

ANNUAL REPORT

1. Name and address of the KVK : Krishi Vigyan Kendra,Dhanbad
 (with pin code) Baliapur farm, Dhanbad-828201.
 Name of the host institution : B.A.U. Kanke, Ranchi, Jharkhand.
 Telegraphic Address : _____
 Email Address : kvkdhanbad@rediffmail.com

Telephone with STD Code :

	STD code	Phone No.
Office	0326	2901467
Mobile		09431711339

2. Total land with KVK (ha): 10

a. Under Building	2 ha
b. Under Demonstration Units	-
c. Under Crops	1.4 ha
d. Orchard/Agro-forestry	1 ha
e. Others	5.6 ha

3. Training Achievement

Table – 3 A. Area-wise distribution of On + Off Campus Training Courses for Farmers and Farm Women (regular + sponsored)

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
Crop Production								
Weed Management	1	18	-	18	-	-	-	18
Seed production	7	105	-	105	13	-	13	118
Integrated Crop Management	21	180	9	189	249	14	263	452
Horticulture								
a) Vegetable Crops								
Production of low value and high volume crop	7	114	3	117	32	-	32	149
Soil Health and Fertility Management								
Production and use of organic inputs								
Home Science/Women empowerment								
Household food security by kitchen gardening and nutrition gardening	1	-	17	17	-	-	-	17
Design and development of low/minimum cost diet	6	-	77	77	-	30	30	107
Minimization of nutrient loss in processing								
Processing and cooking	1	-	16	16	-	8	8	24
Gender mainstreaming through SHGs	2	-	21	21	-	8	8	29
Women empowerment	2	-	28	28	-	3	3	31
Agril. Engineering								
Farm machinery and its maintenance	7	118	-	118	36	-	36	154
Plant Protection								
Integrated Pest Management	2	37	-	37	3	-	3	40
Integrated Disease Management	5	62	7	69	24	8	32	101
Bio-control of pests and diseases	2	17	-	17	7	14	21	38
Production of Inputs at site								
Seed Production	1	32	-	32	2	-	2	34
Capacity Building and Group Dynamics								
Leadership development								
Group dynamics	2	17	2	19	19	3	22	41
Formation and Management of SHGs	5	15	9	24	12	85	97	121
Mobilization of social capital	8	123	-	123	36	3	39	162
Entrepreneurial development of farmers/youths	8	131	12	143	7	2	9	152
TOTAL	88	969	201	1170	440	178	618	1788

Table – 3 B Area-wise distributions of On + Off Campus Training Courses for Rural Youth (regular + sponsored + vocational)

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
Mushroom Production	3	57	-	57	2	-	2	59
Seed production	1	24	-	24	6	-	6	30
Protected cultivation of vegetable crops	5	103	3	106	15	1	16	122
Protected cultivation of flowers	2	6	2	8	23	22	45	53
TOTAL	11	190	5	195	46	23	69	264

Table – 3 C Area-wise distribution of On + Off Campus Training Courses for In-service Extension Personnel (regular + sponsored)

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
Gender mainstreaming through SHGs	2	5	38	43	8	11	19	62
Any other (Pl. Specify) Productivity enhancement in vegetable crops								
TOTAL	2	5	38	43	8	11	19	62

4. Details of On Farm Trial:

A. RESULTS OF ON FARM TRIAL RABI 2007 – 08:

1. **TITLE:** EFFECT OF POTASSIUM ON ONION.

2. **Problem diagnose:** Low yield of Onion.

3. **Details of technologies selected for assessment/refinement:**

T₁- Farmers practices. (N₆₀P₄₀K₀)

T₂- N₁₀₀ P₁₀₀ K_{37.5}

T₃- N₁₀₀ P₁₀₀ K₇₅

Replication: 10.

Design: RBD.

4. **Source of technology:** Birsa Agricultural University, Ranchi.

5. **Production system:** Vegetable based production system.

Thematic area: Nutrient management in vegetable.

6. **Performance of the Technology with performance indicators:**

Sl.	Treatment	Yield (Q/ha)	B:C ratio	Post harvest soil analysis				
				pH	Organic carbon (%)	Available N mg/Kg	Available P mg/Kg	Available K mg/Kg
1.	T ₁	171.5	3.28	6.30	0.52	189.90	8.04	84.34
2.	T ₂	198.0	3.60	6.41	0.56	200.80	8.67	107.11
3.	T ₃	234.1	4.23	6.36	0.62	221.97	9.45	126.27
4.	Initial soil analysis	-	-	5.7	0.48	169.02	6.72	102.46

SEm± 3.8

CD (0.05) = 9.2

Cv (%) = 5.81

7. **Final recommendation for micro level situation:**

N₁₀₀ P₁₀₀ K₇₅ application in Onion.

8. **Constraints identified and feedback for research:**

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9. **Process of farmers participation and their reaction:**

1. Field visits at OFT sites.

2. Farmers – Scientists interaction programme.

B. RESULTS OF ON FARM TRIAL SUMMER 2008:

1. TITLE: EFFECT OF INTEGRATED FERTILIZATION ON YIELD OF SUMMER GREEN GRAM.

2. Problem diagnoses: Low yield of summer green gram.

3. Details of technologies selected for assessment/refinement:

T₁- Farmers practice (No fertilizers)

T₂- N₁₀P₂₀K₁₀ + Rhizobium culture.

T₃- N₂₀P₄₀K₂₀ + Rhizobium culture

Replication: 10.

Design: RBD.

4. Source of technology: Birsa Agricultural University, Ranchi.

5. Production system: Upland pulse based production system.

Thematic area: Integrated Nutrient Management.

6. Performance of the Technology with performance indicators:

Sl.	Treatment	Yield (Q/ha)	B:C ratio	Post harvest soil analysis				
				pH	Organic carbon (%)	Available N mg/Kg	Available P mg/Kg	Available K mg/Kg
1.	T ₁	6.70	1.07	5.40	0.39	218.5	7.46	38.20
2.	T ₂	8.61	1.21	5.51	0.44	246.2	9.08	78.26
3.	T ₃	12.60	1.57	5.58	0.48	260.3	10.93	122.31
4.	Initial soil analysis	-	-	5.21	0.36	143.3	5.34	42.69

SEm± 0.305

CD (0.05) = 0.734

Cv (%) = 9.56

7. Final recommendation for micro level situation:

N₂₀P₄₀K₂₀ + Rhizobium culture application in summer green gram.

8. Constraints identified and feedback for research:

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9. Process of farmers participation and their reaction:

(1). Field visits at OFT sites.

(2). Farmers – Scientists interaction programme.

C. RESULTS OF ON FARM TRIAL EARLY KHARIF 2008:

1. TITLE: MANAGEMENT OF LEAF CURL OF TOMATO.

2. Problem diagnoses: Low yield of Tomato.

3. Details of technologies selected for assessment/refinement:

T₁- Control (1-2 spray of unidentified insecticide like superkiller)

T₂- Seed treatment with imidacloprid 70 w.s @ 3 g /Kg and spray of imidacloprid @ 1 ml / litre water at 15 days interval starting from pick vegetative stage.

T₃- Root dipping in imidacloprid solution @ 4-5 ml / litre of water for one hour before transplanting of the seedling and spray 1 ml/litre water at 15 days interval starting from pick vegetative stage.

Replication: 10.

Design: RBD.

4. Source of technology: IIVR, Varanasi.

5. Production system: Vegetatable based production system.

Thematic area: IPM.

6. Performance of the Technology with performance indicators:

Sl.	Treatment	Mean yield (t/ha)	Increased in yield	
			(t/ha)	%
1.	T ₁	8.3	-	-
2.	T ₂	9.7	1.4	16.86
3.	T ₃	10.3	2	24.0

SEm± 0.31

CD (0.05) = 0.96

Cv (%) = 8.43

7. Final recommendation for micro level situation:

Root dipping in imidacloprid solution @ 4-5 ml/litre of water for one hour before transplanting of the seedling and spray @ 1 ml /litre water at 15 days interval from pick vegetative stage.

8. Constraints identified and feedback for research:

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9. Process of farmers participation and their reaction:

(1). During farmers visit to KVK.

(2). On the site of OFT.

(3). During diagnostic visits.

D. RESULTS OF ON FARM TRIAL SUMMER 2008:

1. TITLE: WILT MANAGEMENT OF BRINJAL BY APPLICATION OF TRICHODERMA AND STREPTOCYCLINE.

2. Problem diagnoses: Mortality of Brinjal at flowering and fruiting stage.

3. Details of technologies selected for assessment/refinement:

- T₁- Control (Farmers practice – spray of Bavistin @ 1g/litRE water 2-3 times after appearance of disease))
T₂- Application of Trichoderma @ 5.5 Kg/ha by mixing 500 g/q compost and then planting @ 25g mixture/planting holes.
T₃- Drenching of streptocycline @ 100g/1000 litre water at flowering stage.
T₄- T₂ + T₃

Replication: 10.

Design: RBD.

4. Source of technology: I.I.V.R., Varanasi

5. Production system and thematic area: Vegetable based production system.

6. Performance of the Technology with performance indicators:

Sl.	Treatment	Mean yield (t/ha)	Increased in yield	
			t/ha	%
1.	T ₁	17.36	-	-
2.	T ₂	23.0	5.64	32.48
3.	T ₃	23.5	6.14	35.0
4.	T ₄	24.8	7.44	42.85

SEm± 0.41

CD (0.05) = 1.20

Cv (%) = 8.31

7. Final recommendation for micro level situation:

Application of Trichoderma @ 5.5 Kg/ha by mixing 500 g/q compost and then planting @25 g mixture/planting holes and drenching of straptocycline @ 100 g/1000 liter water / ha at flowering stage.

8. Constraints identified and feedback for research:

- (1). Hundred percent mortality could not been checked.
(2). Single mixture of fungicide should be prepared for control of the disease.

9. Process of farmers participation and their reaction:

- (1). During visit at OFT site.
(2). During diagnostic visits.

Farmers reaction:

- (1). Accepted the technology under cultivation of Brinjal.

E. RESULTS OF ON FARM TRIAL SUMMER 2008:

1. TITLE: ASSESSMENT OF EFFECTIVE IRRIGATION SYSTEM IN SUMMER LADYFINGER.

2. Problem diagnoses: Low area under summer vegetables cultivation.

3. Details of technologies selected for assessment/refinement:

T₁- Irrigation in all furrow (control – farmers practice)

T₂- Irrigation in alternate furrow.

T₃- Irrigation by drum kit micro tube

Replication: 8.

Design: RBD.

4. Source of technology: I.A.R.I., New Delhi.

5. Production system: Vegetable based production system.

Thematic area: Micro irrigation system of vegetable.

6. Performance of the Technology with performance indicators:

Sl.	Treatment	Yield (q/ha)	Increase in yield over control		Water applied per ha.	Net water saving over control		Field water use efficiency (q/ha - cm)
			q/ha	%		cm	%	
1.	T ₁ - Irrigation in all furrow (control – farmers practice)	112	-	-	82 cm	-	-	1.36
2.	T ₂ - Irrigation in alternate furrow.	105	(-)7	(-)6.25	61 cm	21	25.6	1.72
3.	T ₃ - Irrigation by drum kit micro tube	128	16	14.28	46 cm	36	43.9	2.78

SEm± 2.03

CD (0.05) = 6.2

Cv (%) = 9.3

7. Final recommendation for micro level situation:

Irrigation by drum kit micro tube in Ladyfinger produced highest yield (128q/ha) & saved 43.9% irrigation water.

8. Constraints identified and feedback for research:

Constraints-(1). Micro tube irrigation system is not available in local market.

Feedback- (1). The system should be more cost effective so that it may be accepted by marginal farmers on large scale.

9. Process of farmers participation and their reaction:

1. Farmers – scientists interaction programmes through visit at OFT sites.

2. Kishan Gosthi at OFT sites.

F. RESULTS OF ON FARM TRIAL KHARIF 2008:

1. TITLE: INCREASING THE PROFITABILITY BY CULTIVATING HIGH YIELDING QUALITY RICE VARITIES.

2. Problem diagnoses: Low profitability in rice cultivation.

3. Details of technologies selected for assessment/refinement:

T₁- Farmers Practice (Swarna)

T₂- BPT-5204 (Sambha Mansoori)

T₃- Rajshree

Replication: 10.

Design: Randomized block design.

4. Source of technology: Birsa Agricultural University, Ranchi & Rajendra Agricultural University, Pusa.

5. Production system and thematic area: Rice based production system.

6. Performance of the Technology with performance indicators: crop is standing.

Sl.	Treatment	Mean yield (Q/ha)	Increased in yield	Gross income (Rs./ha)	Net return (Rs./ha)	B:C ratio
1.	T ₁ - Farmers Practice (Swarna)	40.2	-	38170	22170	1:2.38
2.	T ₂ - BPT-5204	39.0	(-)2.98%	43000	27000	1:2.69
3.	T ₃ - Rajshree	38.4	(-)4.0%	42400	26400	1:2.65

7. Final recommendation for micro level situation:

Though the yield of BPT – 5204 and Rajshree is slightly low but due to fine quality of these two varieties, the price is higher which resulted in to higher return. Hence it is available to cultivate BPT – 5204 in place of Swarna.

8. Constraints identified and feedback for research:

False smut is appeared more in BPT – 5204 where as some where lodging problem was seen in Rajshree.

9. Process of farmers participation and their reaction:

I. Interaction with farmers during field visits.

II. During farmers – scientists interaction programme.

G. RESULTS OF ON FARM TRIAL KHARIF 2008:

1. TITLE: WEED MANAGEMENT IN KHARIF MAIZE.

2. Problem diagnoses: Low yield of Kharif maize.

3. Details of technologies selected for assessment/refinement:

- T₁- Control (Farers Practice – One manual weeding at 20 – 25 days after sowing.
T₂- Spray of Simazine 50% dust @1.5 Kg / ha pre emergence.
T₃- Spray of Simazine 50% dust @1.5 Kg / ha pre emergence and one hand weeding at 25 – 30 days after sowing.

Replication: 8.

Design: RBD.

4. Source of technology: Birsa Agricultural University, Ranchi.

5. Production system: Maize based upland production system.

Thematic area: Weed management in cereals crop likely to be harvested.

6. Performance of the Technology with performance indicators:

Sl.	Treatment	yield (Q/ha)	Increased in yield (%)	Gross return (Rs./ha)	Net return (Rs./ha)	B:C ratio	No. of weeds/m ² at 60 DAS
1.	T ₁	21.5	-	13975	4975	1:1.55	47
2.	T ₂	20.7	(-) 3.7%	13455	4955	1:1.58	54
3.	T ₃	26.3	22.3%	17095	7595	1:1.80	21

Rate of grain = Rs. 650/q.

Cost of cultivation = 9000/ha, T₁

(Approximated)= 8500/ha, T₂

9500/ha. T₃

7. Final recommendation for micro level situation:

Spray of Simazine 50% dust @ 1.5 kg/ha per emergence and one hand weeding 25 – 30 days after sowing produced highest yield and benefit.

8. Constraints identified and feedback for research:

Grassy weeds like cynodon dactylon could not controlled effectively for longer period by Atrazine though there was 9000 initial effect for 30 days.

9. Process of farmers participation and their reaction:

- I. Field visit.
- II. Farmers – scientists interaction programme
- III. Krishak Gosthi.

H. RESULTS OF ON FARM TRIAL KHARIF 2008:

1. **TITLE:** EFFECT OF NPK AND BIOFERTILIZER ON THE YIELD OF LOW LAND PADDY.

2. **Problem diagnoses:** Low yield of low land paddy.

3. **Details of technologies selected for assessment/refinement:**

T₁- Farmers practice (50 Kg N+ 40 Kg P₂O₅ /ha)

T₂- 50 Kg N+ 30 Kg P₂O₅ + 15Kg K₂O + 10 Kg BGA/ha.

T₃- 80 Kg N + 40 Kg P₂O₅ +20 Kg K₂O + 10 Kg BGA/ha.

4. **Replication:** 10.

5. **Design:** RBD.

6. **Source of technology:** Birsa Agricultural University, Ranchi.

7. **Production system:** Paddy based production system.

8. **Thematic area:** Integrated Nutrient Management.

9. **Performance of the Technology with performance indicators:**

Treatment	Yield (Q/ha)	Increase over control (%)	Gross return (Rs./ha)	Net return (Rs./ha)	B:C ratio	Post harvest soil analysis				
						pH	Organic carbon (%)	Available N mg/Kg	Available P mg/Kg	Available K mg/Kg
T ₁	39.1		37235	21235	1:2.3	6.0	0.52	122.1	13.2	102.3
T ₂	45.3		42505	26005	1:2.58	6.3	0.54	127.7	13.4	104.2
T ₃	47.6		44460	27460	1:2.60	6.4	0.61	141.3	13.1	104.3
Initial						5.91	0.47	124.5	11.3	98.6

Rate = 850/q. (seed)

100/q. (straw)

Cost of cultivation = Rs. 16000/ha, (T₁)

Rs. 16500/ha (T₂)

Rs. 17100/ha (T₃)

7. **Final recommendation for micro level situation:**

Eighty kilogram nitrogen with 30 Kg P₂O₅ + 15Kg K₂O + 10 Kg BGA/ha was found best.

8. **Constraints identified and feedback for research:**

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9. **Process of farmers participation and their reaction:**

I. Field visit.

II. Krishak Gosthi.

I. RESULTS OF ON FARM TRIAL KHARIF 2008:

TITLE: - PERFORMANCE ASSESSMENT OF DIFFERENT SIZE OF SHGS.

- 1. Problem identified:** - Majority of SHG are not performing good.
- 2. Cause:** - Coordination among members are not good.
- 3. Hypothesis:** - Smaller size of self help group may function efficiently.
- 4. Treatment:** -
T₁ – 10 member SHG
T₂ - 15 members SHG
T₃ - 20 members SHG
- 5. Source of technology:** - New.
- 6. Season:** - Whole year.
- 7. Design:** - RBD.
- 8. Replication:** - 1.
- 9. Sample size:** - As per treatment.
- 10. Observations:** -

S.N.	Particulars	T ₁ (SHG of 10 members)	T ₂ (SHG of 15 members)	T ₃ (SHG of 20 members)
1.	Frequency of meeting	2	0	3
2.	Attendance of members	2	1	3
3.	Extent of internal lending	2	1	3
4.	Mode of decision making	3	1	3
5.	Undertaking income generation activities	3	2	3
6.	Fallow up of democratic process	2	1	3
7.	Leadership development	3	2	3
	Ranks	II	III	I

- 11. Recommendation:** Higher level of effectiveness of terms of above observation is perceived in large size of SHG as compared to the other small & medium size.
- 12. Constraints:**
 - I. Problem of finance to start new activities.
 - II. Poorness of the SHG members.
 - III. Illiteracy of the members.
 - IV. Lack of technical knowledge among members.
- 13. Process of farmers participation.**
 - I. Meeting with SHG members
 - II. Training of SHG members.

4. B. Results of On Farm Trials

A.

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Onion	Upland irrigated	Low yield of Onion.	Effect of potassium on Onion,	10.	T ₁ -Farmers practices. (N ₆₀ P ₄₀ K ₀)	Yield	171.2	N ₁₀₀ P ₁₀₀ K ₇₅ produced highest yield & B:C ratio.	Accepted the technology.	-	-
						B:C ratio	1:3.28				
						N depletion					
						P depletion					
						K depletion					
					T ₂ -N ₁₀₀ P ₁₀₀ K _{37.5}	Yield	198.0				
						B:C ratio	1:3.60				
						N depletion					
						P depletion					
						K depletion					
					T ₃ -N ₁₀₀ P ₁₀₀ K ₇₅	Yield	234.1				
						B:C ratio	1:4.23				
						N depletion					
						P depletion					
						K depletion					

* No. of farmers

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit (Rs./ha)	BC Ratio
13	14	15	16
T ₁ -Farmers practices. (N ₆₀ P ₄₀ K ₀)	171.2	95240	1:3.28
T ₂ -N ₁₀₀ P ₁₀₀ K _{37.5}	198.0	114371	1:3.60
T ₃ -N ₁₀₀ P ₁₀₀ K ₇₅	234.1	142964	1:4.23

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

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

B.

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Green gram	Upland Irrigated	Low yield of green gram.	Effect of integrated fertilization on yield of summer green gram.	10	T ₁ - Farmers practice (No fertilizer)	Yield (t/ha)	6.70	Accepted the technology.	-	-	-
						B:C ratio	1:1.07				
					T ₂ - N ₁₀ P ₂₀ K ₁₀ + Rhizobium culture.	Yield (t/ha)	8.61				
						B:C ratio	1:1.20				
					T ₃ - N ₂₀ P ₄₀ K ₂₀ + Rhizobium culture	Yield (t/ha)	12.60				
						B:C ratio	1:1.56				

* No. of farmers

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit (Rs./ha)	BC Ratio
13	14	15	16
T ₁ -Farmers practice (No fertilizers)	670 Kg.ha	360	1:1.07
T ₂ -N ₁₀ P ₂₀ K ₁₀ + Rhizobium culture.	861 Kg/ha	1125	1:1.20
T ₃ -N ₂₀ P ₄₀ K ₂₀ + Rhizobium culture	1260 kg/ha	3604	1:1.56

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

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

C.

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Tomato	Upland Irrigated	Low yield of Tomato.	Management of leaf curl of Tomato.	10	T ₁	Infected plant (%)	24.6	Root dipping in imidacloprid solution @ 4-5 ml/litre of water for one hour before transplanting of the seedling and spray @ 1 ml /litre water at 15 days interval from pick vegetative stage.	Single insecticide should be prepared for control disease.	No	N.A
						Yield (t/ha)	8.3				
					T ₂	Infected (%)	1.8				
						Yield (t/ha)	9.7				
					T ₃	Infected (%)	1.3				
						Yield (t/ha)	10.3				

* No. of farmers

Technology Assessed / Refined		*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13		14	15	16
T ₁ -	Control (1-2 spray of insecticide like superkiller)	8.3 t/ha	21400	1:1.47
T ₂ -	Seed treatment with imidacloprid 70 w.s @ 3 g /Kg and spray of imidacloprid @ 1 ml / litre water at 15 days interval starting from pick vegetative stage	9.7 t/ha	32600	1:1.72
T ₃ -	Root dipping in imidacloprid solution @ 4-5 ml / litre of water for one hour before transplanting of the seedling and spray 1 ml/litre water at 15 days interval starting from pick vegetative stage	10.3 t/ha	37400	1:1.83

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

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

D.

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Brinjal	upland Irrigated	Mortality of Brinjal plants at flowering and fruiting stage	Wilt management of Brinjal by application of Trichoderma and streptocycline.	10	T ₁	Mortality (%)	35.3	Application of Trichoderma @ 5.5 Kg/ha by mixing 500 g/q compost and then planting @25 g mixture/planting holes and drenching of streptocycline @ 100 g/1000 litre water / ha at flowering stage.	Single formulation of effective control should be evolved.	No	N.A
						Yield (t/ha)	17.36				
					T ₂	Mortality (%)	9.61				
						Yield (t/ha)	23.5				
					T ₃	Mortality (%)	7.4				
						Yield (t/ha)	24.8				
					T ₄	Mortality (%)	4.2				
						Yield (t/ha)	24.8				

* No. of farmers

Technology Assessed / Refined		*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13		14	15	16
T ₁ -	Control (Farmers practice – spray of Bavistin @ 1g/litre water 2-3 times after appearance of disease)	17.36 t/ha	42800	1:1.97
T ₂ -	Application of Trichoderma @ 5.5 Kg/ha by mixing 500 g/q compost and then planting @ 25g mixture/planting holes.	23.0 t/ha	70000	1:2.56
T ₃ -	Drenching of streptocycline @ 100g/1000 litre water at flowering stage.	23.5 t/ha	72500	1:2.61
T ₄ -	T ₂ + T ₃	24.8 t/ha	79000	1:2.76

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

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

E.

Crop/	Farming	Problem	Title of	No.	Technology	Parameters of	Data on	Results of	Feedback from	Any	Justification
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enterprise	situation	Diagnosed	OFT	of trials*	Assessed	assessment	the parameter	assessment	the farmer	refinement done	for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Ladyfinger	Medium land – irrigated	Low area under summer vegetable cultivation	Assessment of effective irrigation system in summer vegetable.	8	T ₁ -Irrigation in all furrow (control – farmers practice)	Yield (t/ha)	11.2	Irrigation by drum kit irrigation in ladyfinger produce highest yield i.e. 12.8 t/ha wherever field water use efficiency was also highest i.e. 0.278 t/ha-cm.	1. Suited for small & marginal vegetable grower. 2. Easy to operate. 3. Slightly inconvenient to fill the drum before irrigation.	-	-
						Field water use efficiency (t/ha-cm)	0.136				
						Water applied per ha(cm)	82				
					T ₂ - Irrigation in alternate furrow	Yield (t/ha)	10.5				
						Field water use efficiency (t/ha-cm)	0.172				
						Water applied per ha(cm)	61				
					T ₃ - Irrigation by drum kit micro tube	Yield (t/ha)	12.8				
						Field water use efficiency (t/ha-cm)	0.278				
						Water applied per ha(cm)	46				

* No. of farmers

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16
T ₁ - Irrigation in all furrow (control – farmers practice)	11.2 t/ha	75,400	1:3.06
T ₂ - Irrigation in alternate furrow	10.5 t/ha	71,400	1:3.12
T ₃ - Irrigation by drum kit micro tube	12.8 t/ha	86,000	1:3.20

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

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

F.

Crop/	Farming	Problem	Title of OFT	No.	Technology	Parameters of	Data on the	Results of	Feedback from	Any	Justification
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enterprise	situation	Diagnosed		of trials*	Assessed	assessment	parameter	assessment	the farmer	refinement done	for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Rice	Rainfed	Low profitability in rice cultivation	Increasing the profitability by cultivating high yielding quality rice varieties.	10	Swarna	Yield (q/ha)	40.2 q/ha	BPT – 5204 was found the best	False smut appearance was higher than other two varieties	No.	---
						B:C ratio	1:2.38				
					Sambha Mansoori	Yield(q/ha)	39.0q/ha				
						B:C ratio	1:2.69				
					Rajshree	Yield(q/ha)	38.4q/ha				
						B:C ratio	1:2.65				

* *No. of farmers*

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
T₁ – Swarna	40200	22170	1:2.38
T₂- BPT – 5204	39000	270020	1:2.69
T₃ – Rajshree	38400	26400	1:2.65

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

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

G.

Crop/	Farming	Problem	Title of	No.	Technology Assessed	Parameters	Data on	Results of	Feedback from	Any	Justification
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enterprise	situation	Diagnosed	OFT	of trials*		of assessment	the parameter	assessment	the farmer	refinement done	for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Maize	Upland rainfed maize based farming situation	Low yield of maize.	Weed management in Kharif maize.	8	T ₁ - Control (Farers Practice – One manual weeding at 20 – 25 days.	Yield (q/ha)	21.5	Pre emergence application of Simazine 50% dust @ 1.5 kg/ha and one hand weeding at 25 – 30 days after sowing was found the best.	Cynodon dactylon could not been controlled for longer period.	---	---
						B:C ratio	1:1.55				
						No. of weed/m ² at 60 days	47				
					T ₂ - Pre-emergence Spray of Atrazine / Simazine 50% dust @1.5 Kg / ha.	Yield (q/ha)	20.7				
						B:C ratio	1:1.58				
						No. of weed/m ² at 60 days	54				
					T ₃ - Pre-emergence Spray of Atrazine / Simazine 50% dust @1.5 Kg / ha and one hand weeding at 25 – 30 days.	Yield (q/ha)	26.3				
						B:C ratio	1:1.80				
						No. of weed/m ² at 60 days	21				

* No. of farmers

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
T₁	21500	4975	1:1.55
T₂	20700	4955	1:1.58
T₃	26300	7595	1:1.80

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

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

H.

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Paddy	Paddy - Fallow	Low yield of paddy.	Effect of NPK & biofertilizers on yield of low land paddy.	10	T ₁ -Farmers practice (50 Kg N+ 40 Kg P ₂ O ₅ /ha)	Yield (q/ha)	39.1	Full dose of NPK with 10 kg BGA resulted highest yield.			
						B:C ratio	1:2.3				
					T ₂ - 50 Kg N+ 40 Kg P ₂ O ₅ + 20Kg K ₂ O + 10 Kg BGA/ha.	Yield (q/ha)	45.3				
						B:C ratio	1:2.58				
					T ₃ - 30 Kg N + 40 Kg P ₂ O ₅ +10 Kg K ₂ O + 10 Kg BGA/ha	Yield (q/ha)	47.6				
						B:C ratio	1:2.60				

* No. of farmers

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit (Rs./ha)	BC Ratio
13	14	15	16
T ₁ -Farmers practice (50 Kg N+ 40 Kg P ₂ O ₅ /ha)	39100	21235	1:2.3
T ₂ - 50 Kg N+ 40 Kg P ₂ O ₅ + 20Kg K ₂ O + 10 Kg BGA/ha.	45300	26005	1:2.58
T ₃ - 30 Kg N + 40 Kg P ₂ O ₅ +10 Kg K ₂ O + 10 Kg BGA/ha	47600	27460	1:2.60

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

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

I.

Crop/	Farming	Problem	Title of	No. of	Technology	Parameters	Data on	Results of	Feedback from	Any	Justification
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enterprise	situation	Diagnosed	OFT	trials*	Assessed	of assessment	the parameter	assessment	the farmer	refinement done	for refinement
1	2	3	4	5	6	7	8	9	10	11	12
SHG	-	Bigger sizes of Self Help Group are not working efficiently.	Performance assessment of different size of Self Help Group.	Whole year	T ₁ -10 members Self Help Groups.			Bigger size of SHG is more effective than medium and small size.	1. Problem of finance to start new activities. 2. Poorness of the SHG members. 3. Illiteracy of the members. 4. Lack of technical knowledge among members.	--	--
					T ₂ - 15 members Self Help Groups						
					T ₃ - 20 members Self Help Groups.						

* No. of farmers

S.N.	Particulars	T ₁ (SHG of 10 members)	T ₂ (SHG of 15 members)	T ₃ (SHG of 20 members)
1.	Frequency of meeting	2	0	3
2.	Attendance of members	2	1	3
3.	Extent of internal lending	2	1	3
4.	Mode of decision making	3	1	3
5.	Undertaking income generation activities	3	2	3
6.	Fallow up of democratic process	2	1	3
7.	Leadership development	3	2	3
	Ranks	II	III	I

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

1 Details of Technology assessment and refinement

Table 1A: Abstract on the number of technologies assessed in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	Others	TOTAL
Varietal Evaluation	1										1
Seed / Plant production											
Weed Management	1										1
Integrated Crop Management											
Integrated Nutrient Management	1		1		1						3
Integrated Farming System											
Mushroom cultivation											
Drudgery reduction											
Farm machineries											
Value addition											
Integrated Pest Management											
Integrated Disease Management					2						2
Resource conservation technology					1						1
Small Scale income generating enterprises											
Others										1	1
TOTAL	3		1		4					1	9

2. Details of Frontline Demonstrations

**Table – 2 A Front Line Demonstrations on Oilseed Crops (Rabi 2007-08):
Rabi – 2007 – 08**

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield (q/ha)	Local Check (q/ha)	Increase in yield (%)	Data on parameter in relation to technology demonstrated		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
							Demo	Local	Demo	Local	Demo	Local
Mustard	Variety Shivani	96	15	8.60	5.09	68.95	Yield & net profit	Yield & net profit	5500	2500	1:1.8	1:1.5
Linseed	Variety Shubra	46	10	6.23	4.06	53.44	Yield & net profit	Yield & net profit	4500	2400	1:2.1	1:1.35

Summer – 2008

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield (q/ha)	Local Check (q/ha)	Increase in yield (%)	Data on parameter in relation to technology demonstrated		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
							Demo	Local	Demo	Local	Demo	Local
Sesame	Variety – GG-6	10	5	3.05	2.5	22.0	Yield & net profit	Yield & net profit	3302	2500	1:1.56	1:1.5
Groundnut	Variety GG-2	10	5	14.85	10.2	45.5	Yield & net profit	Yield & net profit	13700	5400	1:1.86	1:1.4

Kharif – 2008

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield (q/ha)	Local Check (q/ha)	Increase in yield (%)	Data on parameter in relation to technology demonstrated		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
							Demo	Local	Demo	Local	Demo	Local
Sesame	Variety-Kanke Safed	31	3	2.94	2.4	22	Yield & net profit	Yield & net profit	5151	2451	1:1.5	1:1.2
Groundnut	Variety TG-22	35	5	11.15	8.2	35	Yield & net profit	Yield & net profit	13743	6368	1:1.9	1:1.4
Niger	Variety Birsa Niger – 1	40	10	3.75	2.1	78	Yield & net profit	Yield & net profit	6250	1700	1:2.2	1:1.2

Table – 2 B Front Line Demonstrations on Pulse Crops

Rabi 2007 – 08

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield	Local Check	Increase in yield (%)	Data on parameter in relation to technology demonstrated		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
							Demo	Local	Demo	Local	Demo	Local
Lentil	Variety L-4076	33	4	13.39	7.7	73.89	Yield & net profit	Yield & net profit	8500	3100	1:1.8	1:1.4
Gram	Variety Vijay	71	9	8.68	5.62	54.44	Yield & net profit	Yield & net profit	9000	3500	1:1.7	1:1.4

Kharif – 2008

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield	Local Check	Increase in yield (%)	Data on parameter in relation to technology demonstrated		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
							Demo	Local	Demo	Local	Demo	Local
Black Gram	Variety Pant Urd -1	35	5	6.56	5.2	26	Yield & net profit	Yield & net profit	4561	1161	1:1.3	1:1.0
Horse gram	Variety Birsa Kulthi – 1	31	3	5.23	3.2	63	Yield & net profit	Yield & net profit	5986	911	1:1.8	1:1.1
Red Gram	Variety Birsa Arhar – 1	35	7	-	-	-	-	-	-	-	-	-

Table – 2 C Front Line Demonstrations on Other Crops

Kharif – 2008

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield	Local Check	Increase in yield (%)	Data on parameter in relation to technology demonstrated		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
							Demo	Local	Demo	Local	Demo	Local
Rice	Variety BPT-5204	3	2.4	40.8	41.5	-0.48	Yield & net profit	Yield & net profit	28800	23275	1:1.8	1:1.4

Hybrid : Vegetable (Kharif – 2008)

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield	Local Check	Increase in yield (%)	Data on parameter in relation to technology demonstrated		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
							Demo	Local	Demo	Local	Demo	Local
Tomato	Variety- 5005	27	1	-	-	-	-	-	-	-	-	-
Brinjal	Variety BE-707	5	0.28	-	-	-	-	-	-	-	-	-

3. Details of training programmes conducted:

Table – 3 A. Area-wise distribution of On + Off Campus Training Courses for Farmers and Farm Women (regular + sponsored)

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
Crop Production								
Weed Management	1	18	-	18	-	-	-	18
Seed production	7	105	-	105	13	-	13	118
Integrated Crop Management	21	180	9	189	249	14	263	452
Horticulture								
a) Vegetable Crops								
Production of low value and high volume crop	7	114	3	117	32	-	32	149
Soil Health and Fertility Management								
Production and use of organic inputs								
Home Science/Women empowerment								
Household food security by kitchen gardening and nutrition gardening	1	-	17	17	-	-	-	17
Design and development of low/minimum cost diet	6	-	77	77	-	30	30	107
Minimization of nutrient loss in processing								
Processing and cooking	1	-	16	16	-	8	8	24
Gender mainstreaming through SHGs	2	-	21	21	-	8	8	29
Women empowerment	2	-	28	28	-	3	3	31
Agril. Engineering								
Farm machinery and its maintenance	7	118	-	118	36	-	36	154
Plant Protection								
Integrated Pest Management	2	37	-	37	3	-	3	40
Integrated Disease Management	5	62	7	69	24	8	32	101
Bio-control of pests and diseases	2	17	-	17	7	14	21	38
Production of Inputs at site								
Seed Production	1	32	-	32	2	-	2	34
Capacity Building and Group Dynamics								
Leadership development								
Group dynamics	2	17	2	19	19	3	22	41
Formation and Management of SHGs	5	15	9	24	12	85	97	121
Mobilization of social capital	8	123	-	123	36	3	39	162
Entrepreneurial development of farmers/youths	8	131	12	143	7	2	9	152
TOTAL	88	969	201	1170	440	178	618	1788

Table – 3 B Area-wise distributions of On + Off Campus Training Courses for Rural Youth (regular + sponsored + vocational)

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
Mushroom Production	3	57	-	57	2	-	2	59
Seed production	1	24	-	24	6	-	6	30
Protected cultivation of vegetable crops	5	103	3	106	15	1	16	122
Protected cultivation of flowers	2	6	2	8	23	22	45	53
TOTAL	11	190	5	195	46	23	69	264

Table – 3 C Area-wise distribution of On + Off Campus Training Courses for In-service Extension Personnel (regular + sponsored)

Thematic Area	No. of Courses	No. of Participants						
		Others			SC/ST			Grand Total
		Male	Female	Total	Male	Female	Total	
Gender mainstreaming through SHGs	2	5	38	43	8	11	19	62
Any other (Pl. Specify) Productivity enhancement in vegetable crops								
TOTAL	2	5	38	43	8	11	19	62

Table – 4 Numbers of Extension Activities and Beneficiaries

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	13	523	80	603	30	-	30	633	80	713
Kisan Mela	01	257	123	480	37	11	48	294	134	428
Kisan Gosthi	19	827	155	982	25	-	25	1003	155	1158
Exhibition	-	-	-	-	-	-	-	-	-	-
Film Show	-	-	-	-	-	-	-	-	-	-
Method Demonstrations	3	66	24	90	-	-	-	66	24	90
Farmers Seminar										
Workshop										
Group meetings										
Lectures delivered										
Newspaper coverage	154									
Radio coverage	6									
TV coverage	15									
Radio Programmes	11									
TV Programmes	15									
Publications	22									
Popular articles	4									
Extension Literature	14									
Advisory Services										
Scientific visit to farmers field	270	1676	-	1676	-	-	-	1676	-	1676
Farmers visit to KVK	304	1627	-	1627	-	-	-	1627	-	1627
Diagnostic visits										
Field visits										
Exposure visits										
Ex-trainees Sammelan	1	161	56	217	27	-	27	188	56	244
Agriculture Camps										
Clinic day										
Soil health Camp										
Animal Health Camp										
Agri mobile clinic										
Soil test campaigns	518									
Farm Science Club										
Conveners meet										

Self Help Group Conveners meetings	3	42	-	42	-	-	-	42	-	42
Mahila Mandals Conveners meetings										
Celebration of important days (specify)										
Any Other (Specify) Krishak helpline	615									

Table – 5 A Productions of Seeds

Sl. No.	Crop	Variety	Quantity (qtl.)	Value (in Rs.)	Provided to No. of Farmers
I. CEREALS					
1	Paddy	Anjali	15.19	18709	Sold to farmers
2	Paddy	MTU-7029	56.40	78500	Sold to farmers
Total			71.59	97209	
II. PULSES					
1	Arhar	Birsa Arhar-1	1.25	4375	
2	Gram	KPG-59	0.53	2385	
Total			1.78	6760	
III. VEGETABLES					
1	French bean	--	0.05	250	
2	Pea	--	0.31	1395	
3			0.36	1645	

SUMMARY :

Sl. No.	Crop	Quantity (qtl.)	Value (in Rs.)	Provided to No. of Farmers
I	CEREALS	71.59	97209	
II	OIL SEEDS			
III	PULSES	1.78	6760	
IV	VEGETABLES	0.36	1645	
V	OTHERS			
TOTAL		73.73	105614	

Table – 5 B Production of planting/seedling materials of Fruits/Vegetables/Forest Species:

Sl. No.	Crop	Variety	Quantity (Nos.)	Value (in Rs.)	Provided to No. of Farmers
I. FRUITS					
1	Banana	Grand nine	3125	27820	Sold to NHM, BAU, Ranchi and farmers
2		Martman			
3		Robusta			
4					
5					
Total				27820	

SUMMARY:

Sl. No.	Crop	Quantity (Nos.)	Value (in Rs.)	Provided to No. of Farmers
I	FRUITS	3125	27820	Sold to NHM & farmers