

ANNUAL PROGRESS REPORT-2023 (Jan-2023 to Dec-2023)

KRISHI VIGYAN KENDRA JUNAGADH AGRICULTURAL UNIVERSITY, PIPALIA

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone	e-mail	Web Address
Krishi Vigyan Kendra, Junagadh Agricultural University, Pipalia (Dhoraji) Dist: Rajkot, Gujarat	02824-292584	kvkpipalia@jau.in	www.jau.in

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

Address	Telephone		e-mail	Web Address
	Office	Fax		
Junagadh Agricultural University, Junagadh (Gujarat)	0285-2672080	0285-2672653	-	www.jau.in

1.3 Name of the Senior Scientist and Head with phone & mobile no.

Name	Telephone /Contact		
	Residence	Mobile	e-mail
Dr. A. J. Bhatt	-	9998707666	ajbhatt@jau.in

1.4 Year of sanction: 16, March-2012

1.5 Staff Position (as on Jan, 2024)

S. N	Sanctioned post	Name of the incumbent	Discipline	If Permanent, Pls indicate		Date of joining
				Current Pay Band	Basic Pay	
1.	Senior Scientist and Head	Dr. A. J. Bhatt	Fisheries	68900-205500	98300	30.08.06
2.	Subject Matter Specialist	Dr. S. V. Undhad	Pl. Protection	57700-182400	73000	27.03.15
3.	Subject Matter Specialist	Dr. V. S. Prajapati	LPM	57700-182400	73000	01.04.15
4.	Subject Matter Specialist	A.R Parmar	Horticulture	57700-182400	70900	17.01.17
5.	Subject Matter Specialist	Dr. Mamta Kumari	Home Science	57700-182400	75200	01.04.13
6.	Subject Matter Specialist	Vacant	Agronomy	-	-	-
7.	Subject Matter Specialist	Dr. A. J. Bhatt	Extension	-	-	-
8.	Programme Assistant	P D Chaudhary	M.Sc.(Agri)			04.08.18
9.	Computer Programmer	R. G.Panseriya	Com. Operater	44900-142400	53600	31.12.13
10.	Farm Manager	K D Chaudhari	B.Sc.(Agri)			27.07.18
11.	Accountant/ Superintendent	K. G.Dhaduk	Accounting & Admins.	44900-142400	53600	12.06.13
12.	Stenographer	K. R. Yadav	Steno.Grade III	25500-81100	36500	06.02.14
13.	Driver 1	Vacant	-	-		-
14.	Driver 2	Vacant	-	-		-
15.	Supporting staff 1	Vacant	-	-		-

16.	Supporting staff 2	L.B. Chavda	-	25500-81100	35000	13.12.89
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1.6. Total land with KVK (in ha): 20.00 ha

Sl. No.	Item	Area in hectare(s)*
1	Under Building and Road	-
2	Under Demonstration units	-
3	Under crops	18.00
4	Orchard	-
5	Agro-forestry	-
6	Others	2.00
Total		20.00

1.7. Infrastructural Development:**A) Buildings**

Sl. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	-	-	-	-	Jun 2022	-	Completed
2.	Farmers Hostel	-	-	-	-	-	-	-
3.	Staff Quarters (6)	-	-	-	-	-	-	-
4.	Demonstration Units	-	-	-	-	-	-	-
5	Fencing	-	-	-	-	-	-	-
6	Rain water harvesting system	-	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Working Hrs/kms	Present status
Jeep (Bolero)	2013	661107	115000 Kms	Working
Mahindra Tractor	2013	565000	4524 hrs	Working
Mini Tractor (Mahindra)	2016	248000	-	Working
John Deere Tractor	2021	676415	1290 hrs	Working

C) Equipment & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Cultivator (9 tine)	2013	19000	Working
Blade Harrow	2013	11500	Working
Automatic seed drill	2016-17	37619	Working
Mini tractor drawn spray pump	2016-17	69500	Working
Rotavator	2016-17	91245	Working
Reversible MB Plough	2016-17	37500	Working
Pusa STFR meter kit (WST-312P)	2016-17	80600	Working
Mridaparikshak soil testing mini lab	2016-17	90300	Working

1.8. Details of SAC meeting conducted in the year (2023- 11th SAC Meeting)

S.N	Date	Parti	Salient Recommendations	Action taken
1	06-2-2023	29	1. Present the adoption and spread of demonstrated technologies by KVK	Suggestion accepted and will be presented during SAC meeting.
			2. Organize need based training and aware farmers regarding recent advancement in particular training.	Suggestion accepted and trainings are organized accordingly.
			3. In FLDs, of garlic, the yield should be compared with state average to further continuation of FLDs	Average production of garlic is 5-7 tons per hectare for FLD farmers and state average production is 7.6 t/ha
			4. MDP technology should be demonstrated against infestation of fruit borers	Suggestion accepted and demonstration is in progress.
			5. In FLDs, yield range should be mentioned in report.	Suggestion are accepted and demo yield range is mention in report.
			6. In cluster FLDs, 3-year analysis should be concisely conferred during presentations	Suggestion are accepted and 3 year analysis will be presented during SAC meeting.
			7. Determine the viability of Azola unit for its expansion	The Azola unit is feasible among farmers and required for extension.

2.DETAILS OF DISTRICT**2.1 Major farming systems/enterprises (based on the analysis made by the KVK)**

S. N	Farming system/enterprise
1	Groundnut-Wheat/Coriander, Cumin, Garlic, Cotton-Summer Groundnut/Pulse crop/Sesame
2	Live stock
3	Farm waste management specially cotton stalk
4	Fruit and vegetable preservation
5	Value addition in Groundnut and wheat

2.2 Description of Agro-climatic Zone & major agro ecological

S. N	Agro-climatic Zone	Characteristics
Zone-VI	North Saurashtra	The influence area of North Saurashtra Agro climatic Zone is spread among five districts (35.2 lakh Ha). Out of total area 73.40 per cent area falls under arid and semi-arid region. The soils of this zone are shallow to moderately deep. The soils of Rajkot district are medium black and low in their availability of nitrogen while medium phosphorus and high in available potash. Monsoon commences usually by the end of June and withdraws by middle of September. Average annual rainfall of districts is 1141.2 mm.
Zone-VII	South Saurashtra	The influence area of South Saurashtra Agro-climatic Zone is spread among four districts. (Part of Rajkot, Bhavnagar, Amreli and whole district of Junagadh). Type of soil is shallow medium black calcareous soils. Soil are medium to high in nitrogen content, phosphorus low and potash high. Average annual rainfall of the zone is 625-750 mm.

Agro – Ecological situation in the District

Sr. No.	Agro Ecological Situation	Characteristics	Taluka covered	Remarks
1	Situation No. 2	Medium Black Soil with 500-600 mm Rainfall	Gondal, Jamkandorna	North Saurashtra Zone, Zone-VI

2	Situation No.4	Shallow Black Soil with 500-600 mm Rainfall	Lodhika, Kotadasangani	
3	-	Shallow medium black soil with 620-750 mm Rainfall	Jetpur, Dhoraji, Upleta	South Saurashtra Zone, Zone-VII

2.3 Soil type

S.No.	Soil type	Characteristics
1	Clay to clay loam	Medium black calcareous soil
2	Sandy clay loam to clayey	Well drained soil with rapid permeability
3	Sandy to sandy 10 cm calcareous	Well drained soils

2.4 Area, Production and Productivity of major crops cultivated in the district (2021-22)

S. No	Crop	Area (ha)	Production (MT.)	Yield (Kg/ha)
	Kharif			
1	Groundnut	2710.07	5550.11	2047.96
2	Cotton	1982.20	6487.41	556.38
3	Sesame	22.16	7.33	330.56
4	Castor	50.35	143.44	2848.93
5	Green Gram	19.78	8.78	443.79
6	Red Gram	36.80	60.25	1637.20
7	Soyabean	113.04	202.34	1790.00
	Rabi			
8	Wheat	915.20	3477.34	3799.54
9	Chickpea	1482.04	3253.02	2194.96
10	Cumin	228.74	152.71	667.61
11	Garlic	65.16	495.35	7602.00
12	Onion	117.24	3400.51	29004.70
	Summer			
13	Groundnut	18.50	40.00	2162.12
14	Bajra	5.22	15.21	2913.34
15	Green gram	23.82	31.56	1324.79
16	Sesame	72.81	99.53	1376.00
17	Onion	5.01	147.31	29403.00

Source: Directorate of agriculture, Gandhinagar (<https://dag.gujarat.gov.in>)

2.5. Weather data (2023)

Month	Rainfall (mm)	Temperature 0 C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
January	00	-	-	-	-
February	00	-	-	-	-
March	00	-	-	-	-
April	00	-	-	-	-
May	187	-	-	-	-
June	204	-	-	-	-
July	135	-	-	-	-
August	14	-	-	-	-
September	11	-	-	-	-
October	08	-	-	-	-
November	00	-	-	-	-
December	00	-	-	-	-
Total	559	-	-	-	-

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

Category	Population	Production	Productivity
Cattle			
Cow	515003	1150 lit /lactation	4.60 lit / day
Buffalo	430795	1390	5.26 lit/day
Sheep	192994	-	-
Goats	171515	-	-
Pigs	-	-	-
<i>Crossbred</i>	-	-	-
<i>Indigenous</i>	-	-	-
Rabbits	212	-	-
Poultry			
Hens		100 eggs /year	-
<i>Desi</i>	9988	140 eggs /year	-
<i>Improved</i>	13527		-
Category		Production (Q.)	Productivity
Fish (Reservoir)			

2.7 Details of operational area (Villages)

Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Dhoraji	Dhoraji	NaniParabadi	Groundnut, Cotton, Sesamum, Wheat, Cumin, Coriander, Chickpea, Garlic and onion. Enterprise are dairy business, vermicomposting	- Infestation of pink bollworm in cotton -Sucking pest in all crops - Stem rot disease in groundnut -Coriander& Chickpea wilt - Less area under horticultural crops -Infertility in livestock	- IPM, IDM and INM in major crops - Motivate the farmers for horticulture crop - To create awareness for value addition - Popularization of MIS - Create awareness of artificial insemination
		Patanvav			
Jetpur	Jetpur	Amrapur			
		Mandlikpur			
Jamkadorana	Jamkadorana	Jasapar			
		Nani Dhudhivadar			
		Sanala			
Upleta	Upleta	Nagvadar			
		Talanganana			
Gondal	Gondal	Daliya			
		Shemla			
		Bhojpara			

2.8 Priority thrust areas

S.N	Crop/ Enterprise	Thrust area
1.	Groundnut, Sesame etc.	Increase productivity of crops by adopting recommended practices in integrated pest management & IDM (Management of white grub and stem rot)
2.	Cotton	-Integrated pest management (management of pink bollworm in Bt. cotton) & INM in cotton -Recycling of cotton stalk (Popularizing of cotton shredder)
3.	Coriander, Sesame, etc.	Increasing the productivity of major crops by adopting recommended technologies, newly release variety and to create awareness of value addition
4.	Cumin	Integrated disease and pest management
5.	Farm waste	Recycling of farm waste through composting, Vermicomposting, green manuring, etc.
6.	Micro irrigation	Efficient use of water by micro irrigation system, water harvesting structure, and water conservation techniques

7.	Farm Women	Farm women empowerment by training in value addition, handicrafts, and small scale enterprises
8.	Horticulture(Papaya, Pomegranate, Chilly etc)	Postharvest technology and value addition in fruit and vegetable, INM, canopy management in orchard
9.	Animal Husbandry	Increasing the productivity of livestock animals by adopting scientific practices and to create awareness about clean milk production

3. TECHNICAL ACHIVEMENT

3. A. Achievement on technology assessed and refined during 2023

OFT				
Year-2023	Number of OFTs		Number of Farmers	
	Targets	Achievement	Targets	Achievement
OFT	6	6	20 (30 Animal)	20 (30 Animal)

FLD	Area of FLD (ha)		No. of Farmers	
	Targets	Achievement	Targets	Achievement
Rabi-2022				
Wheat	4	4	10	10
Chick pea	4	4	10	10
Cumin	4	4	10	10
Tomato (INM)	4	4	10	10
Onion (INM)	4	4	10	10
Total (A)	20	20	50	50
Animal Husbandry (By pass fat)	-	-	20	20
Animal Husbandry (Bypass protein)	-	-	20	20
Animal Husbandry(Calpar Gold)	-	-	10	10
Total (B)	-	-	50	50
Total (A+B)	20	20	50 (50ah)	50 (50 ah)

FLD	Area of FLD (ha)		No. of Farmers	
	Targets	Achievement	Targets	Achievement
Summer -2023				
Sesame	4	4	10	10
Total (A)	4	4	10	10
Kharif -2023				
Ground nut (IPM) (GG-22)	4	4	10	10
Ground nut (IDM)	4	4	10	10
Groundnut (CFLD, GG-22)	10	10	25	25
Cotton (IPM)	10	10	10	10
Cotton (INM)	4	4	10	10
Tomato(INM)	4	4	10	10
Brinjal (IPM) MDP tube	4	4	10	10
Vegetable seeds for Kitchen gardening	0.5	0.5	50	50
Total (B)	40.5	40.5	135	135
Rabi-2023-24				
Wheat	4	4	10	10
Chick pea	4	4	10	10
Cumin	4	4	10	10

Garlic (IPM)	4	4	10	10
Brinjal (Varietal) GRB-7	4	4	10	10
Onion (GJRO-11)	5.2	5.2	13	13
Mulching	12	12	30	30
Total (C)	37.2	37.2	93	93
Animal Husbandry (By pass fat)	-	-	20	20
Animal Husbandry (Bypass protein)	-	-	20	20
Animal Husbandry(Calpar Gold)	-	-	10	10
Twin Wheel Hoe for weeding	-	-	10	10
Total (D)	-	-	10 (50 AH)	10 (50 AH)
Total (A+B+C+D)	81.7	81.7	248 (50 AH)	248 (50AH)

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			No. of Participants		No. of activities		No. of Participants	
Clientele	Targets	Ach.	Targets	Ach.	Targets	Ach.	Targets	Ach.
PF/FW/R/Y	45	50	1255	2756	200	225	6000	15050
Voc. Training	2	2	60	78				
Extn. Func.	2	2	50	82				
Spons Trg	12	13	360	809				
Natural Farm/ Millets Aware	10	10	280	538				
Total	71	77	2005	4263	200	225	6000	15050

3.B. Abstract of interventions undertaken

S.N	Thrust area	Crop/ Enterprise	Identified Problem	Interventions
1.	Integrated Pest Management	Ground nut	White grub infestation	OFT conducted -1 FLDs – 10 No. Training and Diagnostic visit
2.	Improved variety of Groundnut	Ground nut	Low yield and infestation of stem rot	CFLD FLDs : 50 (GJG-22) Training, Advisory service
3.	Integrated Disease Management	Ground nut	Stem rot infestation	FLDs : 10 Training, Diagnostic visit,
4.	Integrated Pest Management	Cotton	Pink Bollworm Infestation	FLDs: 5 (Pheromone trap) Training, Diagnostic visit, Campaign
5.	Integrated Nutrient Management	Cotton	Nutrient deficiency	FLDs : 10 Training, Advisory service
6.	Integrated Nutrient Management	Wheat	Lack of knowledge about INM and Bio-fertilizer.	OFT-1, FLDs:10 Training, Advisory service
7.	IDM in cumin	cumin	Wilt incidence in cumin	FLDs : 10 Training, Advisory services
8.	IDM in chick pea	Chick pea	Low yield of chick pea	OFT-1, FLDs: 10 (GG-5) Training, Advisory Service
9.	Integrated Pest Management	Onion	Thrips infestation and low yield	OFT -1 Training, Diagnostic visit
10.	Improved variety Of Tomato	Tomato	Low Yield & disease occurrence	OFT-1 Training, Diagnostic visit
11	IPM(Horticulture) MDP tube	Brinjal	Low yield and fruit and shoot borer infestation	FLD Training and advisory service

12.	INM (Horticulture)	Tomato	Low Yield	FLD-10 Training, Advisory Service
13	Improved variety (Horticulture)	Brinjal	Low Yield	FLD-10, Brinjal (GRB-7) Training, Advisory service
14	IPM	Garlic	Low yield	FLD-10 Training and advisory service
15	Improved variety (Horticulture)	Onion	Dept. of vegetable science JAU Junagadh	FLD-13, Onion (GJRO-11) Training, Advisory service
16	Mulching	Plastic mulching	Renewable energy department JAU Junagadh	FLD-30 Training, Advisory service
17	Nutritional security	Farm Women	Concept of kitchen gardening to combat nutritional issues	FLDs : 50 Training
18	Drudgery Reduction	Farm Women	Ease in weeding practices at field	FLD-10 Training
19	Value Addition	Ground nut	Lack of awareness about groundnut milk & its value addition	OFT-1 Training
20	Nutrition Management in Buffalo	Buffalo	Lack of knowledge about nutrition management in Buffalo	OFT:1 Training, Diagnostic visit Advisory Service
21	Nutrition Management in cattle	Cattle	Lack of knowledge about nutrition management in cattle	FLDs: 50 (calcium supplement, Bypass protein & fat) &Training

3.1 Achievements on technologies assessed and refined

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

Thematic areas	Cereals	Oilseeds	Pulses	Com m-ercial Crops	Veget -ables	Fruit s	Flower	Plant -ation crops	Tuber crops	TOTAL
Varietal Evaluation	-	-	-	-	1	-	-	-	-	1
Seed / Plant production	-	-	-	-	-	-	-	-	-	-
Weed/Thinning Management	-	-	-	-	-	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-	-
Integrated Farming System	-	-	-	-	-	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-	-	-	-	-	-
Drudgery reduction	-	-	-	-	-	-	-	-	-	-
Farm machineries	-	-	-	-	-	-	-	-	-	-
Value addition	-	1	-	-	-	-	-	-	-	1
Integrated Pest Management	-	1	-	-	1	-	-	-	-	2
Integrated Disease Management	-	-	1	-	-	-	-	-	-	1
Resource conservation technology	-	-	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-	-	-
TOTAL	-	2	1	-	2	-	-	-	-	5

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

Thematic areas	Cereals	Oilseeds	Pulses	Comm-ercial Crops	Veget -ables	Fruit s	Flower	Plant -ation crops	Tuber Crops	TOTAL
Varietal Evaluation	-	-	-	-	-	-	-	-	-	-
Seed / Plant production	-	-	-	-	-	-	-	-	-	-
Weed Management	-	-	-	-	-	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-	-

Integrated Farming System	-	-	-	-	-	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-	-	-	-	-	-
Drudgery reduction	-	-	-	-	-	-	-	-	-	-
Farm machineries	-	-	-	-	-	-	-	-	-	-
Post-Harvest Technology	-	-	-	-	-	-	-	-	-	-
Integrated Pest Management	-	-	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-	-	-

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

Thematic areas	Cat tle	Poult ry	Sheep	Goat	Piggery	Rabbit ary	Fisher ies	TOTAL
Evaluation of Breeds	-	-	-	-	-	-	-	-
Nutrition Management	1	-	-	-	-	-	-	1
Disease of Management	-	-	-	-	-	-	-	-
Value Addition	-	-	-	-	-	-	-	-
Production and Management	-	-	-	-	-	-	-	-
Feed and Fodder	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-
TOTAL	1	-	-	-	-	-	-	1

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

Thematic areas	Cat tle	Poult ry	Sheep	Goat	Piggery	Rabbit ary	Fisher ies	TOTAL
Evaluation of Breeds	-	-	-	-	-	-	-	-
Nutrition Management	-	-	-	-	-	-	-	-
Disease of Management	-	-	-	-	-	-	-	-
Value Addition	-	-	-	-	-	-	-	-
Production and Management	-	-	-	-	-	-	-	-
Feed and Fodder	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-

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

3.B2 List of Technology Assessed during- 2023

S. No	Thematic area	Name of the technology assessed	Area (ha.)	No. of trials	Re- marks
1	Integrated Pest Mgt	Integrated Pest Management	1.5	3	-
2	Integrated Nutrient Management	Use of Bio-agents and fungicides	1.5	3	-
3	Feed management	Nutritional management of milch animals	-	30	-
4	Improved Variety	Use of new release variety of tomato	1.2	3	-
5	Integrated Pest Management	Use of Bio agents and pesticides	1.2	3	-
6	Drudgery reduction	Twin wheel hoe for weeding practices	-	10	-
7	Value Addition	Groundnut milk & its value addition	-	5	-

3.B3 List of Technology Refined during - 2023

S. No	Thematic area	Name of the technology refined	Area (ha.)	Number of trials	Remarks if any
-	-	-	-	-	-

B. DETAILS OF ON FARM TRIALS CARRIED OUT ON FARMER'S FIELD (2022)**OFT-1 TITLE: MANAGEMENT OF WILT DISEASE IN CHICKPEA**

- 1. Problem definition:** Low yield due to wilt incidence in chickpea
- 2. Details of technologies selected:**

Cultivation of chickpea in Rajkot district was increase day by day from last three years. But this crop suffers mainly from wilt disease. The farmers use number of unnecessary and costly chemical but not effectively manage wilt in chickpea. The new recommendation of chemical seed treatment with biological input was made for manage wilt in chickpea. Hence, this will make with on farm testing.

3. Treatments:

Farmer's practice:

Seed treated with carbendazim @ 3.0 gram/kg. Seed at the time of sowing

Recommended practice:

1. Seed treated with carbendazim 1.0 gram + Thirum 2.0 gram/kg. Seed at the time of sowing
2. Soil application of Trichoderma viride @ 2.5 kg/ha. Along with 250 kg castor cake at the time of sowing

Intervention:

Soil application of copper oxychloride @ 1.5 kg/ha. Along with fertilizer at the time of sowing

4. Observations: Yield, Economics (B: C ratio)&Disease incidence (%)

5. Results: Response of recommended practices on wilt disease of chickpea

<i>Technology Option</i>	<i>No.of trials</i>	<i>Yield (qt./ha)</i>	<i>Net Return (Rs./ha)</i>	<i>B:C Ratio</i>
Seed treated with carbendazim @ 3.0 gram/kg. Seed at the time of sowing (<i>Farmers Practice</i>)	3	300	96706	1:3.63
1. Seed treated with carbendazim 1.0 gram + Thirum 2.0 gram/kg. Seed at the time of sowing 2. Soil application of Trichoderma viride @ 2.5 kg/ha. Along with 250 kg castor cake at the time of sowing (<i>Recommended Practice</i>)		325	120381	1:4.24
Soil application of copper oxychloride @ 1.5 kg/ha. Along with fertilizer at the time of sowing (<i>Intervention</i>)		262	103368	1:3.82

OFT-2: ASSESSMENT OF EFFECT OF CONCENTRATE AND BYPASS FAT FEEDING ON MILK PRODUCTION IN GIR CATTLE

Problem Identified:

1. Lack of knowledge about bypass fat feeding technology.
2. Low milk production due to improper feeding
3. Lack of energy for milk production

Technologies assessed: To improve Milk production and animal health

Year of assessment :2019-20

Source of technology:NAU, Navsari (2011)

No. of trials :30 (10 animal/treatment)

Critical inputs supplied: Concentrate and bypass fat powder

Observations to be recorded: Milk Yield (Lit/Animal/Day), B:C ratio and Farmers perception

Results:

Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	B:C ratio
T1: Routine Farmer Practice (10 kg dry fodder+15 kg green fodder+Ground nut cake)	Milk production at 0, 2, 4, 6, 8, 10 and 12 weeks (lit. / day) (10 animals/	Milk prod. at week (Lit./Day) 0 = 6.0 2 = 6.2 4 = 6.3 Ave: 6.5 lit/day 6 = 6.6 8 = 6.7	Increase milk production in Concentrate alone (T ₂)	• Increase milk production • Reduce reproductive	1:1.8

	treatment)	10 = 6.8 12 = 6.9	and (T ₃) fed group	disorder • Reduce inter-calving period	
T2: T1+Concentrate (5 Kg/animal/day) (Recommended practice)		Milk prod. at week (Lt./Day) 0 = 7.4 2 = 7.6 4 = 7.7 Ave: 8.17 lit/day 6 = 8.2 8 = 8.5 10 = 8.8 12 = 9.0			1:2.45
T3: T1+T2+Bypass Fat (50 gm/cow/day)		Milk prod. at week(Lt./Day) 0 = 7.4 2 = 8.4 4 = 8.7 6 = 8.2 Ave: 8.7 lit/day 8 = 8.7 10 = 9.6 12 = 9.9			1:2.96

OFT- 3: ASSESSMENT OF ACCEPTANCE OF PEANUT MILK IN COMPARISON TO COW'S MILK AMONG CONSUMERS.

Objectives: -

- To evaluate the sensory characteristics of Peanut milk parallel to cow's milk
- To analyze the nutritional properties of both milk.
- To check the shelf life of the peanut milk.

Treatments: -

- T1- Cow's milk
- T2- Peanut milk
- T3- Mixture of both milk in equal ratio

Observations: -

- Sensory characteristics- colour, flavor, taste, overall acceptability
- Nutritional Properties- Protein, carbohydrate, fat, vitamin & minerals
- Shelf life- microbiological test and household level test.

No. of Trials: 5

Results:

Nutritional Attributes	pH	Calcium (ppm)	Magnesium (ppm)	Iron (ppm)	Phosphorus (%)	Sodium (%)	Ash (%)
Cow's Milk	5.89	925.12	95.63	2.93	0.06	0.07	0.20
Peanut Milk	5.33	51.8	129.37	30.54	0.03	0.03	0.15
Cow+ Peanut milk	5.57	459.74	125.94	6.55	0.05	0.05	0.24

Peanut milk has highest content of magnesium and iron but cow's milk is highest in calcium content. As we know, calcium and magnesium are good for our bones. Calcium is the most abundant mineral found in the body and most of it is found in our bones. Having enough calcium in diet can help reduce bone loss by 30 – 50%. At the same time, magnesium contributes to increased bone density

Fatty acid profile	Cow's Milk	Peanut Milk	Cow+ Peanut milk
Saturated	65.31	39.43	77.62
Unsaturated	34.69	60.57	22.38
- MUFA	27.35	37.60	5.14
- PUFA	7.34	22.97	17.24

Peanut milk has higher amount of unsaturated fatty acid while cow's milk has more of saturated fats. Unsaturated fats are liquid at room temperature, are considered beneficial fats because they can improve blood cholesterol levels, ease inflammation, stabilize heart rhythms, and play a number of

other beneficial roles. Unsaturated fats are predominantly found in foods from plants, such as vegetable oils, nuts, and seeds. Saturated fats are linked with bad cholesterol and can increase the risk of heart disease and stroke. Thus, both saturated and unsaturated fats can be a part of a healthy diet, though it's important to consume them in moderation.

B. DETAILS OF ON FARM TRIALS CARRIED OUT ON FARMER'S FIELD (2023)

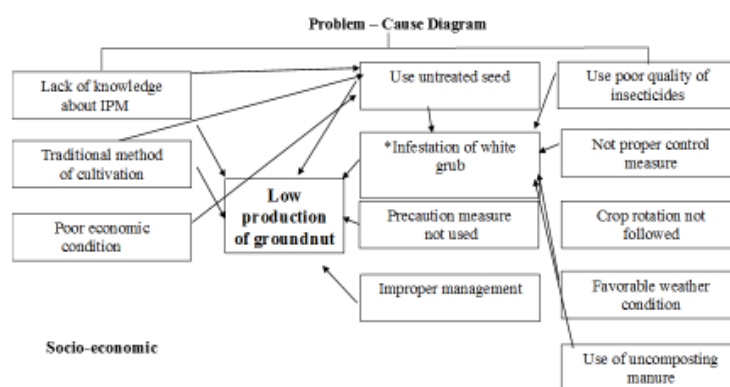
OFT 1: - ASSESSMENT OF MANAGEMENT OF WHITE GRUB IN GROUNDNUT

Introduction: -

The area under groundnut cultivation in Rajkot district is higher after cotton crops as compare to other crops. In this area groundnut crops are well suitable crops and gave higher production and productivity.

But last few years this crops suffering from heavy infestation of white grub insect. This insect cause severe damage to groundnut crops and resulting in yield loss. It is difficult to manage this pest. Farmer spent lots of money for uses of insecticides for control of this insect but not proper control. Therefore, it is very necessary to management through different possible solution of white grub in groundnut.

- Problem definition:** Low yield due to white grub infestation in groundnut
- Problem cause diagram:**



- Intervening point:** Management of white grub in groundnut
- Crop** : Groundnut
- Season/Year** : Kharif-23
- Plot size** :- 0.4 ha
- No. of Replication:** 3 (Farmer)
- Cost** : Rs. 3870 /-
- Source of technology:** Junagadh Agricultural University, Junagadh
- Treatments:**

- **Farmer's practice:** Soil application of chloropyriphos @ 4 liter/ha. with irrigation water at the time of attack
- **Recommended practice:** Soil application of Metarhizium anasopli 1.5% WP @ 5.0 kg/ha along with castor cake 300 kg/ha before sowing and Drenching of Metarhizium anasopli 1.5% WP @ 75 g/15 liter of water, in plant rows after 30 days of germination.
- **Intervention:** Seed treated with Chloropyriphos @ 15 ml/kg at the time of sowing and Drenching of Metarhizium anasopli 1.5% WP @ 75 g/15 liter of water, in plant rows after 30 days of germination

Results: Response of Biopesticides on white grub in groundnut

Technology Option	No. of trials	Yield (kg/ha)	BCR
1. Soil application of chloropyriphos @ 4 liter/ha. with irrigation water at the time of attack (Farmers Practice)	3	2958	1:3.22

1. Soil application of Metarhizium anasopli 1.5% WP @ 5.0 kg/ha along with castor cake 300 kg/ha before sowing 2. Drenching of Metarhizium anasopli 1.5% WP @ 75 g/15 liter of water, in plant rows after 30 days of germination water (Recommended Practice)	3542	1:3.90
1. Seed treated with Chloropyriphos @ 15 ml/kg at the time of sowing 2. Drenching of Metarhizium anasopli 1.5% WP @ 75 g/15 liter of water, in plant rows after 30 days of germination (Intervention)	3208	1:3.55

White grub infestation (Observation)

Treatments	Percent plant damage and No of white grub per 1 meter row length						Percent pod damage per plant
	35 DAS		60 DAS		90 DAS		
	No. of White grub	No of Damage plant	No. of White grub	No of Damage plant	No. of White grub	No of Damage plant	
Rec. practices	05	03	07	05	05	05	5.35
Far. practices	12	10	18	15	10	10	11.25
Intervention	08	09	11	10	08	08	7.99

Economic Impact (Continuation of previous table)

Average Cost of cultivation (Rs./ha)			Average Gross Return (Rs./ha)			Average Net Return (Profit) (Rs./ha)			Benefit-Cost Ratio (H)
Far. prac	Reco. prac	Inter ven	Far. prac	Reco. prac	Inter ven	Far. prac	Reco. prac	Inter ven	
66540	65790	65540	214479	256770	232604	147939	190981	167064	1:3.90

OFT 2. TITLE: MANAGEMENT OF WILT DISEASE IN CHICKPEA

1. Problem definition: Low yield due to wilt incidence in chickpea

2. Details of technologies selected:

Cultivation of chickpea in Rajkot district was increase day by day from last three years. But this crop suffers mainly from wilt disease. The farmers use number of unnecessary and costly chemical but not effectively manage wilt in chickpea. The new recommendation of chemical seed treatment with biological input was made for manage wilt in chickpea. Hence, this will make with on farm testing.

3. Treatments:

- **Farmer's practice:** Seed treated with carbendazim @ 3.0 gram/kg. Seed at the time of sowing
- **Recommended practice:** 1. Seed treated with carbendazim 1.0 gram + Thirum 2.0 gram/kg. Seed at the time of sowing
2. Soil application of Trichoderma viride @ 2.5 kg/ha. Along with 250 kg castor cake at the time of sowing
- **Intervention:** Soil application of copper oxychloride @ 1.5 kg/ha. Along with fertilizer at the time of sowing

4. Observations: Yield, Economics (B: C ratio) & Disease incidence (%)

5. Result: Awaited

OFT-3: ASSESSMENT OF EFFECT OF CONCENTRATE AND BYPASS FAT FEEDING ON MILK PRODUCTION IN GIR CATTLE**Problem Identified:**

1. Lack of knowledge about bypass fat feeding technology.
2. Low milk production due to improper feeding

3. Lack of energy for milk production

Technologies assessed: To improve Milk production and animal health

Year of assessment :2019-20

Source of technology: NAU, Navsari (2011)

No. of trials :30 (10 animal/treatment)

Critical inputs supplied: Concentrate and bypass fat powder

Observations to be recorded: Milk Yield (Lit/Animal/Day), B:C ratio and Farmers perception

Results:

Technology Assessed	Parameters of assessment	Increases in milk prod. (Average) (lit./day)	B:C ratio
T1: Framer's practice (Green and dry fodder -green fodder 20 kg + dry fodder 8 kg/animal/day)	Milk production at 0, 2, 4, 6, 8, 10 and 12 week (lit. / day)	Results awaited	Results awaited
T2: T1 +Concentrate (1.5kg/cow/day for maintenance+500 gm for each lit. milk production)			
T3: T1+T2 + Bypass fat 50 gm/cow/day			

OFT 4. TITLE: RESPONSE OF NEW RELEASE TOMATO VARIETY GT-6 ON YIELD

Problem Identified:

1. Lack of knowledge about new variety release.
2. Non availability of recent varieties in market
3. Occurrence of pest and diseases.

Objective: To increase yield of Tomato by sowing new release variety

Technologies assessed: To introduce new release variety and increase yield

Year of assessment: 2022-23

Source of technology: JAU, Junagadh

No. of trials :3

Critical inputs supplied: Seed of G.T.- 6 tomato variety

Observations to be recorded: Yield, B:C ratio and Farmers perception

District: Rajkot

Intervention points: Varietal

Treatment: Treatment-1: Sowing of Local Variety

Treatment-2: Sowing of Recommended Variety GT -6

Treatment-3: - Sowing of Private seed company variety (Abhinav)

Details	Yield (Kg/ha)	Net profit	B:C Ratio
Treatment-1 (Local variety)	29875	74438	1:2.00
Treatment-2 (GT-6)	35000	96500	1:2.58
Treatment-3 (Private company variety)	30208	70938	1:2.09

Economics

Average Cost of cultivation (Rs./ha)			Average Gross Return (Rs./ha)			Average Net Return (Profit) (Rs./ha)			Benefit -Cost Ratio (H)
Farmer prac.	Reco. Prac.	Interv	Farmer prac	Reco. prac	Interv	Farmer prac	Reco. prac	Interv	
65000	61000	65000	134438	157500	135938	69438	96500	70938	1:2.58

OFT 5. TITLE: ASSESSMENT OF EFFECT OF MICRO NUTRIENT ON YIELD OF GARLIC

1. **Problem definition:** Low yield due micro nutrient deficiency
2. **Treatments:**
3. **Treatment-1. Farmer's practices:** Application of only DAP and Urea in different Doses

Treatment-2. Recommended practices: Recommended dose of Fertilizer. RDF 50-50-50 (N-P-K) Kg/ha.

Treatment-3. Intervention: Apply foliar spray of multi-micronutrient formulation Grade IV (Fe-Mn-Zn-Cu-B, 4.0-1.0-6.0-0.5-0.5 %) @ 1% at 60, 75 and 90 DAS in addition to recommended dose of fertilizers (50-50-50 N-P₂O₅-K₂O kg/ha)

4. **Year of assessment:** 2021-22
5. **Source of technology:** JAU, Junagadh
6. **No. of trials :**3
7. **Critical inputs supplied:** GSFC G-4 Micronutrient 250gm pkt 3
8. **Observations to be recorded:** Yield, B:C ratio and Farmers perception
9. **District:** Rajkot
10. **9.Intervention points:** INM
11. **Observations:** B:C ratio and farmers' perception
12. **Results:**

Details	Yield (Kg/ha)	Net profit	BCR
Farmer's practices	6543	132633	1:1.95
Recommended practices	6883	151783	1:2.12
Intervention	7696	175393	1:2.29

AverageCost of cultivation (Rs./ha)			AverageGrossReturn (Rs./ha)			AverageNetReturn (Profit) (Rs./ha)			Benefit-Cost Ratio (H)
Farmer prac.	Reco. Prac.	Inter-vention	Farmer prac.	Reco. Prac.	Inter-vention	Farmer prac.	Reco. Prac.	Inter-vention	
140000	135000	135607	272633	286783	310000	132633	151783	175393	1:2.29

OFT- 6: ASSESSMENT OF ACCEPTANCE OF PEANUT MILK IN COMPARISON TO COW'S MILK AMONG CONSUMERS.

Objectives: -

1. To evaluate the sensory characteristics of Peanut milk parallel to cow's milk
2. To analyze the nutritional properties of both milk.
3. To check the shelf life of the peanut milk.

Treatments: -

1. T1- Cow's milk
2. T2- Peanut milk
3. T3- Mixture of both milk in equal ratio

Observations: -

1. Sensory characteristics- colour, flavor, taste, overall acceptability
2. Nutritional Properties- Protein, carbohydrate, fat, vitamin & minerals
3. Shelf life- microbiological test.

No. of Trials: 5

Results:

Sensory Parameters	Cow's Milk	Peanut Milk	Mix Milk
Colour	8.75	7.7	7.25
Flavour	8.5	6.76	7.0
Texture	8.95	6.95	7.33
Taste	8.25	6.8	7.25
Overall Acceptability	8.61	7.08	7.20

9-point hedonic scale

9- Liked Extremely	6- Liked Slightly	3- Dislike Moderately
8- Liked Very Much	5- Neither like nor dislike	2- Dislike Very Much
7- Liked Moderately	4- Dislike Slightly	1- Dislike Extremely

From the above table it can be observed that the overall acceptability for Peanut milk scores 7.08 on 9-point hedonic scale which describes that it was liked moderately by the consumers as compared to cow's milk. This may be due to the fact that consumers' lack knowledge on the concept of peanut milk and also the peanut milk is quite bitter in taste and have nutty flavour. The taste and flavour could be improved by adding chocolate, sugar, cardamom, etc. Thus, more acceptability of peanut milk can be achieved by awareness, trainings and demonstration on peanut milk and its value addition.

Nutritional Attributes	pH	Calcium (ppm)	Magnesium (ppm)	Iron (ppm)	Phosphorus (%)	Sodium (%)	Ash (%)
Cow's Milk	5.89	925.12	95.63	2.93	0.06	0.07	0.20
Peanut Milk	5.33	51.8	129.37	30.54	0.03	0.03	0.15
Cow+ Peanut milk	5.57	459.74	125.94	6.55	0.05	0.05	0.24

Peanut milk has highest content of magnesium and iron but cow's milk is highest in calcium content. As we know, calcium and magnesium are good for our bones. Calcium is the most abundant mineral found in the body and most of it is found in our bones. Having enough calcium in diet can help reduce bone loss by 30 – 50%. At the same time, magnesium contributes to increased bone density

Fatty acid profile	Cow's Milk	Peanut Milk	Cow+ Peanut milk
Saturated	65.31	39.43	77.62
Unsaturated	34.69	60.57	22.38
- MUFA	27.35	37.60	5.14
- PUFA	7.34	22.97	17.24

Peanut milk has higher amount of unsaturated fatty acid while cow's milk has more of saturated fats. Unsaturated fats are liquid at room temperature, are considered beneficial fats because they can improve blood cholesterol levels, ease inflammation, stabilize heart rhythms, and play a number of other beneficial roles. Unsaturated fats are predominantly found in foods from plants, such as vegetable oils, nuts, and seeds. Saturated fats are linked with bad cholesterol and can increase the risk of heart disease and stroke. Thus, both saturated and unsaturated fats can be a part of a healthy diet, though it's important to consume them in moderation.

Microbial Analysis: By Total Plate Count

Days	Cow's Milk (cfu/ml)	Peanut Milk (cfu/ml)	Cow+ Peanut milk (cfu/ml)
0 day	1.0×10^9	1.5×10^9	2.02×10^9
3 day	7.0×10^9	1.7×10^9	2.8×10^9
6 day	2.53×10^{11}	1.2×10^{10}	7.1×10^{11}

From the above table it could be concluded that cow's milk has higher microbial load at 3rd and 6th day in comparison to peanut milk and is more susceptible to spoilage due to variety of nutrients such as fats, proteins, minerals, vitamins, carbohydrates and water and thus it serves as an excellent medium for bacterial growth.

3.2 ACHIEVEMENTS OF FRONTLINE DEMONSTRATIONS

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

List of technologies demonstrated during previous year and popularized during 2023-24 and recommended for large scale adoption in the district

S. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Groundnut*	IPM	IPM	FLDs, Field days, Group discussion, Extension lit	12	215	230
2	Groundnut	IDM	Trichoderma	FLDs, Field days, Group discussion, Extension lit	18	245	250
3	Sesame	Varietal	GT-5	FLDs, Field days, Group discussion	6	18	250
4	Chick pea	Varietal	GG-5	FLDs, Personal visit, Training,	24	158	200
5	Wheat	INM	Azoto + PSB	FLDs, Extension literature, Training	11	50	47
6	Cumin	IDM	Trichoderma	FLDs, Training	12	75	98
7	Cotton	INM	INM	FLDs, Field days, Group discussion	19	140	158
8	Cotton	IPM	IPM	FLDs, Personal visit, Training, Extension literature	22	78	100
9	Tomato	INM	Mix micro	FLDs, Personal visit, Training, Extension literature	5	56	22.4
10	Brinjal	IPM	MDP tube	FLDs, Personal visit, Training, Extension literature	6	30	12
11	Garlic	IPM	Buveria bassiana	FLDs, Personal visit, Training, Extension literature	5	10	4
12	Brinjal	Varietal	GRB-7	FLDs, Personal visit, Training, Extension literature	6	32	12.8
13	Onion	Varietal	GJRO-11	FLDs, Personal visit, Training, Extension literature	7	13	5.20
14	Mulching	Weed control	Mulching role	FLDs, Personal visit, Training, Extension literature	15	30	7.50
15	Animal Husbandry	Feed Management	Calcium supplement	FLDs, Personal visit, Training,	16	425	-
16	Farm Women	Drudgery Reduction	Twin wheel hoe	FLDs	5	50	-
17	Farm Women	Household food security	Kitchen Gardening	FLDs, Personal visit, Training,	6	250	5

* Thematic areas as given in Table 3.1 (A1 and A2)

b. Details of FLDs implemented during 2023 (Information is to be furnished in the following three tables for each category i.e. Oilseed, Pulse and Other)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Short fall
					Pro.	Actual	SC/ST	Others	T	
Oilseeds										
1	Groundnut	IDM	Trichoderma	<i>Kharif-23</i>	4	4	2	8	10	-
2	Groundnut	IPM	IPM	<i>Kharif-23</i>	4	4	2	8	10	
3	Sesame	Variety	GT-6	<i>Summer-23</i>	4	4	1	9	10	-
Pulse										
4	Chickpea	Varietal	GG-5	<i>Rabi 23</i>	4	4	3	7	10	-
Others: Cereals										
5	Wheat	INM	Lok - 1	<i>Rabi -23</i>	4	4	2	8	10	-
Others: Spices										
6	Cumin	IDM	GC-4	<i>Rabi 23</i>	4	4	2	8	10	-
Others: Commercial crops										
7	Cotton	INM	INM	<i>Kharif 23</i>	4	4	2	8	10	-
8	Cotton	IPM	IPM	<i>Kharif 23</i>	10	10	2	8	10	
Others: Vegetables										
9	Tomato	INM	Local	<i>Kharif-23</i>	4	4	2	8	10	-
10	Brinjal	IPM	Local	<i>Kharif-23</i>	4	4	0	10	10	-
11	Garlic	IPM	Local	<i>Rabi-24</i>	4	4	2	8	10	-
12	Brinjal	Varietal	GRB-7	<i>Rabi-24</i>	4	4	0	10	10	-
13	Onion	Varietal	GJRO-11	<i>Rabi-24</i>	5.2	5.2	13	0	13	
Animal Husbandry										
14	Cattle	Feed Mgt	Calcium	<i>2023</i>	-	-	4	6	10	-
15	Cattle	Nutrient mgt.	Bypass Protein	<i>2023</i>	-	-	4	16	20	-
16	Cattle	Nutrient mgt.	Bypass fat	<i>2023</i>	-	-	5	15	20	-
Home Science										
17	Farm Women	Household food security	Kitchen Gardening	<i>Kharif-23</i>	0.5	0.5	10	40	50	-
18	Farm Women	Drudgery Reduction	Twin wheel hoe	<i>2023</i>	-	-	8	2	10	-

Performance of Frontline Demonstrations (2022) (old)

Sr. No.	Crop/Enterprise	Technology Demo.	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl/ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
Pulses (Rabi -2022)												
1	Chick pea	Varietal	GG-5	10	5	35.0	25.0	29.9	25.4	17.73	Yield	Yield
Cereals (Rabi -2022)												
2	Wheat	INM	Biofertilizer	10	4	58.8	47.5	51.8	47.4	9.23	Yield	Yield
Spices (Rabi -2022)												
3	Cumin	IDM	GC-4	10	4	10.6	7.5	9.3	8.3	11.28	Yield	Yield
Horticulture (Rabi-2023)												
4	Tomato Micronutrient	Rabi-2023	INM	10	4	321.3	311.3	316.1	283.8	18.23	Yield	Yield
5	Onion	Rabi-2023	INM	10	4	238.8	228.8	233.6	198.8	22.64	Yield	Yield
Animal Husbandry (2022)												
6	Livestock	Bypass Protein	Feed Mgt	20	-	1890			1650	4.54	Milk yield	Milk yield
7	Livestock	Bypass Fat	Feed Mgt	20	-	2030			1890	7.40	Milk yield	Milk yield
8	Livestock	Calcium supple.	Feed Mgt	10	-	1650			1480	4.86	Milk yield	Milk yield

FLD on Farm Implements & Machinery

Name of Implement	Crop	Technology Demonstrated	No. of Farmers	Area (ha)	Major parameter	Demo	Check	% change in parameter
Twin wheel hoe	Tomato, groundnut, etc	Twin wheel hoe	10	0.01	1) Average time taken for weeding	25 min	46 min	45.65%
					2) Body posture	Standing	Squatting	Relief in body pain (shoulder, calf, neck, thighs)

Conti... Table

Crops	Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio
	Demo	LC	Demo	LC	Demo	LC	
Demonstrations	14	15	16	17	18	19	20
Pulses (Rabi-2022)							
Chick pea (IDM)	39982	40232	156843	133218	116861	92986	1:3.92
Cereals (Rabi-2022)							
Wheat (INM)	57032	58532	129375	118437	72343	59905	1:2.27
Spices (Rabi-2022)							
Cumin (IDM)	56249	56312	370000	332500	313751	276188	1:6.58
Rabi-23							
Tomato (INM)	61600	65000	189675	160425	128075	95425	1:3.08
Onion (Azoto+PSM)	40600	43000	116813	95250	76213	52250	1:2.88
Animal Husbandry (2022)							
Livestock (bypass protein)	58132	54245	79231	71456	21099	17211	1:1.36
Livestock(bypass fat)	53987	51267	77529	70320	23542	19053	1:1.43
Livestock (Calcium Suppl)	54733	50987	74890	66354	20157	15367	1:1.36

Performance of Frontline Demonstrations (2023)

Sr. No.	Crop/ Enterprise	Technology Demo.	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl/ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
Kharif- Oilseeds												
1	Groundnut (Tricho)	IDM	GG - 20	10	4	43.8	30.0	35.9	31.3	14.80	Yield	Yield
2	Groundnut	IPM	GG - 20	10	4	36.3	27.5	31.9	25.9	23.19	Yield	Yield
3	Sesamum	Variety	GT-6	10	4	17.5	8.8	12.3	10.4	18.07	Yield	Yield
Pulses (Rabi)												
4	Chick pea	Varietal	GG-5	10	5	Result awaited						
Cereals (Rabi)												
5	Wheat	INM	Biofertilizer	10	4	Result awaited						
Other												
6	Cotton	INM	Bt.	10	4	31.3	22.5	25.6	23.3	10.22	Yield	Yield
7	Cotton	IPM	Bt.	5	10	28.8	22.5	25.0	21.8	14.94	Yield	Yield
Spices (Rabi)												
8	Cumin	IDM	GC-4	10	4	Awaited						
Horticulture												
9	Tomato	<i>Kharif-23</i>	INM	10	4	351.3	297.5	320.4	297.5	12.46	Yield	Yield
10	Brinjal	<i>Kharif-23</i>	IPM	10	4	418.8	376.3	396.9	340.1	16.69	Yield	Yield
	Garlic	<i>Rabi-24</i>	IPM	10	4	Aw						
	Brinjal	<i>Rabi-24</i>	Varietal	10	4	Aw						
Home Science												
13	Farm Women	Nutritional security	Vegetable seeds	50	0.5	-						
Animal Husbandry (2022)												
14	Livestock	Bypass Protein	Feed Mgt	20	-	Results Awaited						
15	Livestock	Bypass Fat	Feed Mgt	20	-	Results Awaited						
16	Livestock	Calcium supple.	Feed Mgt	10	-	Results Awaited						

FLD on Farm Implements & Machinery

Name of Implement	Crop	Technology Demonstrated	No. of Farmers	Area (ha)	Major parameter	Demo	Check	% change in parameter
Twin wheel hoe	Tomato, groundnut, etc	Twin wheel hoe	10	0.01	1) Average time taken for weeding	23 min	47 min	51.06 %
					2) Body posture	Standing	Squatting	Relief in body pain (shoulder, calf, neck, thighs)

Conti...Table

Crops	Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio
	Demo	LC	Demo	LC	Demo	LC	
Demonstrations	14	15	16	17	18	19	20
Oil seed-Kharif 2023							
Groundnut (IDM)	65652	65840	251125	218750	185472	152910	1:3.83
Groundnut (IPM)	66740	66240	271875	229281	205135	163041	1:4.07
Sesamum (Variety)	52066	51416	177625	150438	125559	99022	1:3.41
Pulses							
Chick pea (IDM)	Awaited						
Cereals							
Wheat (INM)	Awaited						

Other							
Cotton (INM)	73100	74600	185781	168562	112681	93962	1:2.54
Cotton (IPM)	72600	73200	181250	157687	108650	84487	1:2.50
Spices							
Cumin (IDM)	Awaited						
Kharif-23							
Tomato Micro	61750	65000	320375	284875	258625	219875	1:5.19
Brinjal IPM	52750	60000	198438	170063	145688	110063	1:3.76
Rabi-24							
Garlic (IPM)	Awaited						
Brinjal Varietal	Awaited						
Animal Husbandry (2023)							
Livestock (bypass protein)			Results Awaited				
Livestock(bypass fat)			Results Awaited				
Livestock (Calcium Suppl)			Results Awaited				

Technical Feedback on the demonstrated technologies

Sl. No.	Crop/ Enterprise	Variety/ Technology	Farmers' Feed Back
1	Groundnut	IPM	Application of chlorpyrifos 20-25 ml /kg as a seed treatment of groundnut seed reduce infestation of white grub (Very less white grub infestation)
2	Groundnut	IDM	Application of Trichoderma in Groundnut crop reduce infestation of stem rot and increase yield
3	Cotton	IPM	Integrated approach for management of pink boll worm i.e. MDP tube and two or three spray of Beauveria reduce incidence of pink boll worm
4	Cotton	INM	Application of Azotobactor and PSB culture reduce cost of chemical fertilizer and increase yield
5	Wheat	INM	Application of Azotobactor and PSB culture reduced the cost of chemical fertilizers and increase yield
6	Cumin	IDM	Application of trichoderma with castor cake reduce wilt in cumin and increase yield
7	Chick pea	Varietal	Less incidence of wilt in GG-5 var of chick pea and higher yield as compare to other variety
8	Sesame	Varietal	G.T-6 var. Bold and white seeded and higher yield
9	Tomato	INM	Application of micro nutrient Grade -4 reduce nutrient deficiency and increase yield
10	Onion	INM	Application of Azoto+PSB reduce nutrient deficiency and increase yield
11	Brinjal	IPM	MDP tube reduces the fruits and shoot borer infestation which save the 30 to 45 % damage of fruit that results increase in yield.
12	Brinjal	Varietal	GRB-7 Variety tolerant against little leaf disease and higher yield
13	Garlic	IPM	Spraying of buveria at initiation of thirps infestation and regular three spray at 10 days interval reduces the yield loss
14	Cattle	Bypass fat	Increase milk production of animal and overall improve animal health
15	Cattle	Bypass protein	Increase milk production of animal and reduction of inter calving period
16	Cattle	Calpar gold	Increase milk production of animal and reduce the metabolic disorder in animal
17	Farm Women	Twin wheel hoe	It improves the work posture from squatting to standing; provision of wheels makes the movement easy and reduces the Musculo-skeletal problems while performing the weeding activity.

18	Farm women	Vegetable seeds	Kitchen gardening gives continues supply of fresh vegetables at lower cost which gives daily nutritious food and security. The farm women are not applying any chemicals so they produce organic vegetables. Children also learned about gardening & biodiversity. Extra produce is given to neighbours which create harmonious relations.
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Extension and Training activities under FLD

Sr. No.	Activity	No. of Activity organized	Date	No. of Participants			Remarks
				Male	Female	Total	
1.	Field days	15	-	310	15	325	
2.	Training for farmers	18	-	306	101	407	
3.	Training for extension functionaries	2	-	69	13	82	

3.3 ACHIEVEMENTS ON TRAINING

A. On Campus

Thematic Area	No. of Courses	Participants		
		Male	Female	Total
Plant Protection	5	148	0	148
Home Science	4	08	151	159
Animal Husbandry	4	73	198	271
Horticulture	3	116	35	151
Grand Total	16	345	384	729

B. Off Campus

Thematic Area	No. of Courses	Participants		
		Male	Female	Total
Plant Protection	6	174	0	174
Home Science	5	34	282	316
Animal Husbandry	8	273	205	478
Horticulture	13	891	73	964
Extension Education	2	85	10	95
Grand Total	34	1457	570	2027

C. Consolidated table (On and Off Campus)

Thematic Area	No. of Courses	Participants		
		Male	Female	Total
Plant Protection	11	322	0	322
Home Science	9	42	433	475
Animal Husbandry	12	346	403	749
Horticulture	16	1007	108	1115
Extension Education	2	85	10	95
Grand Total	50	1802	954	2756

D. Vocational training programmes for Farm Women/Rural Youth

Crop / Enterprise	Date	Training title	Identified Thrust Area	Duration (days)	No. of Participants		
					M	F	Total
Farm Women	17/07/23 to 20/07/23	Bakery Products from Millets	Value addition	4 days	0	40	40

	25/07/23 to 27/07/23	Preparation of Bakery products at home level	Value addition	3 days	0	38	38
				Total	0	78	78

(E) Sponsored Training Programmes

Sr. No	Date	Title	Duration	Total No. of participants									Sponsoring Agency
				Other			SC/ ST			Total			
				M	F	T	M	F	T	M	F	T	
1	07/01/23	Ani.Hus.	1	30	50	80	10	25	35	40	75	115	State A.H. Deptt
2	11/01/23	Ani.Hus.	1	0	25	25	0	5	5	0	30	30	State A.H. Deptt
3	12/1/2023	Horticulture	1	55	0	55	15	0	15	70	0	70	State dept. Agri.
4	13/01/23	Horticulture	1	101	22	123	15	12	27	116	34	150	ATMA
5	16/01/23	Horticulture	1	70	0	70	0	0	0	70	0	70	ATMA
6	18/8/23	Home Sc.	1	0	25	25	0	5	5	0	30	30	FTC Jetpur
7	18/08/23	Horticulture	1	40	0	40	0	0	0	40	0	0	ATMA
8	22/08/23	Horticulture	1	20	20	40	10	10	20	30	30	60	FTC Rjt
9	22/8/23	Home Sc.	1	30	20	50	3	2	5	33	22	55	State Agri Deptt
10	21/12/23	Ani.Hus.	1	30	0	30	10	0	10	40	0	40	FTC Rajkot
11	24/12/23	Horticulture	1	0	0	0	30	0	30	30	0	30	FTC Rjt
12	26/12/23	Home Sc.	1	6	50	56	0	3	3	6	53	59	State Agri Deptt
13	27/12/23	Horticulture	1	0	45	45	0	15	15	0	60	60	FTC Rjt
Total			13	382	257	639	93	77	170	475	334	809	

3.4 Extension programmes (including activities of FLD Programmes)

S No	Nature of Extension Activity	No. of activities	Participants											
			Farmers (Oth.) (I)			SC/ST (Far.) (II)			Extn Officials (III)			Grand Total (I+II+III)		
			M	F	T	M	F	T	M	F	T	M	F	T
1	Field Day	2	40	0	40	4	0	4	0	0	0	44	0	44
2	Kisan Mela	5	900	190	1090	35	30	65	0	0	0	935	220	1155
3	Kisan Gosthi	4	175	0	175	19	0	19	3	0	3	197	0	197
4	Demonstration	15	60	142	202	0	18	18	0	3	3	60	163	223
5	Film Show	4	57	118	175	5	8	13	0	0	0	62	126	188
6	Group meetings	10	160	78	238	5	3	8	4	1	5	169	82	251
7	Radio Talks	10	-	-	-	-	-	--	-	-	-	--	-	5000
8	Newspaper coverage	3	-	-	-	-	-	--	-	-	-	--	-	1000
9	Parthenium Aware. Week	2	30	25	55	10	5	15	2	1	3	42	31	73
10	TV talks	2	-	-	-	-	-	--	-	-	-	--	-	1000
11	Popular articles	-	-	-	-	-	--	-	-	-	--	-	-	-
12	Ext. Literature	2	336	137	473	15	7	22	3	2	5	354	146	500
13	Advisory Services	20	300	0	300	20	0	20	0	0	0	320	0	3220
14	Scientist visit to farmers field	10	103	7	110	4	0	4	7	3	10	114	10	124
15	Farmers visit to	20	178	302	480	20	20	40	2	2	4	198	322	524

	KVK													
16	Diagnostic visits	30	114	5	119	6	0	6	0	0	0	120	5	125
17	ICAR Foundation Day	1	10	87	97	0	0	0	0	2	2	10	89	99
18	Kisan Diwas	1	42	18	60	4	2	6	0	0	0	46	20	66
19	World Soil Day	1	11	34	45	2	3	5	2	0	2	15	37	52
20	Ext Lit. Distri.	25	345	675	1020	30	50	80	0	0	0	375	725	1100
21	Skill Dev Trg	1	0	38	38	0	0	0	0	0	0	0	38	38
22	Poshan Maah Celebration	2	0	46	46	0	4	4	2	0	2	2	50	52
23	Technology Week	6	71	213	284	4	12	16	4	1	5	79	226	305
24	Swachhata Hi Sewa	10	40	519	559	0	86	86	0	5	5	40	610	650
25	Rabi Krishi Maho.	5	2015	1300	3315	200	185	385	4	0	4	2219	1485	3704
26	Int. Women's Day	1	10	128	138	0	22	22	1	1	2	11	151	162
27	Mahila Kisan Divas	1	0	46	46	0	0	0	1	0	1	1	46	47
28	UG Student Trg	3	15	0	15	0	0	0	0	0	0	15	0	15
29	Millets Awareness	10	15	432	447	0	87	87	1	3	4	16	522	538
30	Animal Health Camp	3	45	18	63	5	8	13	4	0	4	54	26	80
31	PM Kisan Sanman Nidhi	3	34	85	119	0	4	4	0	0	0	34	89	123
32	Jal Shakti Abhiyaan	8	8	420	428	0	115	115	0	5	5	8	540	548
33	VBSY	10	440	177	617	260	78	338	3	2	5	703	257	960
Total		225	5554	8101	13655	648	747	1395	43	31	74	6202	8848	15050

3.5 Production and supply of Technological products (2022-23 & 2023-24)

SEED MATERIALS

S.N	Crop	Variety	Stage	Area (ha)	Quantity(Q.)	Value (Rs.)
Kharif – 2022-23						
1.	Groundnut	GJG-32	Mega	10.5	49.05	123525
2.	Groundnut	GJG-32	Breeder	7.00	83.4	1127685
3.	Castor	GJCH-9	Hybrid	1.0	15.29	74997
				Total	18.50	147.74
Rabi-2022-23						
4	Wheat	GW-496	Mega	2.00	39	79029
				Total	2.00	39
Kharif-2023-24						
5	Groundnut	GJG-32	Mega	17.5	Grading in process	-
				Total	17.5	--
Rabi-2023-24						
6	Wheat	GW-496	Mega	12.0	Crop standing	-
				Total	12.0	-

Technological products

S.N	Particular	Quantity	Provide to No. of farmers	Amount
1	Groundnut Fodder	55695 Kg	--	417712/-
Total				417712/-

3.6 Literature Developed/Published (with full title, author and reference)

(A) Research paper published

SN	Particulars of Research paper	Naas Rating
1	Singh, J. and Kumari, M. 2023. Socio-economic impacts of agricultural technologies on farmers' livelihood. <i>National Academy Science Letters-India</i> , https://doi.org/10.1007/s40009-023-01351-7 .	6.65
2	Singh, J. and Kumari, M. 2023. Bharat me E-commerce banam bhautik khudra store: Ek tulnatmak adhyan. <i>Lok Prashasan</i> , 15(1): 59-72.	-
3	Prajapati V.S., Sharma P.S., Undhad S.V. and Parmar A.R. 2023. Assessment of profitable animal practices in KVK adopted villages of district Rajkot. <i>International Journal of Agricultural Extension and Social Development</i> , 7(1):574-577.	5.03

(B) Popular/ Technical articles (vernacular language)

Sr. No	Contributors	Year	Title	Magazine Name	Vol /Issue /Page No
1.	Nil				

(C) Books/ book chapters / Manuals etc.:

S.N	Contributors	Year	Title of Book/Chapter	ISBN	Publisher
1	Jagdeep Singh & Mamta Kumari	2023	Way to Win	9798398823677	Kindle Direct Publishing
2	Jagdeep Singh & Mamta Kumari	2023	Electronic & Print Media And Advertising: Contemporary Situation in Modern India	9798890663238	Kindle Direct Publishing

(D) Folder published in vernacular language:

S.N.	Title	Authors	Copies
1.	Prakrutik khetima sendriy carbonnu mahatva	Dr. N. B. Jadav, A.R. Parmar, Dr. S.V. Undhad, Dr. V.S. Prajapati, Dr. Mamta Kumari, P.D. Chaudhary, K.D. Chaudhary	1000
2.	Calander-2023 (Prakrutik Kheti)	Dr. N. B. Jadav, A.R. Parmar, Dr. V.S. Prajapati, Dr. S.V. Undhad, Dr. Mamta Kumari, P.D. Chaudhary, K.D. Chaudhary	500

(E) Workshop/Seminar/Conference/Meeting/Training Attended

S.N	Date	Name of Scientist	Title	Venue	Type
1	2/3/23 to 3/3/23	A.R. Parmar	Application of Robotics and Dron Technologies in Agriculture	JAU Junagadh	Workshop
2	24/4/23 to 26/4/23	A.R. Parmar	Competency skill enhancement for extension professional	JAU Junagadh	Training
3	27/4/23 to 29/4/23	Dr. Mamta Kumari & Dr. A. J. Bhatt	Next generation communication and management competencies for inspiring service excellence of extension professionals	JAU, Junagadh	Short Training
4	6/6/23	Dr. S.V. Undhad, A.R. Parmar	Agricultural Practices on Coconut: Problems & Remedies	JAU Junagadh	National Seminar
5	4/12/23 to 5/12/23	Dr. S.V. Undhad	The growing role of Artificial Intelligence in Agriculture: Revolutionizing farming practices	JAU Junagadh	Workshop
6	29/7/23 to 30/7/23	Dr. A. J. Bhatt	Annual Zonal Workshop of KVK	Auranga-bad	Workshop

3.7. Success stories/Case studies, if any (two or three pages' write-up on each case with suitable action photographs) ---NIL--

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

S. No.	Crop/ Enterprise	ITK Practiced	Purpose of ITK
1.	Chilly	Use castor as a trap crop	For controlling thrips and jassids
2	Crop husbandry	Crop rotation and mixed cropping	Control weed
3	Fertility Management	Application of <i>tach / morum</i>	To improve soil physical condition
4	Fertility Management	Sheep and goat penning	To improve soil fertility
5	Harvesting	Harvest pulse crop in the morning hours	To reduce shattering
6	Groundnut	Farmers maintain a set furrow system and apply manure and fertilizer every year in the same furrow.	To get residual effect of manure and fertilizer in succeeding crop
7	Groundnut	Some farmers near the river bed, apply sand in the set furrow for increasing infiltration rate of the soil	To reduce the water Logging condition in the field
8	Kharif crops	Farmer apply supplementary irrigation to the crops during moisture stress condition	For life saving irrigation to minimize the risk of crop failure
9	Cotton	Farmers grow Maize after 3-4 rows of cotton	To increase the natural enemies and fodder purpose
10	Cotton	After heavy rain, farmer apply irrigation to balance the salt concentration at top of soil	To balance the salt concentration
11	Groundnut	Farmers grow maize as mix crop in groundnut	To increase natural enemies & fodder purpose

3.9 Indicate the specific training need analysis tools/methodology followed: ----

A. Practicing Farmers & Farm Women:

- i) On Campus: Group discussion with farmers as well as other linked agencies & field visits.
- ii) Off Campus: Group discussion with farmers as well as other linked agencies & field visits.

B. Rural Youth:

- i) Vocational Training: Group discussion with rural youth as well as line deptts.
- ii) Skill Development: Group discussion with rural youth as well as line deptts.

C. In-service Personnel:

- i) Extension Workers: Group discussion with rural youth as well as line deptts.
- ii) Anganwadi Workers: Group discussion with workers as well as line deptts.

3.10 Field Activities

i. Number of villages adopted: 12

Sr. No	Name of village	Sr. No.	Name of Village	Sr. No.	Name of Village
1.	Talanganana	5.	Mandlikpar	9.	Dalia
2.	Nagavadar	6.	Amrapar	10.	Sanala
3.	Patanvav	7.	Bhojpara	11.	NaniDudhivadar
4.	NaniParabdi	8.	Shemla	12.	Jashapar

3.11 Activities of Soil and Water Testing Laboratory

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	-	-	-	-
Water Samples	-	-	-	-
Total	-	-	-	-

4. Impact: NIL

5: Linkage

5.1 Functional linkage with different organization

S.N	Name of organization	Nature of linkage
A	Junagadh Agricultural University	
1	College of Agriculture, Junagadh.	Impart training on Agril. aspects.
2	College of Agril. Engg, Junagadh	Impart training on Engg. aspects
3	Pulse Research Station, Junagadh	Supply of seeds for FLDs
4	Oilseeds Research Station, Junagadh	Supply of seeds for crop museum
5	Oilseeds Research Station, Amreli	Supply of seeds for crop museum
6	Director, DGR, Ivnagar, Junagadh	Training & exposure visit
7	Bio-control Lab, Dept of Ento. JAU. Junagadh	Supply of Beauveria, P. Trap, Lure etc.
8	Dept. of Plant Pathology, JAU, Junagadh	Supply of Bio fertilizer and Trichoderma
9	Vegetable Research Station, JAU, Junagadh	Supply of Vegetable Seeds
10	Cattle Breeding Farm, JAU, Junagadh	Training & exposure visit
B	State corporation and state deptt.	
1	District Agricultural Officer, Deptt. of Agriculture, District Panchayat, Rajkot	➤ Joint diagnostic team visit at farmers' field
2	District Rural Development Agency, Rajkot	➤ Organizing collaborative training to farmers
3	Deputy Director of Veterinary, Department of veterinary & Animal Husbandry, Rajkot	➤ For collaborative off campus training
4	Deputy Director of Horticulture, Rajkot	➤ For collaborative training and demonstration Programme
5	Deputy Director of Agriculture (Training), Farmer Training Centre, Rajkot	➤ Collaborative on campus training programme
6	Deputy Director of Agriculture (Extension), Rajkot	➤ For providing hostel facilities to participants and organizing collaborative Mahila Krishi Mela
10	Estate Engineer, Department of Irrigation, Dhoraji	
11	All Taluka Development Officers, and their team at Taluka level	
13	ATMA, Rajkot	

Note: The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, and participation in meeting, contribution received for infrastructural development, conducting training programmes and demonstration or any other

5.2 List Special programmes undertaken by the KVK, which have been financed by state Govt/ other agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
CLFDs (Oil seeds)	June - 2023	NFSM - Oilseed	48000/-
Farmers' Outreach Programme on Natural Farming	Nov 22 to Mar 23	ICAR	266000/-
Out scaling of Natural Farming through KVKs	Oct 23 to Mar 24	ICAR	698723/-

5.3 Details of linkage with ATMA

a) Is ATMA implemented in your district (Yes/No): - Yes

S.N	Programme	Nature of linkage	Remarks
1	District Level Training	Impart Training and diagnostic visit on Agricultural Aspects	-
2.	Block level training	Impart Training and diagnostic visit on Agricultural Aspects	

6. PERFORMANCE OF INFRASTRUCTURE IN KVK**6.1 Performance of demonstration units (other than instructional farm)**

Sl. No.	Demo. Units	Year of Establishment	Area	Details of production			Amount (Rs.)		Remarks
				Variety	produce	Quantity (Qtl)	Cost of inputs	Gross income	
-Nil-									

6.2 Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
-Nil-							

7. FINANCIAL PERFORMANCE**7.1 Details of KVK Bank accounts**

Bank account	Name of the Bank	Location	Account Number
With Host Institute	---	--	---
With KVK	State Bank of India	Galaxy chowk, Dhoraji	32586636847

7.2. Utilization of KVK funds during the year April 2022 Up to Jan-2023)

Sr. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	137000,000	11507000	11526788
2	Traveling allowances	200000		194266
3	Contingencies	1350000	1100000	911297
TOTAL (A)		152.50	126.07	126.32
B. Non-Recurring Contingencies				
1	Works	46.63441	46.63441	46.63441
2	Equipment's including SWTL & Furniture	-	-	-
3	Vehicle (Four wheeler)	-	-	-
4	Library (Purchase of assets like books & journals)	-	-	-
TOTAL (B)		46.63441	46.63441	46.63441
C. REVOLVING FUND		-	-	-
GRAND TOTAL (A+B+C)		19913441	17270441	17295792

7.3. Status of revolving fund

Year	Opening balance as on 1st April	Income during the year	Loan Income	Expenditure during the year	Loan Expend.	Net balance
April 2012 to March 2013	100000	10970	0	0	0	110970
April 2013 to March 2014	110970	48464	0	28	0	159406
April 2014 to March 2015	159406	424853	0	299225	0	285034
April 2015 to March 2016	285034	217280	0	266000	0	236314
April 2016 to March 2017	236314	1833862	0	1047720	0	1022456
April 2017 to March 2018	1022456	2181697	0	2415203	0	788950
April 2018 to March 2019	788950	3661217	0	2552946	0	1897221
April 2019 to March 2020	1897221	1332199	0	2344761	0	884659
April 2020 to March 2021	884659	4030759	0	2441025	0	2474393
April 2021 to March 2021	2474393	2207533	0	3425976	0	1255950
April 2022 to March 2023	1255950	4567308	7000000	7917986	0	4905272
April 2023 to Jan 2024	4905272	3349814	2425519	8110856	1181288	1388461

8.0 PLEASE INCLUDE INFORMATION, WHICH HAS NOT BEEN REFLECTED ABOVE (WRITTEN IN DETAILS)**8.1 “Mera Gaon Mera Gaurav” Scheme:**

The Mera Gaon Mera Gaurav scheme was implemented during the year 2019. Under this scheme, first following two groups of scientists were formed for village selection and base line survey.

Table 1: Details of MGMG Team and status of benchmark survey of selected villages

Team	Name of scientists with discipline	Name of village	Name of block	Name of district	Benchmark survey Status
1	2	3	4	5	6
Team 27	Dr. A. J. Bhatt (Fisheries) Dr. Mamta Kumari (H Sc.) Shri S V Undhad (Pl. Prot.)	Patanvav	Dhoraji	Rajkot	Completed
		Toraniya	Dhoraji		
		Zanzmer	Dhoraji		
		Arni	Upleta		
		Pedhala	Jetpur		
Team 28	Dr. V. S. Prajapati (LPM) Shri A R Parmar (Horti.) Shri P D Chaoudhry (Plant Breeding)	KhajuriGundala	Jetpur	Rajkot	Completed
		CharanSamdhiyala	Jetpur		
		Jasapar	Jamkandorna		
		Satodad	Jamkandorna		
		Chitavad	Jamkandorna		

Table 2: Activities carried in the selected villages

Team	Visit to village	Goshtis/ Interface meetings conducted	Demonstrations conducted
------	------------------	---------------------------------------	--------------------------

	No. of visits	No. of farmers	No. of goshtis/ interface meets	No. of farmers	Title of demonstration	No. of demons	No. of farmers
1	2	3	4	5	6	7	8
Team 27	7	32	3	65	Feed Management	9	9
Team 28	8	52	4	82	Kitchen gardening	15	15

Team	Trainings conducted		Mobile-based advisory		Literature support provided		Input support	
	No. of training	No. of farmers	No. of farmers	No. of advisories	No. of literature	No. of farmers	Area (ha)	No. of farmers
9	10	11	12	13	14	15	16	17
Team 27	4	96	238	20	751	321	-	-
Team 28	5	138	221	20	800	358	-	-

8.2 Celebration of International Women's Day

The International Women's Day was celebrated by KVK Pipalia among 160 number of rural women in collaboration with Aga Khan Foundation at Manavadar Taluka. This year the theme was "**DigitALL: Innovation and technology for gender equality**". Women experts from different fields viz. CDPO, Entrepreneurs, Agriculture deptt., GSFC, KVK, TDO, IRDA, NGO etc. were invited to motivate the women for their rights, equality & empowering role in the society. The women were sensitized to become self-reliant and courageous so that they could take decisions for themselves.

8.3 Celebration of World Water Day

The World Water Day celebrates water and raises awareness of the global water crisis. The theme of World Water Day 2021 was "Accelerating the change to solve the water and sanitation crisis". In line with this KVK, JAU, Pipalia had also celebrated the day on 22nd Mar with 40 farm women of Rayidi village of Dhoraji at its centre. The talks associated with importance of water, conservation, recycle and reuse of water and minimising the wastage of water were delivered by all the experts of the centre in respect to their disciplines.

8.4 Celebration of ICAR Foundation Day

The 95th **ICAR Foundation Day** was celebrated on 16 July 2023 by KVK Pipalia at Nagvadar village of Upleta block with a total of 40 participants including SHGs, farm women, FPOs, etc. highlighting the importance of ICAR, its role in KVK formation and farmers' situation.

8.5 Celebration of Parthenium Awareness Week

Parthenium Awareness week was celebrated by KVK, Pipalia between 16-22nd August 2023. Parthenium uprooting was performed by the staff and labourers of farm near KVK building. Awareness programmes were also organized at Ravana village of Gondal block to sensitize the people about the harsh effects of Parthenium. A total of 50 participants had joined the event and benefitted.

8.6 Celebration of Poshan Maah (1.9.2023 to 30.9.2023)

The month of September is celebrated as "Poshan Maah" across the country. The activities performed by KVK, Pipalia during the POSHAN Maah focused on importance of Millets in diet. A total of 95 beneficiaries comprising of farm women, farmers and adolescent girls were profoundly participated in the programme from different village of Dhoraji taluka.

8.7 Celebrations of Mahila Kisan Diwas

In India, October 15th is observed as Rashtriya Mahila Kisan Divas, or National Women Farmers' Day. On this day each year, events are held with the primary goal of empowering women working in agriculture. This time, 52 farm women attended the event that KVK, Pipalia planned at Bholgamda village in Dhoraji, where they discussed their issues and life lessons.

8.8 Celebration of World Soil Health Day (05/12/2023)

Every year on December 5, World Soil Day (WSD) is observed to raise awareness of the value of healthy soil, food security, and the need for sustainable soil resource management. The theme for this year was "Water and Soil: A Source of Life." Thirty farmers and farm women participated in the celebration held in Pipalia village by KVK, Pipalia.

8.9 Celebrations of Kisan Diwas

Farmers' Day is observed in a number of nations to honor the contributions made by farmers and agriculture. Kisan Divas, or National Farmers Day, is observed on December 23, the birthday of Choudhary Charan Singh, the country's fifth prime minister and a prominent farmer who enacted numerous laws aimed at bettering the lot of Indian farmers. The purpose of the day is to show our appreciation to farmers, who are the backbone of the nation's economy. This time, 60 farmers attended a farmers' seminar at Jamkandorna, which was arranged by KVK Pipalia. The farmers discussed their methods of farming and experiences throughout the seminar.

8.10 Technology Week Celebration

KVK, Pipalia has celebrated Technology Week in collaboration with ATMA, Rajkot from Sept 11-16, 2023. During this six days' event, 300 farmers & farm women had actively participated from Gondal, Upleta, Jetpur, Jamkandorna & Dhoraji blocks under KVK, Pipalia jurisdiction. This week is celebrated to create awareness about new technologies, crop varieties, type of fertilizers & other related information in the field of horticulture, plant protection, animal husbandry, home science, women empowerment, etc. Dr. N. B. Jadav, Director Extension Education, JAU, Junagadh has also graced the programme with his presence and provided guidance to the farmers.

8.11 Celebration of "Swachhata Hi Seva"

Swachhata Hi Seva, an initiative of the Swachh Bharat Mission, aims to generate greater public participation, reinforce the concept of "sanitation as everyone's business" and culminate Mahatma Gandhi's 150th birth year celebration with a nationwide campaign. KVK, Pipalia had contributed towards this campaign by creating awareness at community and among farm women and farmers regarding cleanliness, sanitation, waste management and proper hand washing.

8.12 Farmers' Training Programme

The AICRP on Plastic Engineering and Agricultural Structure and Environment Management (PEASEM), Department of REE, College of Agricultural Engineering and Technology (CAET), Junagadh Agricultural University (JAU), Junagadh, organized a one-day Farmers Training Programme on the "Role of Mulching for Doubling the Farmer's Income" at Krishi Vigyan Kendra, J.A.U., Pipaliya, on September 21, 2023. The program was inaugurated by Dr. V. P. Chovatia, the H'ble Vice Chancellor of JAU, Junagadh. The programme was graced by the presence of Dr. N. B. Jadav, Director of Extension Education, JAU, Junagadh and Dr. P. M. Chauhan, Principal and Dean of CAET, JAU, Junagadh. Dr. H. D. Rank, Professor and Head of the Department of Soil and Water Engineering, Dr. T. D. Maheta, Professor and Head of Farm Machinery and Power Engineering, J.A.U., Junagadh and Dr. S. P. Cholers, In-charge Research Engineer, AICRP on PEASEM are present and graced the function.

Various expert lectures were delivered to the farmer on application of plastic mulch in fruit and vegetable cultivation for doubling the farmer income. As part of the program, three plastic mulch rolls were distributed to each SC farmer. Total 22 farmers were benefited. The 40 SC farmers from Dhoraji taluka and 15 faculty members of JAU had participated in the training program.

8.13 Krishi Mela

Various lectures were delivered by KVK, Pipalia Scientists during Krishi Mela organized at Jetpur, Jamkandorna, Gondal, Dhoraji and Upleta by State Govt. to raise awareness among progressive farmers, including farm women, about the health and nutritional benefits of millets as part of the yearlong celebration of the International Year of Millet 2023. They also emphasized the importance of millets in their daily diet as it has multiple advantages over other

crops and illustrated a no. of health issues which can be managed by taking millets in the daily diet like controlling of diabetes, blood pressure, heart diseases, celiac diseases, osteoporosis, etc. In this programme a total of 1155 participants were benefitted.

8.14 Rabi Krishi Mahotsava

The two day Rabi Krishi Mahotsava and Demonstration (24-25 Nov, 2023) was held in all 246 tehsils across the state, aims to bring agricultural research to the ground and provide maximum benefits to farmers. The key highlights were- Emphasis on modern farming techniques; Promotion of natural farming; Support for millet cultivation. In line with this the scientist of KVK Pipalia has also participated and delivered lecture to empower the farming community with latest information and technologies. The lectures delivered were at Kalavad, Jamkandorna and Jetpur Talukas covering 3700 beneficiaries.

8.15 Farmers' Outreach Programme on Natural Farming

KVK, Pipalia conducted various Awareness-cum Training Programmes on Natural Farming for farmer groups for popularizing the techniques to prepare Jivamrut, Nimastra, Brahmastra and other natural products for chemical free agriculture. A total of 24 programmes comprising awareness programme, trainings and demos including 2406 farmers, were organized at various villages to adopt natural farming for future endeavors during this year.

8.16 Vikasit Bharat Sankalp Yatra (VBSY)

The Government of India, with participation of States and Union Territories, is actively engaged in the mission of saturation through its flagship schemes for providing basic amenities like sanitation facilities, essential financial services, access to LPG connections, housing for the poor, food security, proper nutrition, reliable healthcare, clean drinking water, quality education etc. and making required services accessible to all targeted and eligible beneficiaries. In line with this KVK Pipalia had also participated in VBSY and covered around 20 village panchayats.

8.17 Best Presentation Award

KVK, Pipalia has received the "Best Presentation Award" during 6th Annual Zonal Workshop of KVKs of Maharashtra, Gujarat and Goa of Zone-VIII during 28-30 July 2023 Co-organized by ICAR-ATARI, Pune, VNMKV, Parbhani and KVK, Aurangabad-I. On behalf of KVK, Pipalia, Dr. Ashish Bhatt, Scientist, presented the activities of KVK, under the Chairmanship of Hon. Dr. Kiran Kokate Former DDG (Agril. Extn) ICAR, New Delhi, Dr. V. V. Sadamate Former Advisor, Planning Commission, Govt of India.

8.18 Completion of Administrative cum Laboratory building construction of KVK Pipalia

The construction work of the administrative building was commenced in June 2022 and completed in Dec 2023. Electrification and other interior works are going on.

**Proceeding of the 11th Scientific Advisory Committee (SAC) Meeting
of KVK Pipalia (Rajkot-II) held on 6th February, 2023**

The Eleventh Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Junagadh Agricultural University, Pipalia held at Krishi Vigyan Kendra, Junagadh Agricultural University, Targhadia on 6th February, 2023. The meeting was chaired by Hon'ble Vice Chancellor, Dr. V. P. Chovatia, Junagadh Agricultural University, Junagadh.

The following members were remained present in the meeting.

SN	Name & Designation	Position	SN	Name & Designation	Position
1.	Dr. V. P. Chovatia Hon. Vice Chancellor, JAU, Junagadh.	Chairman	15.	Dr. Mamta Kumari, SMS (Home Science), KVK, JAU, Pipalia	Member
2.	Dr. H. M. Gajipara DR & DEE, JAU, Junagadh	Member	16.	Dr. V. S. Prajapati, SMS (Animal Husbandry), KVK, JAU, Pipalia	Member
3.	Dr. D.S. Hirpara Research Scientist, DFRS, Targhadia	Member	17.	Prof. M. K. Chudasama, SMS (Plant Pathology), KVK, JAU, Pipalia	Member
4.	Dr. L. L. Jivani Senior Scientist & Head, KVK, Morbi	Member	18.	Prof. A.R.Parmar, SMS (Horticulture), KVK, JAU, Pipalia	Member
5.	Shri G. J. Kataria Deptt of Horticulture, Rajkot	Member	19.	Smt. H. A. Padsumbiya SMS (Home Science), KVK, JAU, Targhadia	Invitee Member
6.	Piyush R. Vadodariya Gujarat Agro Ind. Corp. Ltd, Rjt	Member	20.	Dr M. K. Jadeja, SMS, KVK Targhadia	Invitee Member
7.	Dr. R. M. Satasiya Principal, Polytechnic in Agri. Engg., JAU, Targhadia	Invitee Member	21.	Shri D.P. Sanepara SMS, KVK - Targhadia	Invitee Member
8.	Sh. Atul Sharma, AIR, Rajkot	Member	22.	Dr. M.M. Tajpara SMS, KVK- Targhadia	Invitee Member
9.	Kiran Kumar Patel Team Leader, Reliance Found.	Member	23.	Dr. J.H. Choudhary SMS, KVK, JAU, Targhadia	Invitee Member
10.	Dr. H. C. Chhodvadia, Associate Extension Educationist, JAU, Junagadh	Member	24.	Kiyada Hiteshbhai P Progressive Farmer, Rajkot	Invitee Member
11.	Dr. G. V. Marviya Senior Scientist & Head, KVK, JAU, Targhadia	Member	25.	Kiyada Ravindra H, Progressive Farmer, Rajkot	Invitee Member
12.	Dr. N. P. Shukla Senior scientist & Head, KVK, Bhavnagar	Invitee Member	26.	Hadiya Nileshbhai V., Progressive Farmer, Dhoraji	Member
13.	Bhaves H. Chandra Ex. WALMI Rajkot	Member	27.	Hadiya Hasmukhbhai H, Progressive Farmer, Dhoraji	Member
14.	Savani Leeval WALMI, Rajkot	Member	28.	Dharmendra Chouhan DDM, Rajkot	Invitee Member
29.	Dr. N.B. Jadav, Senior scientist & Head, KVK, JAU, Pipalia	Member Secretary			

Dr. V. P. Chovatia, Chairman of the Committee and Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh; Dr. H. M. Gajipara, Director of Extension Education, JAU,

Junagadh; Officers from line deptts; scientists and progressive farmers from the cluster villages of KVK, Pipalia and Targhadia were welcomed by Dr. G. V. Marviya, Senior Scientist & Head, KVK, Taghadia with kind words. The gathering was opened by all the dignitaries on the Dias by lighting the lamp. Flowers were also presented to greet the meeting's chairman and all the SAC members.

The status report for the year 2022 (Jan 2022 to Dec 2022) which included training accomplishments, extension efforts, etc. carried out by the KVK, Pipalia and an action plan for the year 2023 (Jan-23 to Dec-23) were delivered by Dr. N.B. Jadav, Senior Scientist & Head, KVK, Pipalia. All KVK scientists—Dr. V. S. Prajapati, Prof. M. K. Chudasama, Prof. A.R. Parmar, and Dr. Mamta Kumari—presented the yearly action plan for 2023 (Jan. 23–Dec. 23) and the progress report-2022 for the disciplines of Animal husbandry, Plant Protection, Horticulture and Home Science, respectively.

The following suggestions were made by the SAC members during the meeting.

1. To present the adoption and spread of demonstrated technologies by KVK.
2. To organize need based training and aware farmers regarding recent advancement in particular training.
3. In FLDs, of garlic, the yield should be compared with state average to further continuation of FLDs
4. MDP technology should be demonstrated against infestation of fruit borers.
5. In FLDs, yield range should be mentioned in report.
6. In cluster FLDs, 3-year analysis should be concisely conferred during presentations
7. To determine the viability of Azola unit for its expansion.

In his remarks as chairman, Hon'ble Vice Chancellor Dr. V. P. Chovatia of Junagadh Agricultural University appreciated the center's work. He stressed the significance of drip irrigation and the lack of water in the Saurashtra region, but the farmers are not willing to accept the drip irrigation kit on subsidized basis. He was curious why farmers might not be employing drip irrigation. In order to raise farmers' awareness of the value of chemical-free farming, which results in more comprehensive and sustainable farming systems, he gave emphasis to conduct more awareness & training programmes on Natural Farming. At last, he stressed on the need for new project proposals and seeking support from various organizations.

Finally, the meeting was concluded by performing the vote of thanks by Dr. V.S. Prajapati, Scientist (Animal Husbandry), KVK, Pipalia (Rajkot-II).

Member Secretary, SAC &
Senior Scientist & Head
Krishi Vigyan Kendra
Junagadh Agricultural University
Pipalia (Rajkot-II)

Director of Extension Education
Junagadh Agricultural University
Junagadh

Chairman SAC,
KVK, Pipalia &
Vice Chancellor
Junagadh Agricultural University
Junagadh

Note: Proceeding for approval please

ANNUAL ACTION PLAN: 2024

1. Training Programmes:

Quarter wise summary of training

Discipline	On Campus				T	Off campus				T	GT
	I	II	III	IV		I	II	III	IV		
Plant Protection	1	2	1	2	6	1	1	2	2	6	12
Extension	0	1	0	1	2	0	1	0	1	2	04
Horticulture	1	1	1	1	4	1	1	2	2	6	10
Home Science	1	1	1	1	4	2	1	1	1	5	09
Animal Hus.	1	1	1	1	4	1	1	2	2	6	10
Vocational Trg		1		1	2				1	1	03
Extension func.		2	2	1	5		1	1		2	07
Sponsored Trg											12
Natural farming /Millet Awareness	1	1	1	1	4	1	2	2	1	6	10
Total					31					34	77

A. On Campus training (For practicing farmers, farm women and rural youth):

I. Quarter (1 st Jan to 31 st March, 2024)				
Plant Protection	Integrated pest management in summer groundnut	1	25	PF
Horticulture	Irrigation and nutrient management in fruit crops	1	25	PF
Home Science	Preparation of different types of bakery products like Pizza base, different types of biscuits, Cake etc. from Millets	1	25	PF
Animal Hus	Importance of artificial insemination in cow and buffalo	1	25	PF
NF /Millet	Introduction of natural farming and awareness against millets	1	25	PF/ FW
II. (1 st April to 30 th June, 2024)				
Plant Protection	Integrated Pest management in cotton & groundnut	1	25	PF
	Integrated Disease management in kharif groundnut	1	25	PF
Horticulture	Production technology of fruit and vegetable	1	25	PF
Extension	Formation of new SHGs, CIGs,	1	25	PF
Home Science	Preparation of Jam, Squash, Ketchup from fruits	1	25	FW
Animal Hus	Importance of balance ration in milch animal	1	25	PF
NF /Millet	Introduction of natural farming and awareness against millets and its importance	1	25	PF/F W
III. Quarter (1 st July to 30 th Sept, 2024)				
Plant Protection	Integrated pest and diseases management in coriander	1	25	PF
Horticulture	Nursery raising	1	25	PF
Home Science	Organic Kitchen gardening & its importance on health	1	25	FW
Ani. Husbandry	Importance of colostrum feeding in new born calves	1	25	PF
NF /Millet	Significance of natural farming and awareness against millets and its importance	1	25	PF/F W
IV. Quarter (1 st Oct to 31 st Dec, 2024)				
Plant Protection	Diseases management in spices	1	25	PF
	Storage pest management	1	25	PF
Animal Hus	Fodder crop production technology	1	25	PF
Home Science	Preparation of different products from Peanut	1	25	FW
Extension	Leadership Development	1	25	PF

Horticulture	Production technology of spices crops	1	25	PF
NF /Millet	Significance of natural farming and awareness against millets and its importance	1	25	PF/ FW

B. Off Campus training (For practicing farmers, farm women and rural youth):

I. Quarter (1st Jan to 31st March, 2024)				
Plant Protection	Integrated pest management in summer crops	1	30	PF
Home Science	Processing and value addition in millets	1	30	FW
	Importance of millets in diet	1	30	FW
Animal Hus	Clean milk production by proper milking watering and animal washing	1	30	PF
Horticulture	Importance of drip irrigation in horticultural crops	1	30	PF
NF /Millet	Significance of natural farming and awareness against millets and its importance	1	30	PF/ FW
II. (1st April to 30th June, 2024)				
Plant Protection	Integrated Pest management in cotton & groundnut	1	30	PF
Extension	Procedure for formation of new SHGs, CIGs	1	30	PF
Horticulture	Production technology in protected cultivation	1	30	PF
Home Science	Art & Crafts for rural youth	1	30	FW
Animal Hus	Infertility of cow and Buffalo by diseases & its prevention	1	30	PF
NF /Millet	Significance of natural farming and awareness against millets and its importance	1	30	PF/ FW
NF /Millet	Importance of natural farming and awareness against millets and its importance	1	30	PF/ FW
III. Quarter (1st July to 30th Sept, 2024)				
Plant Protection	Integrated pest and disease management in Cotton & Groundnut	1	30	PF
	Bio control of Pests and Diseases	1	30	PF
Home Science	Drudgery reduction technologies in agriculture	1	30	FW
Animal Hus	Importance of colostrum feeding in new born calves	1	30	PF
	Creating awareness about balance nutrition management	1	30	PF
Horticulture	Pruning and training in fruit crops	1	30	PF
	Management of young Plants/ Orchards	1	30	PF
NF /Millet	Significance of natural farming and awareness against major millets and its importance	1	30	PF/ FW
NF /Millet	Importance of natural farming and awareness against minor millets and its importance	1	30	PF/ FW
IV. Quarter (1st Oct to 31st Dec, 2024)				
Plant Protection	Diseases management in cumin & coriander	1	30	PF
	Storage pest management	1	30	PF
Extension	Development of entrepreneurship among rural youth	1	30	PF
Animal Hus	Fodder crop production technology	1	30	PF
	Increase nutritive value of low quality roughages for milking animals	1	30	PF
Home Science	Women Empowerment through Income generating activities	1	30	FW
Horticulture	Cultivation practices of onion and garlic	1	30	PF
	Post-Harvest Management Technology	1	30	PF
NF /Millet	Importance of natural farming and awareness against major millets and its importance	1	30	PF/ FW

2. Vocational Training

S.N	Title of Training	Dura. Days	No. of participants	Type of Participants
1.	Preparation of different bakery products	4	30	Rural women
2.	Value addition in fruits, vegetables & millets	4	30	Rural women
3.	Bee Keeping	1	25	PF

3. Extension Functionaries

SN	Title of Training	Days	No. of participants
1	Management of pink bollworm in cotton and white grub in groundnut	2	50
2.	Management of soil borne diseases in important crops	2	50
3.	Cattle health management through vaccination and feed management	2	50
4.	Nursery management and raising of seedlings	1	25

4. Sponsored Training

S.No	Department	No. of Trainings	No. of Participants
1	ATMA	5	150
2	DAO, Rajkot	5	150
3	DRDA/FTC	1	30
4	GSFC/GNFC	1	30

5. Front Line Demonstration**A. Agriculture and Horticulture**

Sl. No.	Crop/Enterprise	Variety	Thematic area	Tech. Demo.	Critical inputs with cost (Rs.)	Season and year	Area (ha)	No. of farmer/demon.	Parameters identified
1	Groundnut	GG-20	IPM	Seed treatment with Chlorpyrifos	Chlorpyrifos 1.5 L =Rs. 1200	Kharif-2024	4	10	Pest infestation & Yield B:C ratio
2	Groundnut	GG-20	IDM	Application of Trichoderma	Trichoderma: 2 Kg =Rs.140 Castor cake: 1Bag (50 Kg =Rs.850)	Kharif-2024	4	10	Disease incidence & Yield , B:C ratio
3	Cotton	Bt	INM	Application of Azotobacter, PSB	Azotobacter: 1 lt=Rs.120 PSB Cultur :1 lt =Rs.120	Kharif-2024	4	10	Yield, B:C ratio
4	Cotton	Bt.	IPM	Pheromone trap	Trap = 4 NOS. Lure = 8 NOS.	Kharif-2024	10	10	Yield, B:C ratio, PB infestation
5	Wheat	INM	INM	Azotobacter, PSB	Azotobacter: 1 ltr=Rs.120; PSB : 1 ltr = Rs.120	Rabi-2024	5	10	Yield, B:C ratio
6	Cumin	GC-4	IDM	Tricho+Castor cake	Trichoderma: 2 kg =Rs.140 Castor Cake: 50 Kg. =Rs.700	Rabi-2024	4	10	Disease incidence & Yield , B:C ratio
7	Chickpea	GJG-6	Varietal	Improved variety	Seeds GJG-6 25 kg Rs=2400	Rabi-2024	4	10	Yield, B:C ratio
8	Sesamum	GT-6	Varietal	Improved variety	Seeds GT-6=2 kg =Rs.350	Summer-2024	4	10	Yield, B:C ratio

9	Brinjal	Local	IPM	MDP tube	Rs. 1100	Kharif-2024	4	10	Yield, B:C ratio,
10	Onion	Azoto+PSB	INM	Bacterial culture	1 lt each 240/-	Kharif-2024	4	10	Yield, B:C ratio
11	Brinjal	GRB-7	Varietal	Improved variety	200 gm= Rs 300	Rabi-2024	4	10	Yield, B:C ratio
12	Garlic	Local	IPM	Buveria bassiana	4 kg = Rs. 500	Rabi-2024	4	10	Yield, B:C ratio
13	Okra	GO-6	Varietal	Improved variety	1 kg	Rabi-2024	4	10	Yield, B:C ratio
14	Farm Women	-	Nutritional Security	Kitchen Gardening	Vegetable seeds Rs 10 per pkt	Kharif-2024	0.5	50	-
15	Farm Women	-	Drudgery Reduction	Drudgery Reduction tools	Twin Wheel Hoe; Rs 2000 per pc	Kharif-2024	-	10	Average time taken for weeding, Body posture
Total							59.5	190	

B. Animal Husbandry

Enterprise	Breed	No. of farmers	No. of animals, poultry birds etc.	Critical inputs	Performance parameters /indicators
Buffalo	Jafarabadi	10	10	Calpar gold (60 ml/day/animal)	Milk yield and B:C ratio
Cattle	Gir	20	10	Bypass fat (50 gm/day/animal)	Milk yield and B:C ratio
Cattle	Gir	20	10	Bypass protein (50 gm/day/animal)	Milk yield and B:C ratio

C. NABARD (Model village- Kolithad)

Demonstration farm: 5; Chickpea (GJG-6)

1. Rameshbhai Kalabhai Savaliya
2. Batukbhai Bhikhabhai Savaliya
3. Pravinbhai Gobarbhai Dhava
4. Bhaveshbhai Jentibhai Mandaviya
5. Sureshbhai Chaganbhai Kalariya

6. ON FARM TESTING:

1. TITLE: BIOLOGICAL CONTROL OF WHITE GRUB IN GROUNDNUT

2. Problem definition: Low yield due to white grub infestation in groundnut

3. Details of technologies selected:

Rajkot district covered large area in Groundnut cultivation. But this crop suffers mainly from white grub pest from last five years, the farmers use number of costly chemical for control of white grub in groundnut and increase cost of cultivation. Nowadays recommended biological input also available for management of white grub in groundnut. Hence, this will make with on farm testing.

4. Treatments:

Farmer's practice:

1. Soil application of chloropyriphos @ 4 liter/ha. with irrigation water at the time of attack

Recommended practice:

1. Soil application of *Metarhizium anasopli* 1.5% WP @ 5.0 kg/ha along with castor cake 300 kg/ha before sowing
2. Drenching of *Metarhizium anasopli* 1.5% WP @ 75 g/15 liter of water, in plant rows after 30 days of germination

Intervention:

1. Seed treated with Chloropyriphos @ 15 ml/kg at the time of sowing
2. Drenching of Metarhizium anasopli 1.5% WP @ 75 g/15 liter of water, in plant rows after 30 days of germination
5. **Observations:** Yield, Economics (B:C ratio)& Infestation (%)

2.TITLE: MANAGEMENT OF WILT DISEASE IN CHICKPEA

1. Problem definition: Low yield due to wilt incidence in chickpea

2. Details of technologies selected:

Cultivation of chickpea in Rajkot district was increase day by day from last three years. But this crop suffers mainly from wilt disease. The farmers use number of unnecessary and costly chemical but not effectively manage wilt in chickpea. The new recommendation of chemical seed treatment with biological input was made for manage wilt in chickpea. Hence, this will make with on farm testing.

3. Treatments:**Farmer's practice:**

Seed treated with carbendazim @ 3.0 gram/kg. Seed at the time of sowing

Recommended practice:

1. Seed treated with carbendazim 1.0 gram + Thirum 2.0 gram/kg. Seed at the time of sowing
2. Soil application of Trichoderma viride @ 2.5 kg/ha. Along with 250 kg castor cake at the time of sowing

Intervention:

Soil application of copper oxycloiride @ 1.5 kg/ha. Along with fertilizer at the time of sowing

4. Observations: Yield, Economics (B: C ratio)&Disease incidence (%)

3.TITLE: EFFECT OF CONCENTRATE AND BYPASS FAT FEEDING ON MILK PRODUCTION IN GIR CATTLE.**Problem Definition:**

- ✓ Lack of knowledge about bypass fat feeding technology.
- ✓ Low milk production due to improper feeding.
- ✓ Lack of energy for milk production.

Details of technologies selected for assessment:

Dairy production is mainly based on proper scientific feeding of animals. The lactating animals are to be fed with good quality roughages along with green fodder belonging to legumes or cereals as per the availability. Looking to the productivity of gir cattle such food resources are not sufficient to meet the nutrient requirement of a lactating animal. Hence we have to add more nutritious food in to the diet of animals to reach the maximum production potential and to maintain the normal body condition. Now a day, bypass fat feeding technology is recommended for high yielding cattle. Bypass fat feeding technology along with concentrate feeding in cattle to fulfil energy and nutrient requirement. Hence, we have proposed this on farm testing to increase the milk production of gir cattle.

Source of technology: NAU, Navsari (2011)

Production system and thematic area: Nutrition Management

Farmers in the district are not following a wearing system & they also keep them under traditional management system so due to malnutrition & no deworming, the growth rate was found to be hindered.

Performance of the Technology with performance indicators

Treatments:

T 1 -Framer's practice

T 2 -Concentrate (1.5kg/cow/day for maintenance+500 gm for each lit. milk production)

T 3 - Concentrate (1.5kg/cow/day for maintenance+500 gm for each lit. milk Production) + Bypass fat 50-100gm/cow/day.

Detail of OFT Programme:

- ✓ No. of Villages: 5
- ✓ No. of animals: 30 (10 animal/Treatment)
- ✓ Each animal will be in similar physiological condition (age, lactation, days of lactation etc.).

Parameters to be evaluated/ recorded:

- ✓ Milk production (lit / cow / day)
- ✓ Fat percentage
- ✓ B:C ratio
- ✓ Net return

4. TITLE: RESPONSE OF NEW RELEASE TOMATO VARIETY GT-6 ON YIELD

Problem Definition: Low yield due to micronutrient deficiency.

Technology Assessed: To increase yield of Tomato by decreasing sucking pest infestation by sowing tolerant variety.

Treatment: 1)Farmer practices: Sowing of Local Variety + any Pesticides

2) Recommended practices: Sowing of GT 6 Variety + foliar sprayings of Acephate 75 WP @ 1.5 g / liter 10 days after transplanting, Fipronil 5 SC @ 1.5 ml / liter 20 DAT, and Imidacloprid 70 WG @ 2g / 15 liter 40 DAT.

3) Intervention: Sowing of Local Variety and foliar sprayings of Acephate 75 WP @ 1.5 g / liter 10 days after transplanting, Fipronil 5 SC @ 1.5 ml / liter 20 DAT, and Imidacloprid 70 WG @ 2g / 15 liter 40 DAT

Observation to be recorded: Yield (qtl/ha), B:C ratio, Farmers' perception.

5. TITLE: ASSESSMENT OF EFFECTIVENESS OF BUVERIA BASSIANA IN COMBINATION WITH INSECTICIDES AGAINST ONION THRIPS (NEW)

1.Problem definition: Low yield due to heavy thrips infestation

2. Details of technologies selected:

Rajkot district covered large area in Onion cultivation. But this crop suffers mainly from thrips attack, the farmers use number of costly chemical for control of thrips in onion and increase cost of cultivation. Now a days recommended biological input also available for management of thrips in Onion. Hence, this will make with on farm testing.

3. Objective: To increase yield of onion by reducing thrips attack.

4. Technologies assessed: To reduce thrips attack by using biological product in combination with insecticides

5. Year of assessment: 2023-24

6. Source of technology: JAU, Junagadh

7. No. of trials : 3

8. Critical inputs supplied: Boveria bassiana 4 kg + dimethoate 500 ml

9. Observations to be recorded: Yield, B:C ratio and Farmers perception

10. Treatments:

Treatment 1 (Farmers practices): Application of Dimethoate 30 EC 10 ml/10 liter of water

Treatment-2 (Recommendation): Application of Boveria bassiana 1.15 wp 30 gm + Dimethoate 30 EC 5 ml/10 liter

Treatment-3: Application of Boveria bassiana 1.15 wp 60 gm

11. Observations: B: C ratio and farmers' perception

6. TITLE: PRESERVATION TECHNIQUES OF DIFFERENT CEREALS AND PULSES WITH ORGANIC METHODS (NEW)

Problem Identified: Lack of knowledge on various methods of grain storage.

Objectives: - To check the shelf life of cereals & pulses after storage for 6 months.

Year of assessment: 2024-25

No. of Trials: 5

Treatments:

Treatment 1- Farmers practice- No treatment or use of jute bags or plastic bags to store grains.

Treatment 2- Recommendation- Application of castor oil (15ml/1.0 Kg grain)

Observations: - Quality of stored grains & infestation percentage at every month

7. EXTENSION ACTIVITIES:

Sr. No.	Activities	Proposed No.
1	Kisan Mela	1
2	Field Day	5
3	Kisan Ghosthi	5
4	Radio Talk	As and when required
5	TV Show	As and when required
6	Film Show	5
8	Khedut shibir	15
9	Kisan mahila meeting	5
10	New paper Coverage	As and when required
11	Popular Articles	5
12	Extension Literature	8
13	Advisory Service	As and when required
14	Day celebrations	10
15	Others- Seminar	4
16	Exhibition	2

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