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KRISHI VIGYAN KENDRA, KATIHAR

INTRODUCTION

Krishi Vigyan Kendra, Katihar established in March 2004 is situated in the district of Katihar in Kosi Zone in the North-East alluvial plain of North Bihar. During short span life of seven years Krishi Vigyan Kendra, Katihar has shown its presence in the district by imparting short and long term vocational training to farmers', rural youth and farm women. The recent technologies for sustainable agriculture were disseminated to the extension personal posted in the district. Front Line Demonstration on oilseeds, pulses and other crops were conducted successfully. This K.V.K. will go a long way for extension activities in the district.

SITUATION

Krishi Vigyan Kendra, Katihar is situated in the south-eastern portion of North Bihar plain between North Latitude Between *25* °32*' and 26* °31*' East Longitude Between 87*° 35 *' and 88*° 35 *'*and about 3 KM from the Katihar Railway Station which falls with in Agro-climatic Zone-II. The climate is sub-tropical humid having mean maximum and minimum temperature between 46^{o}C and 4.10^{o}C respectively. The average annual rainfall in the district is about 1298 mm. The maximum rainfall occurs during monsoon period. The soil of the districts generally sandy to sandy loam having alluvial properties due to three major rivers Mahananda, Kosi and Ganga. Low lying areas have clay loam to clay soils. Up lands shows micronutrient differences such as zink, sulphur, Boron etc. The cropping system varies depending on rainfall, land situation and water accumulation in the locality. There are three distinct farming situations having specific characteristic which determine crop sequence/cropping pattern which are : Sandy upland : Characteristics by nitrogen deficiency and light texture. This situation needs to exploited and suitable agricultural technologies should be tested. Medium lowland : Water accumulation upto 0.5 meter water coupled with acidic and salinity, alkalinity patches and low availability of phosphate and other nutrient should be identified and steps to eliminate the problem should be chalked out. Diara land of Ganga, Kosi and Mahananda. Deep Water areas (Chour & tall) and diara areas of Kosi,

Mahananda and Ganga should be identified and measures for suitable cropping pattern should be adopted. The low lying areas of this district has already been replaced by Boro Rice. Suitable varieties and fruitful technologies should be tested. Cultivation of Makhana and Waternuts should be popularized and advanced technologies evolved should be adopted and farmers should be made well acquainted by training and demonstrations.

PROBLEM IDENTIFIED

Regional Research Station, Agwanpur, Saharsa organizes Zonal Research and Extension Advisory Committee meeting twice in a year in which Scientists working in Kosi Zone, Extension Officers and Officers of Agricultural Department and progressive farmer's of the zone participate. The problems raised by the farmers and Extension Officers are scrutinized and selected as permandate. New problems identified are tackled by the scientists posted in the zone. Such meetings should also be organized at KVK Katihar and problems raised by farmers should be solved by the scientists of different discipline.

Apart from the above, problems are being identified at district level Kharif and Rabi Workshops organized by the District Agricultural Officer, other department dealing with farmers problems should be identified and regular and close contact is being maintained.

THRUST AREA

i. Soil test based nutrition management in crop plants of the district
ii. Promotion of Banana , Makhana based farming system and jute cultivation
iii. Promotion and adoption of Integrated farming system for the district
iv. Development of Suitable cropping system for diara ,tal and alkaline land of the district
v. Implementation of women programmes in relation to food, nutrition and drudgery
vi. Technology dissemination through production and supply of plant and seed materials

Discipline	Duration (days)	No. of courses	No. of training days	Participants		
				Male	Female	Total
A. Practicing farmers						
Horticulture	33	56	4210	241	59	300
Plant Protection	24	37	2037	368	47	415
Extension Education	42	66	5550	264	111	375
Home Science	26	53	4325		200	200
Total	**125**	**212**	**16122**	**873**	**417**	**1290**
B. Rural Youth						
Horticulture	17	37	3925	85	15	100
Plant Protection	13	8	26	152	8	160
Extension education	18	40	5150	80	20	100
Home Science	26	44	4300		200	200
Total	**74**	**129**	**13401**	**317**	**243**	**560**
C. Extension Functionaries						
Horticulture	8	24	1920	120	40	160
Plant Protection	22	64	64	188	50	236
Extension Education	12	34	4400	120	40	160
Home Science	26	26	4740		100	100
Total	**68**	**148**	**11124**	**428**	**230**	**656**
Grand Total (A+B+C) :	**267**	**489**	**40647**	**1618**	**890**	**2506**

Details of training programme,2012-13

Discipline	Qrt No. & Month	Thematic area	Course Title	Dura-tion (days)	Venue off/on campus			Participants trainees (Nos)		
								M	F	Total
For Practicing Farmers & Farm Women										
Horticulture	**Apr.' to Jun'11**	Nursery raising	Nursery raising of solaneceous vegetable crops	3	On			20	5	25
		Grading and standardization	Grading and standardization of soleneceous crops	3	On			20	5	25
		Training and Pruning	Training, pruning and nutritional requirement of Litchi and Mango	2	Off			21	4	25
		Plant propagation techniques	Air Layering in Guava and Litchi							
	July to Sept.'11	Protective cultivation	Protective cultivation of cole crops	2	Off			20	5	25
		Production of low volume high value crops	Production technique of tomato	3	On			20	5	25
				3	On			20	5	25
	III Oct Dec 11			2	Off			20	5	25
				2	Off			20	5	25
Discipline	**Qrt No. & Month**	**Course Title**	**Course Objectives**	**Dura-tion (days)**	**Venue off/on campus**			**Participants trainees (Nos)**		

								M	F	Total
				3	On			20	5	25
				5	On			20	5	25
				3	On			20	5	25
	IV Jan ,March 12			2	off			20	5	25

Plant Protection	**April to June 11**	Insect pest management in cucurbetacious crops	To acquaint farmers with management of insect of cucurbits	3	On			20	5	25
		Insect pest management in Boro rice	To increase the skill of farmers about pest management in boro rice	2	Off			20	5	25
		Storage management of rabi grains	To acquaint the farmers with spoilage of grain in storage and management	2	On			20	5	25
		Insect and disease management in Bhindi and Brinjal	To increase the skill of farmers about pest and disease management of bhindi and brinjal	3	On			20	5	25
	July to	Insect and disease	To enrich the knowledge of	3	Off			20	5	25

	Sept 11	management in kharif paddy	farmers about pest management of kharif paddy							
		Insect and disease management in Brinjal	To improve the knowledge of farmers about pest management in brinjal	2	On			20	5	25
		Management of paddy pests infesting the crop in late stage	To improve the knowledge of farmers about pests management of rice in late stage of the crops	3	Off			20	5	25
	Oct. to Dec. 11	Pest Management in Wheat	Plant health Management	1	ON/ OFF			38	2	40
		Pest Management in vegetable	Plant health Management	1	ON/ OFF			38	2	40
		Pest Management in vegetable	Plant health Management	1	ON/ OFF			38	2	40
	Jan to march,12	Pest Management in Wheat	Plant health Management	1	ON/ OFF			38	2	40
		Pest Management in Mustard	Plant health Management	1	ON/ OFF			38	2	40
		Pest Management in Pulses	Plant health Management	1	ON/ OFF			38	2	40

Discipline	**Qrt No. & Month**	**Course Title**	**Course Objectives**	**Dura-tion (days)**	**Venue off/on campus**			**Participants trainees (Nos)**		
								M	**F**	**Tot al**
Extension Education	April - June, 11	Formation and management of SHGs	Gender Empowerment	3	OFF			16	9	25
		Income generation through back yard poultry	Upliftment of economic status of landless/small farmers	3	ON			16	9	25
		Entrepreneurship Development among Women's	Gender Empowerment	3	OFF			16	9	25
		System of Rice Intensification	Enhance the productivity of paddy	4	ON			16	9	25

		Formation and management of SHGs	To impart knowledge on the self help groups and self sufficiency of women's, landless farmers	2	OFF			16	9	25
		Utilization of ICT by the farmers	Promotion of Mobile SMS for agricultural advisory services	2	OFF			16	9	25
	July - Sept., 11	Bee- keeping	Income generation ways of farmers for livelihood security	2	Off			16	9	25
		Integrated Pest management	To impart knowledge on IPM	3	Off			16	9	25
		Integrated Nutrient Management	To impart knowledge on INM	3	-			16	9	25
Discipline	**Qrt No. & Month**	**Course Title**	**Course Objectives**	**Dura-tion (days)**	**Venue off/on campus**			**Participants trainees (Nos)**		
								M	**F**	**Total**
		Integrated farming System	To Impart Income generation among small and marginal farmers.	4	Off			20	5	25
	Oct. - Dec,11	Entrepreneurial development of farmers	To Impart Income generation among small and marginal farmers for Sustainable Livelihood security.	2	Off			20	5	25
		SWI method of Wheat cultivation	To impart knowledge on the System of Wheat Intensification and its	2	Off			20	5	25

			importance to increase productivity in wheat crop							
		Productivity enhancement through Bio - fertiliser	To impart knowledge on the use of Bio – fertilisers for improving productivity.	2	Off			20	5	25
	Jan. - March, 12	Integrated farming system	To Impart Income generation among small and marginal farmers	2	Off			20	5	25
		Formation and management of SHGs	To impart knowledge on the self help groups and self sufficiency of women's, landless farmers	5	Off			20	5	25
Home Science	April – June, 11	Preparation of Potato chips, Badi & papad	To develop knowledge and skill of trainees regarding	4	ON				25	25
			Preparation of Potato chips							
			Preparation of Badi							
		Use of Tomato	To develop knowledge and skill on better utilization of perishable Tomato	3	ON				25	25
			Preparation of Tomato sauce							
			Preparation of Tomato Pickle							
		Preparation of Pickle	To develop knowledge and skill of trainees regarding different types of seasonal pickle making	3	ON/ OFF			–	25	25
	July - Sept, 11	Preparation of Jam/Jellies of mango fruit	To develop knowledge and skill of trainees regarding	3	ON/ OFF			–	25	25
		Preparation of	To develop knowledge and	3	ON			–	25	25

		Jam/Jellies of Papita & Guava	skill of trainees regarding							
			Preparation of Jellies of Guava							
			Preparation of Jam of Papita							
	Oct. - Dec., 11	Care of children and preparation of some nutritional recepies like weaning food	To develop knowledge and understanding of farm women about preparation of weaning food & care of children	3	ON			–	25	25
		Making of macreme work & flower making	To develop knowledge of farm women regarding macreme work & flower making	4	ON			–	25	25
	Jan. - March, 12	Proper utilization of Aonla	To develop the knowledge and skill of preparation of Amla murabba & pickles	3	ON			–	25	25

Discipline	**Qrt No. & Month**	**Course Title**	**Course Objectives**	**Dura-tion (days)**			**Venue off/on campus**	**Participants trainees (Nos)**		
								M	**F**	**Total**
For Rural Youth										
Plant Breeding	**April to June11**	Seed production of paddy	To impart knowledge and skill for production technologies of seed for income generation	5			On	20	5	25
	July to Sept 11	Recent technology for seed production of maize	To improve knowledge and skill regarding seed production	3			On	20	5	25
	Oct to Dec 11	Improve technology for seed production	To develop know how regarding seed production	5			On	25	-	25

		of pulse crop	of pulse crops							
	Jan to March 12	Scientific method for seed production oilseed crop	To improve skill and knowledge for seed production technology of oilseeds	4			On	20	5	25
Extension Education	**April to June11**	Farm planning and budgeting	To improve skill and knowledge upon farm planning	2			On	20	5	25
	July to Sept 11	Establishment and Management of Farmer clubs	To improve status of farming community through farmer's club	5			On	20	5	25
	Oct to Dec 11	Awareness programmes on different employment generative activities	To improve opportunities among rural youth	7			On	20	5	25
	Jan to March 12	Establishment and Management of Farmer clubs	To improve status of farming community through farmer's club	4			On	20	5	25
Plant Protection	April to June 11	Sericulture	To generate entrepreneurship	3			ON	38	2	40
	July to Sept. 11	Types of insecticide and precaution taken during teir uses	To assure safe and appropriate application of insecticides	3			ON	38	2	40
	Oct. to Dec. 11	Types of sprayer and dusters and their uses	To assure careful handling of these instruments	4			ON	38	2	4
	Jan .to March,12	Sericulture	To generate entrepreneurship	3			ON	38	2	40
Home Science	April - June, 2011	Tie and Dye	To develop knowledge & skill for subsidiary family income from Tie & Dye	4			On	–	25	25

		Painting (Mithila Painting on cloth)	To develop knowledge & skill for subsidiary family income from painting	4			On	–	25	25
		Preparation of different types of pickles	To increase knowledge about better nutrition and use of vegetables at the time of glut	3			on	–	25	25
	July - Sept., 11	Preparation of Jam & Jellies	To increase knowledge and skill about better use of fruits & vegetable at the time of glut	3			On	–	25	25
		Lack of Nutrition and disease caused by them	To increase knowledge about better nutrition and use of vegetable at the time of glut	3			On	–	25	25
	Oct. - Dec., 11	Cutting & Stitching of ladies garments	To increase the knowledge & skill and for subsidiary income	3			On	–	25	25
		Importance of Kitchen garden & its Management	To increase knowledge & skill for subsidiary income	3			On	–	25	25
	Jan. - March,12	Making of Aonla Murabba & Pickle	To make more value added products for higher net return	3			On	–	25	25

Extension Functionaries

Action Plan on Training Programmes (April 2011-March 2012)										
Discipline	**Qrt No. & Month**	**Course Title**	**Course Objectives**	**Dura-tion (days)**			**Venue off/on campus**	**Participants trainees (Nos)**		
								M	**F**	**Total**
Plant breeding	**April to June 11**	Recent advances in scientific production of paddy	To develop knowledge about scientific paddy production	2			On	30	10	40

	July to Sept 11	Recent technology for land preparation seedling raising water management of paddy crop	To develop knowledge for paddy cultivation	2			On	30	10	40
	Oct to Dec 11	Recent advances in scientific production of rabi crop	To enrich knowledge for rabi crop production	2			On	30	10	40
	Jan to March 12	Recent technology for scientific harvesting of rabi crops	To enrich knowledge for rabi crop production	2			On	30	10	40
Extension Education	**April to June 11**	Menance of Parthenium	Awareness for loss from parthenium	2			On	30	10	40
	July to Sept 11	Extension approaches for productivity enhancement	To enhance the productivity	3			On	30	10	40
	Oct to Dec 11	Extension Approaches for productivity enhancement	To enhance the productivity	3			On	30	10	40
	Jan to March 12	Self Help Group and its importance	To development of weaker section from SHG	4			On	30	10	40
Home Science	**April to June 11**	Lack of nutrition and disease caused by malnutrition	To increases knowledge about better nutrition and use of vegetable at the season	7			ON	-	25	25
	July to Sept 11	Women and child care and prepration of weing food of children	To develop knowledge and understanding of farm women about hygiene	6			On	-	25	25
	Oct to Dec 11	Storage of grain	To develop knowledge and skill of trainees regarding storage of grain	7			Off	-	25	25
	Jan to	Lack of nutrition and	To increases knowledge	6			Off	-	25	25

	March 12	nutrition caused by malnutrition	about better nutrition and use of vegetable at the season							
Plant Protection	April to June 11	Pest Management in jaid Crops	plant health Management	15			ON/ OFF	56	23	78
	July to Sept. 11	Pest Management t in Kharif Crops	plant health Management	2			ON/ OFF	56	23	78
	Oct. to Dec. 11	Pest management Vegetables	plant health Management	2			ON	38	2	40
	Jan. to March 12	Pest management in Rabi Crops	plant health Management	2			ON	38	2	40

Krishi Vigyan Kendra, Katihar

Action Plan of Front Line Demonstration on Oilseeds and Pulses crops

Sl. No.	crops	Season	Previous crop and cropping systems			Farming situation	Area (ha)	Sowing time	Items components	Cost inputs in Rs.
			Kharif	Rabi	Summer					
A.	**Pulse**									
1.	Red gram M-13	Kharif, 2011	Vegetables	Lentil	Fallow	Rainfed	5.0	June-July	Seed + Plant protection input + R. culture	10000.00
2.	Lentil KLS-218	Rabi, 2011-12	Paddy	Linseed	Vegetable	Rainfed	5.0	October	Seed + R. culture	10000.00
3.	Green gram SML 668	Summer, 2012	Maize	Mustard	Boro paddy	Rainfed	5.0	March	Seed + Plant protection input + R. culture	10000.00
B.	**Oilseeds**									
1.	Mustard	Rabi	Maize	Wheat	Green	Irrigated	5.0	November	Seed + Plant protection	10000.0

	Rajendra Sufalam				gram				input	
									Total :	**40000.00**

Front Line Demonstration on other than Oilseeds and Pulses

Crop Production

Sl. No.	crops	Previous crop and cropping systems			Farming situation	Area (ha)	Sowing time	Items components	Cost inputs in Rs.
		Kharif	Rabi	Summer					
A.	**Cereals**								
1.	Paddy Swarna sab-1	Boro paddy	Paddy	Mustard	Rainfed	5.0	June	Seed + Plant protection measures	10000.00
2.	Boro paddy Gautam	Boro paddy	Fallow	Wheat	Irrigated	5.0	Nov' seedling raising	Seed + Plant protection measures	10000.00
3.	Maize Shaktiman-4	Paddy	Maize	Fallow	Irrigated	5.0	Oct	Seed + Plant protection measures	10000.00

4.	Cowpea Kashi Kanchan	Fallow	Radish	Cauliflower	Rainfed	1.0	Jan.-Feb.	Seed + Plant protection measures	5000.00
5.	Jute S-19	Paddy	Wheat	Fallow	Rainfed	5.0	April,11	Seed + Plant protection measures	10000.00
								Total	45000.00

ON FARM TRIALS (2011-12)

CROPS

Object of Investigation:

1. **To test the effect of Bio- fertilizers on the performance of wheat crop.**

Problem Diagnosed

- High dose of fertilizers
- Lower productivity of crops

Treatment : 4

T_1 - farmers practice (no use of biofertiliser)
T_2 - Seed treatment with Azotobacter and PSB
T_3 - Soil treatment wih Azotobacter and PSB
T_4 - seed and soil treatment with Azotobacter and PSB

Design : RBD
Plot size : 25 m x 20 m per treatment
Replications : 6 (farmers)
Season : Rabi 2011-12
Thematic area: Enhancement in yield
Performane indicator: Appropriate fertilizer use
Gain in yield
Farming situation: Medium land Irrigated

2. To Study the comparative performance of different Jute varieties

Problem Diagnosed

- Poor yield performance of Jute
- Use of very old variety

Technology selected for assessment: Variety

Treatment :

T_1	-	JRO-524 (farmers practice)	T_2	-	JRO-66
T_3	-	S-19	T_4	-	JRO-128
Design	:	RBD	Plot size	:	25 m x 20 m
Replications	:	7 (farmers)	Season	:	kharif 2011

Source of technology: CRIJAF, Barakpur
Thematic area: Enhancement in yield
Performane indicator: Plant length
Plant gudth
Fibre yield
Fibre quality

3. To test the performance of late sown mustard variety in Katihar district

Problem Diagnosed: Use of long duration varieties resulting in poor yield and aphid infestation

- Use of long duration varieties resulting in poor yield
- Aphid infestation

Technology selected for assessment: Variety

Treatment : 4

T_1 - Rajendra Anukool
T_2 - Rajecndra Sufalam
T_3 - Rajendra Rai Pichheti
T_4 - Local

Design : RBD
Plot size : 25 m x 30 m
Replications : 6 (farmers)
Source of technology: RAU, Pusa
Thematic area: Enhancement in yield
Performane indicator: Plant height
Number of primary branches
Number of pod/plant
Number of seed/pod
Yield

5. To test the cost and yield effectiveness of wheat under different sowing methods

Problem Diagnosed:

- High seed rate used for broadcasting resulting in high input cost
- Irregular germination

Treatment : 4
T_1 - Broadcasting method
T_2 - Seed cum ferti drill
T_3 - Zero till drill
T_4 - Line sowing behind desi plough
Design : RBD
Plot size : 25 m x 30 m
Replications : 6 (farmers)
Season : Rabi-11-12

Extension Activities

Sl. No.	Activities Sub-activities	Annual	Beneficiaries No.						No. of Participants		
			SC		ST		Others				
			M	F	M	F	M	F	M	F	Total
1.	Field Days	10	50	15	40	20	380	40	270	75	545
2.	Kisan Mela	1	70	50	100	50	150	100	320	200	520
3.	Kisan Ghosthi	4	100	50	50	10	200	15	350	75	425
4.	Exhibition	2	100	50	100	25	200	25	400	100	500
3.	Horticulture show	1	125	50	125	50	250	100	500	200	700
4.	Organisation of special events like world food day, Women in Agriculture day, Parthenium Awareness Week	3	100	30	50	20	100	50	250	100	350
5.	(a) Scientist, visit to farmer's field	60	5	2	3	2	30	8	38	12	60
	(b) Farmer's visit to KVK farm	300	40	10	25	10	185	30	250	50	300
	(c) Farmer's Meeting	3	30	10	20	5	100	30	150	45	195

	(e) Advisory/enquiry	20	30	20	20	10	80	30	130	60	190
	(f) Radio Talk	10									
	(g) Animal Health Camp	2	20	10	15	5	50	20	85	35	120
	(h) TV/Talk	40									
6.	Popular Articles	5									
	Ex Trainee Meet	2	50	10	20	10	230	50	180	70	350
7.	Research Paper	2									
7.	Extension literature	5									

Seed Production Programme

S.No.	Season	Crop	Variety	Area
1.	Kharif,2011	Arhar	M13	2 hec
2.	Kharif,2011	Paddy	R.Bhagwati	2 hec
3.	Kharif,2011	Paddy	Prabhat	2 hec
4.	Rabi,2011-12	Wheat	HD-2733	3 hec

Special programme to be initiated by the KVK, Katihar

Proposed field studies

Title of the study : **Evaluation of Training Programmes of the KVK**

Objectives :

(i) To study the effectiveness of training programme on knowledge gain of farmers.
(ii) To study the socio-economic characteristics of the trainees and their relationship with the knowledge level.
(iii) To study the opinion of farmers about the training programmes

Methodology :

Some of the training programmes planned and conducted by SMSs of KVK on the following themes during the year 2010-11 will be chosen for the study purpose.

- Increase in Productivity of agriculture

- Plant Protection Training programmes
- Women training programmes

All the participants of selected training programmes will be chosen as sample respondents. Information will be collected from trainee farmers by administering suitable schedules developed for this purpose. Knowledge tests will be developed and administered to trainees before and after the training as a part of evaluation of training purpose.

Study -2

Title of the study : **To study the impact of FLDs on paddy conducted by the KVK**

Objective :

(i) To study the extent of knowledge level of the farmers on paddy technologies
(ii) To assess the adoption level of farmers
(iii) To elicit suggestions and study the constrains in adoption of technologies

Methodology: For the study suitable sample i.e. 20 farmers who participated in FLD programme conducted by the KVK in adopted villages during past 3 years will be selected randomly. Similarly equal number of non-FLD farmers will also selected for the study. Thus the total sample will be 20+ 20

respondents. Information will be collected from the farmers by using interview schedules developed for this purpose. Improved practices viz., varieties, INM, IPM etc. related to Paddy, crops which were advocated to farmers during FLD programme will be included for study. Knowledge tests will be developed and administered to the respondents as a part of study.

P.C
KVK, Katihar