No. of trainings	No. of farmers
On Campus	1	45
Field visit	5	65
Field day	4	84
Total	10	194



Field Visit at Vill-Phurlak



Field Day at Vill-Phurlak, Date: 16.03.2023



Field Visit at Vill- Kudak Jagir



Field Day at Vill- Kudak Jagir, Date: 17.03.2023

Technical Feedback on the demonstrated technologies

S. No	Technical points recorded (Feed Back)
1	Chickpea variety GNG-2171 exhibited better performance.
2	Chickpea variety GNG-2171 were found Tolerant to <i>Helicoverpa armigera</i> and diseases in demonstrated practice than farmer practice

Farmers' reactions on specific technologies

S. No	Technical points recorded (Feed Back)
1	The farmers showed interest in fallow all parameters of crop i.e Optimum seed rate and sowing depth, timely sowing, seed treatment, integrated pest management and integrated diseases management.
2	Farmers of the District Karnal were found less interested in growing Chickpea crop because of unorganized marketing facilities, less sale price than MSP.

CFLD 2:- Summer Moong

Existing Agro-ecology situation analysis

1. Crop Sequence:- Wheat-Summer Moong

Mustard-Summer Moong

Garlic-Summer Moong

2. Irrigation: Tube well Irrigated

3. Soil type & nutrient status:- Type- Loam and Sandy Loam

Organic Matter- 0.36 to 0.69 %

Nitrogen- 115 to 193 kg/ha

Phosphorus- 19 to 46 kg/ha

Potassium – 250 to 456 kg/ha

4. Weed Flora:-*Cyanodon dactylon*, *Boerhavia diffusa*, *Cyprus rotundus*

5. Diseases There is negligible incidence of Yellow Mosaic Virus (YMV).

Source of technology: CCSHAU, Hisar

Sowing date:- 25th March to 12th April

Particulars		Summer Moong (2023)
Area	ha	22.76
Demonstrations	No.	56
Farmers	No.	56
Technology/ Variety	-	MH-1142
Maximum Yield	Kg/ha	1968
Minimum Yield	Kg/ha	1000
Yield (kg/ha)	Demo	1050
	Local	680
Gross Return (Rs/ha)	Demo	73,100
	Local	47600
Net Return (Rs/ha)	Demo	49125
	Local	26340
B: C Ratio	Demo	1:3.04
	Local	1:2.23
Feedback		Farmers appreciated the summer Moong variety MH-1142 as this suits B/W harvest of wheat , Mustard and transplanting of paddy in Rice-wheat cropping system

Yield attributes of Summer Moong

Yields Attributes	Demonstration	Local Check
Plant Height (cm)	52	58
Pod length (cm)	7.80	6.50
Pod per plant (no.)	34.60	25.20
Grain per pod (no.)	14	12
Test weight (gm)	46	37.80



Field Day at Vill- Picholia, Date: 30.05.2023



Field Day at Vill- Barsalu, Date: 23.05.2023

Training and Field Days organized 2021-22

Training	No. of trainings	No. of farmers
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On Campus	3	54
Field visit	6	22
Field day	3	66
Total	12	142

Technical Feedback on the demonstrated technologies

S. No	Technical points recorded (Feed Back)
1	Summer Moong variety MH-1142 exhibited better performance.
2	Summer Moong variety MH-1142 were found Tolerant to YVMV diseases in demonstrated practice than farmer practice

Farmers' reactions on specific technologies

S. No	Technical points recorded (Feed Back)
1	The farmers showed interest in fallow all parameters of crop <i>i.e</i> Optimum seed rate and sowing depth, timely sowing, seed treatment, integrated pest management and integrated diseases management.
2	Farmers of the District Karnal were found less interested in growing Summer Moong crop because of unorganized marketing facilities, less sale price than MSP.

Success points of the technology

S. No	Success points as emerged
1	Summer moong short duration variety MH-1142 sown in Mustard cropping sequence registered higher yield wheat cropping sequence
2	Timely sowing and adoption of recommended practices improved the yield.

4.0 TRAINING PROGRAMMES ACHIEVEMENTS OF KVK

On-Campus and OFF-Campus

KVK provides strong training support to disseminate need-based and skill-oriented technology for various target groups for achieving a production breakthrough in Dairying, Agriculture and allied subjects. Need-based short and long-term (on and off-campus) trainings on various disciplines, viz. Dairy Production, Dairy Processing, Agriculture, Horticulture, Vermi-culture, Bee-keeping, Fish Farming and Home Science are being organized for farmers, farm-women, rural youth, in-service personnel and rural leaders. The training programmes organized and achievements made by KVK during January 2023 to December 2023 have been summarized in the following table.

Training Achievements (January to December 2023)

Title of the course	On-Campus	Off-Campus	Total	No of Participants
Dairy production management & Dairy processing	20	12	32	1280

Crop Production & Crop residue management	5	12	17	304
Fisheries production & management	2	5	7	115
Home Science management	3	5	8	145
Natural farming	3	4	7	210
Horticulture production	1	2	3	105
Vermi-compost Production	4	-	4	133
Rural Youth (Bee keeping)	2	-	2	86
Rural & Agricultural Work Experience	1	-	1	33
Skill Development Training (ASCI)	2	-	2	60
Warehousing Development and Management	1			50
ARS FOCARS FET Training	1	-	1	6
NIFTEM (Institute Village adoption Programme)	1	-	1	8
Total	46	38	85	2535

5.0 In-situ Crop residue management Project 2023

5.1 Demonstrations CRM scheme on promotion of agricultural mechanization for in-situ management of crop residue: 2023-24

SN.	Village	Total	
		Area (acre)	No. of Farmers
1.	Kalron	139	45
2.	Nalvi Khurd	93.48	32
Total		232.48	77

5.2 Demonstrations organized PUSA decomposer during 2023-24 under CRM

SN	Village	Demonstration
PUSA Decomposer	Kalron and Nalvikhurd	35

5.3 Demonstrations conducted on the use of CRM Machinery for paddy crop residue management in wheat crop 2023-24

S. No	Village	Super Seeder	Happy Seeder	Zero Tillage	Total	
		Area (Acre)	Area (Acre)	Area (Acre)	Area (Acre)	No. of Farmers
1.	Kalron	84	4	51	139	45
2.	Nalvi Khurd	66.48	2	25	93.48	32
Total		150.48	6	76	232.48	77

5.4 Extension activities on CRM scheme 2023-24

Activities	Number	Number of participants
Field Visit	5	233
Regional Kisan Mela	1	1030
Workshops	2	525
IEC Activities	35	2685
Total	43	4473

5.5 REGIONAL KISAN MELA 2023-24

Other KVK- (KVK AMBALA, KVK YAMUNANAGAR, KVK KAITHAL, KVK KURUKSHETRA)

S. No.	Name of activity	Date	Place of activity (Village)	No. of participants
1.	Lectures and discussion on crop residue management	07/10/2023	Auditorium, NDRI, Karnal	1030
2.	Exhibition on latest technology and Machinery on crop residue management		NDRI Campus, Karnal	

**5.6 WORKSHOP/SEMINAR ON CRM-2023-24**

S. No.	Name of activity	Date	Place of activity (Village)	No. of participants
1.	Workshop of Crop Residue Management	10-12/11/2023	ATARI-Ludhiana	1
2.	National Dialogue on Stubble management for circular economy	25/10/2023	ICAR-CSSRI	280

**5.7 IEC Activities under CRM Project**

S. No.	Name of extension material	Number
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1.	Leaflets/ pamphlets	4487 copies
2.	Folder	2845 copies
3.	Posters/banners	28
4.	Caps with Slogan	110
5.	Hoardings	8

6.0 Out scaling of Natural Farming Project 2023

6.1 Awareness Programmes conducted on Out scaling of Natural Farming Project 2023

Name of NF Awareness programmes	Title topic	Venue of Programme	No of Programmes	No. of Participants
Out scaling of Natural Farming	Natural farming of vegetables crop	Village- Padhana, Kunjpura, Kharajpur, mehmampur	5	375
Out scaling of Natural Farming	Natural farming of pulse crops	Village- Kaimla, Phurlak, tikri, KudakJagir	6	292
Out scaling of Natural Farming	Natural farming of Oilseeds crops	Village- Nibhipur, Manchuri, KamalpurRoran, danchar	6	488
Out scaling of Natural Farming	Natural Farming of Cereal crop	Village- Kohand, Kalram, Gagsina, Barsalu, Picholia	6	556
Total			23	1711



6.2 Kisan Mela Organized on Out scaling of Natural Farming 2023

Name of NF Awareness	Title topic	Venue of Programme	No of Programmes	No. of Participants
Out scaling of Natural Farming	Kisan mela	Village-Kudak Jagir	1	125



6.3 Demonstration under natural farming project conducted on summer moong 2023

Crop/ Variety	NF demonstrated	Area (ha)	Place (Village) Demo.	No. of Demonstration laid out under NF	Observations Recorded		
					Name of parameter	Performance	
						Without NF practice	With NF practice
Moong (MH-1142)	Beejamrit, Jeevamrit, Neemastar, Deshparni	0.40	Vill- Kaimla	6	Plant Height (cm)	55	56
		0.40	Vill- KudakJagir		Yield (q/ha)	17.92	8.61
		0.25	Vill- Gheer		Soil OC (%)	0.70	0.94
		0.40	Vill-Phurlak		Soil pH	7.92	7.7
		0.40	Vill- Tikri		Soil EC (dSM)	0.56	0.44
					Soil Microbes (cfu)	-	-
		0.25	Vill- Stundi		Any other (specify)	No incidence of MYMV	Incidence of MYMV and poor plant growth
		Total= 2.1					



6.4 Demonstration under natural farming project conducted on cucurbits crop

Crop/Variety	NF demonstrated	Area (ha)	Place (Village/KV K) of OFT/FLD Demo.	No. of OFT/FLD Demonstration Laid out under NF	Observations Recorded		
					Name of parameter	Performance	
						Without NF practice	With NF practice

						e	e
Okra (Variety- Uphar)	Beejamrit, Jeevamrit, Neemastar, Deshparni	0.25	Vill-Tikri	demo	Yield (q/ha)	145.5	65.6
					Soil OC (%)	0.55	0.62
					Soil pH	7.89	7.70
					Soil EC (dSM)	0.30	0.42
Cucurbits (Bottle Gourd, Sponge Gourd)	Beejamrit, Jeevamrit, Neemastar, Deshparni	0.25	Vill-Tikri	demo	Yield (q/ha)	161.5	105.6
					Soil OC (%)	0.42	0.48
					Soil pH	7.92	7.89
					Soil EC (dSM)	0.32	0.38



7.0 AGRI-DRONE Project

7.1 Awareness Programme organized in Agri-Drone Project in 2023

Activity	Number	Male	Female	Total
Awareness	16	240	145	385



Village-Bansa, Dated:-14/07/2023



KVK Campus Dated:-27/07/2023



Village-Khera, Dated:- 02/08/2023



KVK Campus Dated:-01/06/2023



KVK Campus

Dated:-16/07/2023



Village-Katlaheri, Dated:- 20/09/2023

7.2 Demonstrations Conducted under Agri-Drone Project 2023

Activity	Number	Area
Demonstration	132	90 ha



Village-Bansa, Paddy, Dated:-14-07-23



Village-Haibatpur, Sugarcane, Dated:-02-08-2023



Village-Khera, Crop-Paddy, Dated:-02-08-2023



Village-Katlaheri, Crop-Paddy, Dated:-21-09-2023

7.3 Evaluation of Agri-Drone demonstrations in different crop

Evaluation			
Sprayer Machine	Agri-Drone	Farmer Practice	Comparison
Spraying Cost	Rs. 738/ha	Rs. 1180/ha	Rs. 442/ha
Water Requirement	24.6 litre/ha	400 litre/ha	375.4 litre/ha
Time Requirement	12.3 Minutes/ha	86.1 Minutes/ha	73.8 Minutes/ha
Efficiency (1 man power)	8.13 hour/ ha	3.25 hour/ha	4.88 hour/ha
Adaptability(terrain, crop growth stage, etc)	Strong	Weak (Can't work in orchard)	
Pesticide utilization efficiency	85%	30%	55%
Safety	High	Low	

8.0 Extension activities

8.1 Important Days Celebration

- **Scientific Advisory Committee, 2022:** The scientific advisory committee was held on 06.12.2022 under the chairmanship of Dr. Dheer Singh, Director, ICAR-NDRI Karnal to review the progress of KVK during the year 2022 and action plan for the year 2023.
- **Global Millet Programme:** KVK organized live telecast of Global Millet Conference on 18.03.2023. The event was inaugurated by honourable PM in the presence of honourable Agriculture Minister. In this event 85 farmers and KVK staff participated.
- **PM “Mann Ki Baat” Programme:** KVK organized virtual telecast of 100th episode of “Man Ki Baat” on 30.04.2023 and awareness programme on natural farming was also organized. In this event 74 farmers and KVK staff participated.
- **World Milk Day 2023:** World Milk Day 2023 was celebrated at ICAR-NDRI, Karnal on 01.06.2023. In this event demonstration on making of different milk product was also organized for 30 farm women at KVK.
- **World Environment Day 2023:** KVK organized **World Environment Day 2023** on 05.06.2023 at KVK campus. This year's campaign is celebrated under the theme #Beat Plastic Pollution. It highlights the need to take concrete action to achieve transformative change to tackle the climate

crisis. Tree plantation campaign was also organized on this event. A total of 95 people participated in this programme.



- **Meri Maati Mera Desh:** KVK organized *Meri Maati Mera Desh* (मेरी माटी मेरा देश “माटी को नमन, वीरों का वंदन”) programme at village Kheri Maan Singh on 17.08.2023. In this program Shaeed Ram Mehar Singh was honoured and tree plantation campaign was organized at village in which 75 plants of fruit were planted. In this programme a total of 95 people participated.



- **National Science Day:** KVK, Karnal organized National Science Day, 2023 on **28.02.2023** at KVK campus. A total of 160 participants attended the event in which 60 were women. Experts delivered short lecture on various activities carried out in KVK. Students were encouraged to take agriculture as professional courses after their school. An orientation session was held to create awareness among students regarding the courses they can take after their school. These students were taken to different demonstration units of KVK to expose them to the KVK activities.
- **International Women Day:** KVK, Karnal organized International Women's Day and Kisan Goshti on 08.03.2023 at village-Rindal. About 65 farmers/farmwomen participated in this event. During the programme, KVK Head presided over the function and shared his view on women education and empowerment and he also educate the women about Atma Nirbhar Bharat.
- **World Water Day:** KVK, Karnal celebrated World Water Day on 22.03.2023 at ICAR-NDRI, Karnal. In this event about 58 farmers and farm women participated. Expert delivered lecture on water conservation and techniques that can be adopted to conserve water in agriculture and daily life.



- **Workshop on Mission** KVK campus. Participants were taken to different demonstration units of KVK to expose them to the KVK activities. IFE on 22.05.2023 at LiFE program by each

KVK.KVK SMS interacted with ATARI scientist regarding implementation of mission LiFE program.

- **World Food Day 2023:** KVK organized World Food Day 2023 program at village Padda on 14.10.2023. KVK experts delivered lecture on various aspects of women health and nutrition. Importance of poshan vatika and balanced diet were discussed.
- **Dairy and Food Expo:** KVK Karnal participated in Dairy and Food Expo organized by ICAR-NDRI, Karnal on 29th Sep. to 1 Oct. 2023. In this program a total of 125 farmers and farm women from different village of Karnal district participated.



- **National Ayurveda Day 2023:** KVK organized National Ayurveda Day 2023 program at village Padda on 10.11. 2023. KVK expert talked about the advantage of adopting Ayurveda for healing in today's world. Farmers were also promoted to plant medicinal plants near their household for treating acute illness



- **World Soil Health Day 2023:** To create awareness on the importance of soil health in crop production, KVK organized “Soil Health Day” on **05.12.2023** at village-Kamlapur Roran. In this even 50 farmers women participated. Lecture on Soil conservation (Minimum tillage) and Natural Farming were delivered to the farmers.



- **National Farmer Day 2023:** KVK Karnal celebrate National Farmer day (Kisan Diwas) on 23.12.2023 at village Uncha Samana . In this event about 55 farmers participated.

8.2 Extension Education programme/Activities: 2023

S. No.	Activity	Total No.
1	Field day	12

2	Kisan Ghoshti	15
3	Exhibition	25
4	Film Show	25
5	Method Demonstrations	16
6	Group meetings	25
7	Newspaper coverage	145
8	Radio talks /TV talks	4
9	Literature/ articles	15
10	Scientists visit to farmers field	42
11	Farmers visit to KVK	18110
12	Scientist farmers interactions	45
13	Soil/Water samples analysed	45
Total		18524

8.3 ICAR Foundation Day (Technology exhibition and Kisan Goshti) 16-18, July, 2023)

Day:1, Dated: 16.07.2023 No. of participants: 95(One SHG and other)



Live telecast



Technology Exhibition

Day:2, Dated: 17.07.2023 No. of participants: 79(One SHG and other)



Awareness Programme



Processing Training

Day:3, Dated: 18.07.2023 No. of participants: 139(One FPO and School Student)



Technology Exhibition



8.4 PM-KISAN SAMMAN NIDHI Programme

1. **14th Instalment**, Dated: 27.07.2023. KVK organized virtual live programme of PM-Kisan Samman Nidhi at KVK campus. Honourable PM Live interact with beneficiaries of the scheme all over the India. Among this program a total of 84 people participated.



2. **15th Instalment**, Dated: 15.11.2023. KVK organized virtual live programme of PM-Kisan Samman Nidhi at KVK campus. Honourable PM Live interact with beneficiaries of the scheme all over the India. Among this program a total of 72 people participated.



8.5 Jal Shakti Abhiyan-2023

No. Seed Packets distributed	No. Saplings distributed	Awareness Programs	
		Number	Participants
75	250	5	475



8.6 Parthenium Awareness Week from 16-22nd August, 2023

KVK organized Parthenium Awareness week from 16-22nd August, 2023. In this programme different activities were organized i.e lecture on harmful effect of Parthenium on human and animal health and how we can biologically control this harmful weed. Moreover 4 eradication program of Parthenium weed also organized in which about 145 people participated including KVK staff.

8.7 Swachta Abhiyan-2023



Before



After



8.8 Viksit Bharat SanklapYatra 2023

KVK participated in Viksit Bharat SanklapYatra initiated by Government of India. In these programme KVK participated in 68 Yatra and delivered lecture on Soil Health Card, Natural Farming and use of Agri-drone in agriculture to the farmers and Farm women. Among these 68 Yatra a total of 23405 people participated.

Activity	Number	Participants
VBSY	78	26405



8.9 International Year of Millets 2023

8.9.1 Conduction of millets recipe competition at Ghogripur village 18th may 2023, Total Participants -65



8.9.2 International Millets (Siridhanya) Sammelan on 18th March 2023, Total Participants -85



8.9.3 Awareness on International Year of Millets 2023 on 22.12.2023 at Nissing, Total Participants-450

8.9.4 Visit of Bi-cycle Man of India under International Year of Millets 2023

KVK Karnal organized visit of Bicycle Man of India under his tour program on International Year of Millets from Kashmir to Kanya Kumari. In this event about 45 people participated



9.0 PERFORMANCE OF CROP DEMONSTRATION UNIT OF KVK DURING 2023

9.1 Seed and other bio-products produced at KVK

This KVK is maintaining live demonstration units in fish farming, bee keeping, vermi-culture, horticulture and crop production for imparting practical training for skill development, demonstration of technologies and production of quality seed material of latest varieties for sale to farmers. The products from these units particularly seed are being sold through ATIC to farmers. The performance of instructional farm (Crops production) including seed production during the year 2023 is given in the following table.

9.2 Seed produced and sold at crops production unit during the year 2023

Crop	Variety	Area (ha)	Total seed produced (Q)	Sale (Rs)
Rice (Grain)	PR-114,	3.65	57.90	1,91,070
	PB-1692	0.40	20 .00	66,000
	PB-1885	0.81	23 .00	75,900
	PB-1847	0.40	12 .00	39,600
	PB-1886	0.81	10 .00	33,000
	PB-1509	5.18	70 .00	2,31,000
Wheat	DBW-303	2.0	56.00	2,52,000
	WH -1124	0.4	1.20	5,400
	DBW-332	2	70.00	3,15,000
	DBW 327	2	77.00	3,46,500
Wheat (Grain)	-	-	37.00	84,508
Arhar and Moong (Grain)	IPH 15-03 and MH-		12	17,500

	1142			
Mustard (Grain)	Radhika		17.50	95,550
Barseem	BL-44	3.2	18.5	4,37,500
Total			347.1	21,90,028

9.3 Income Augmentation Activities (Revolving Fund):2023

Sl No	Source	Total Income (Rs.)
1	Seed and crop Production	36,34,178
2	Auction of Amla and Lemon	44,000
3	Fish Unit	1,82,575
4	Vermicompost	5300
5	Kisan Bhavan	6,51,380
6	Training programme	3,98,854
7	Total revenue in 2023 (Rs)	49,16,287
8	Previous Balance	18,00,000
9	Total (7+8)	67,16,287
10	Expenditure	38,00,000
11	Balance as on December	26,16,287

10.0 PROJECTS/SCHEMES BEING IMPLEMENTED BY KVK

This KVK implemented the following projects and schemes of DOAC&FW, ICAR and IMD during the year 2021 and continuing to carry out various assigned activities under these.

1. Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue in the States of NCT Delhi and Haryana.
2. Cluster Front-line Demonstration (Pulses) under the scheme NFSM.
3. Cluster Front-line Demonstration (Oilseed) under the scheme NFSM.
4. Frontline Demonstrations(Vegetables)
5. Training for Skill Development in Vermiculture on behalf of ASCI.
6. Establishment of District Agro Meteorology Unit at KVK.
7. Nutri Sensitive Agricultural Resources and Innovation (NARI).
8. Farm Machinery & Equipments under submission on Agricultural mechanization.
9. Agri-Drone Project

11.0 EXPOSURE VISITS CUM SHORT TRAINING PROGRAMMES ORGANIZED

KVK being located in National Institute for Dairying and having live demonstration units that attracts the attention of various State governments, NABARD and NGOs which send various groups of farmers, farm women and youth on exposure and study visits to KVK. In total 84 visits were organized in which 3298 number of farmers and farm women participated from **Haryana, Uttar Pradesh, Chhattisgarh, Gujarat, Uttarakhand, Rajasthan, Delhi, Punjab, Himachal Pradesh and Bihar.**

Sr. No.	Name of the Beneficiary	Timing	Total No. of Farmers
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1.	Mannarmala MICKL Agro, Kerla	20/01/2023 to 20/01/2023	27
2.	CAFED Gajiabad	22.01.2023 to 22.01.2023	37
3.	Agri Growth Delhi	25.01.2023 to 25.01.2023	50
4.	Agri. Growth Delhi	27.01.2023 to 27.01.2023	50
5.	Agri. Growth Gujrat	31.01.2023 to 31.01.2023	50
6.	Agri. Growth Gujrat	02.02.2023 to 02.02.2023	52
7.	PD ATMA Shimla	02.02.2023 to 02.02.2023	30
8.	PNBFTC Narwana, HR	04.02.2023 to 04.02.2023	28
9.	CAFED Gujrat	04.02.2023 to 04.02.2023	50
10.	IRADA, UP	07.02.2023 to 07.02.2023	10
11.	CAFED SuratGujrat	10.02.2023 to 10.02.2023	41
12.	NSC Karnal, HR	10.02.2023 to 10.02.2023	25
13.	DD Agri ATMA Rajasthan	13.02.2023 to 13.02.2023	47
14.	Agri Growth Gujrat	11.02.2023 to 11.02.2023	46
15.	CAFED Navasari, Gujrat	13.02.2023 to 13.02.2023	50
16.	PragyagramotthanSewaSamiti UP	13.02.2023 to 13.02.2023	46
17.	Suraksha Agri. & Rural Development Punjab	14.02.2023 to 16.02.2023	25
18.	DDA Jammu & Kashmir	14.02.2023 to 15.02.2023	70
19.	Agri Growth Gujrat	16.02.2023 to 17.02.2023	45
20.	GNCT Agri New Delhi	17.02.2023 to 17.02.2023	24
21.	SSS Basti, UP	17.02.2023 to 19.02.2023	36
22.	CAFED Gujarat	20.02.2023 to 20.02.2023	46
23.	RCDSSS, Kekri, Rajsthan	21.02.2023 to 22.02.2023	55
24.	SUTS, Punjab	20.02.2023 to 22.02.2023	25
25.	CAFED Gujarat	22.02.2023 to 22.02.2023	50
26.	ASRDS, Punjab	23.02.2023 to 25.02.2023	25
27.	NCT New Delhi	24.02.2023 to 24.02.2023	19
28.	Agri Growth Gujarat	25.02.2023 to 25.02.2023	50
29.	DDA, Jammu & Kashmir	24.02.2023 to 25.02.2023	33
30.	Agri Growth Gujarat	27.02.2023 to 27.02.2023	50
31.	DDA, M Nagar, UP	28.02.2023 to 01.03.2023	33
32.	Agri Growth Gujarat	02.03.2023 to 02.03.2023	45
33.	SARDS, Punjab	09.03.2023 to 11.03.2023	25
34.	ACCESS West Bengal	13.03.2023 to 14.03.2023	33
35.	PD ATMA , Gujrat	13.03.2023 to 15.03.2023	25
36.	Agri Growth Gujrat	16.03.2023 to 17.03.2023	50
37.	PD ATMA Uttrakhand	17.03.2023 to 19.03.2023	30
38.	CAFED Gujrat	18.03.2023 to 20.03.2023	38
39.	PD ATMA HP	19.03.2023 to 21.03.2023	25
40.	Pragatisheel NGO Uttrakhand	20.03.2023 to 22.03.2023	25
40.	NFL UP	22.03.2023 to 24.03.2023	23

41.	Director Samiti, Chhattisgarh	23.03.2023 to 24.03.2023	50
42.	Director Samiti, Chhattisgarh	26.03.2023 to 27.03.2023	50
43.	Principal, CDIRI, Meerut	04.04.2023 to 06.04.2023	65
44.	Principal, CDIRI, Meerut	12.04.2023 to 14.04.2023	65
45.	Principal, CDIRI, Meerut	02.05.2023 to 04.05.2023	41
46.	Principal, CDIRI, Meerut	29.05.2023 to 31.05.2023	63
47.	Jai Bajrang UP	22.07.2023 to 22.07.2023	35
48.	IFFCO Karnal	08.08.2023 to 08.08.2023	30
49.	Shiva KrishiTaknik UP	18.08.2023 to 18.08.2023	50
50.	CAFED Gujrat	25.08.2023 to 25.08.2023	50
51.	CafedGujrat	26.08.2023 to 26.08.2023	50
52.	CAFED Gujrat	28.08.2023 to 28.08.2023	50
53.	Agri Growth New Delhi	13.09.2023 to 13.09.2023	60
54.	Farmer Club, Kerala	14.09.2023 to 14.09.2023	62
55.	IFFCO Karnal	15.09.2023 to 15.09.2023	30
56.	AGRI Delhi	17.09.2023 to 17.09.2023	60
57.	AGRI Delhi	18.09.2023 to 18.09.2023	50
58.	CAFED, Gujrat	23.09.2023 to 23.09.2023	50
59.	SUTS, Punjab	29.09.2023 to 29.09.2023	20
60.	JKBT, Rajasthan	05.10.2023 to 05.10.2023	25
61.	AWARDS, UP	06.10.2023 to 06.10.2023	25
62.	AWARDS, UP	06.10.2023 to 06.10.2023	25
63.	ATMA, Rajasthan	11.10.2023 to 11.10.2023	40
64.	ATMA, Rajasthan	11.10.2023 to 11.10.2023	35
65.	Development Foundation Vaishali, UP	12.10.2023 to 12.10.2023	50
66.	OmkarSevaSansthan, UP	19.10.2023 to 19.10.2023	25
67.	SanjeevaniManavKalyan Rajasthan	19.10.2023 to 19.10.2023	25
68.	OmkarSevaSansthan, UP	22.10.2023 to 22.10.2023	48
69.	PD ATMA, HP	24.10.2023 to 24.10.2023	23
70.	ArpanSewaSanstahn RJ	27.10.2023 to 27.10.2023	25
71.	MKJSS, Rajsthan	27.10.2023 to 27.10.2023	39
72.	OmkarSevaSansthan, UP	30.10.2023 to 30.10.2023	25
73.	HDO Mandi, HP	01.11.2023 to 01.11.2023	20
74.	AGRI Delhi	04.11.2023 to 04.11.2023	50
75.	ATMA, UP	07.11.2023 to 07.11.2023	50
76.	DF, New Delhi	30.11.2023 to 30.11.2023	40
77.	CAFED , Gujrat	06.12.2023 to 06.12.2023	50
78.	BudhhaSarvSeva, UP	11.12.2023 to 11.12.2023	26
79.	YuvaJagritiSansthan, RJ	14.12.2023 to 14.12.2023	25
80.	SWIDS Rajasthan	14.12.2023 to 14.12.2023	25
81.	MMBSR, Uttarakhand	18.12.2023 to 18.12.2023	13

82.	MDSS, UP	18.12.2023 to 18.12.2023	44
83.	DUSS, Uttarakhand	26.12.2023 to 27.12.2023	40
84.	AgriDept, HP	27.12.2023 to 27.12.2023	30
Total			3298

13.0 NEWS PAPER Coverage by KVK during 2023

During 2023 KVK activities were covered in different newspaper with total number of 145.



14.0 KVK Publications-2023

14.1 Research Paper published by KVK

Type of Publication	No.	NAAS rating: < 6.0	NAAS rating: >7.0
Research papers	3	2	1



14.2 Other Publication by KVK

Books/Book Chapters	2
Abstracts	1
Popular articles	2
Leaflets/Folders	2
Newsletter	1
Total	11



15.0 PREPARATION OF REPORTS

KVK prepared and submitted the following reports:

- Prepared and submitted skill development and citizen charter reports of KVK to NDRI and Zonal Coordinator.
- Weekly cabinet report of KVK to J.D (Research), ICAR-NDRI, Karnal.
- Weekly IEC activity report on In-situ Crop Residue Management to ICAR-ATARI, Jodhpur.
- Monthly report of KVK to ICAR-ATARI and J.D (Research), ICAR-NDRI, Karnal.
- Quarterly reports of KVK to ICAR- ATARI & NDRI newsletter.

- Report for Extension Council and Scientific Advisory Committee meetings.
- Report of CFLD on pulses for the year 2021-22 for ICAR-ATARI and the Institute from time to time.
- Annual reports for Institute and ICAR-ATARI.
- Report of CFLD on oil seed (Mustard) for the year 2021-22 for ICAR-ATARI and Institute from time to time.
- Report of crop residue management demonstration and other activities from time to time.

16.0 Activities under District Agriculture Meteorology Unit (DAMU) in 2023

District Advisories: 104; Block wise Advisories: 832; Total Advisories: 936; Impact Based Forecast: 18; Number of whatsapp group: 22 with 4500 members.



16.0 LINKAGE OF KVK WITH DIFFERENT ORGANIZATIONS

During the year 2023 KVK maintained strong linkage with line departments to carry out various activities in the district. The type of linkages with various organizations is shown in the following table:

Linkages with various organizations

Sr. No.	Name of organization	Nature of linkage
1.	Animal Husbandry Deptt., Govt of Haryana	Planning annual training schedule, organizing dairy activities in villages
2.	Agriculture Deptt, Govt of Haryana	Organization of field activities, planning of training schedule.
3.	Agriculture Unversities (CCSHAU, Hisar; PAU, Ludhiana; GBPAU Pantnagar)	Field visits, Procurement of latest varieties of seeds and guest speakers, interchange of subject-matter specialists.
4.	Haryana Khadi Gramodyog Board, Karnal	Loans for trainees of bee-keeping, guest speakers.
5.	ICAR Institutes, Karnal	Field visits, Procurement of latest varieties of seeds and guest speakers, interchange of subject-matter specialists.
6.	CCS HAU, Regional Station, Uchani, Karnal	Planning annual training schedule and guest speakers.
7.	KrishiVigyan Kendra (HAU), Karnal	Collaborative training programme and guest lectures

8.	Nehru Yuva Kendra, Karnal	Organizing training programmes for their volunteers/extension workers.
9.	NGOs (Haryana GyanVigyan samiti, Arpana Trust and others)	Organizing training programmes for their volunteers/extension workers & for utilizing services of field activities
10.	Financial Institutions (Banks etc.)	Loans for trainees of dairy farming, bee-keeping etc. and inviting guest lecturers on finance facilities.
11.	District Horticulture Department, Karnal	Planning annual training schedule and guest speakers.
12.	District Forest Department, Karnal	Planning annual training schedule and guest speakers.
13.	District Fisheries Department, Karnal	Sponsoring farmers for training in fisheries & guest speakers
14.	Rural Institutions (a) Gram Panchayat (b) Co-operatives (c) Schools	In village training programmes/demonstration work, field activities, Awareness programmes
15.	Haryana Agro Industries Corporation Ltd.	Planning, annual training schedule & Guest speakers.