REPORT

FOR

FLD ON PULSE

RABI, 2009-10

भाकृ अनुप
ICAR

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INTRODUCTION

Pulses occupy an indispensable place in our daily diet as a source of protein. Pulse crops also have the unique potentiality to associate symbiotically with Rhizobium sp. and fixes atmospheric nitrogen, thereby enriching the soil. They are mostly grown in dry lands and hence the technologies have to be manoeuvred accordingly. The Indian Council of Agricultural Research initiated the All- India Coordinated Pulse Improvement Project in 1967-68 in collaboration with the various ICAR institutes and SAUs. The multidisciplinary approach has generated appropriate new technologies for increasing pulse production substantially. Subsequently National Pulses Development Programme has been started by ICAR to take all round effort to raise production and productivity of different pulse crops in the country. Accordingly Front Line Demonstration Programmes have been taken up to transfer the new technologies to farmer's field for better adoption and reduce the technological gap.

The main objectives of FLD are as follows:

- Exploitation of new and improved released technologies on farmers field
- Testing, evaluation and refinement of technology and feed back information
- Organizing training in different levels
- Organizing field day, farmers' convention and farmers' fair etc.
- Publication of extension literature

In Orissa green gram, black gram, horse gram, arhar and bengal gram are major pulse crops as per the area and production. In Angul district, arhar is one of the most important pulse crops with the highest acreage followed by green gram and black gram. and the productivity level of pulse crops especially Blackgram is comparatively low as the farmers of the district are having poor socio-economic background and adopt the traditional method of growing pulse crops. Many of them are not aware of the frontier technologies that are not affordable by them.

Considering the above facts the frontline demonstrations have been conducted with Blackgram during Rabi season of the year 2009-10, the details of which are mentioned as follows

KRISHI VIGYAN KENDRA, ANGUL
REPORT ON FRONT LINE DEMONSTRATION ON PULSE

Season: Rabi Crop: Blackgram

1. Introduction:	Introduction of HYV with all improved cultivation practices
2. Details of agro-climatic condition:	Redloam, irrigated, medium land
3. Cropping pattern system:	Rice-Pulse
4. Problems identified through survey PRA etc:	Low yield in Blackgram due to use of traditional variety and improper cultivation practices
5.Farmers practice:	Traditional variety with traditional cultivation practices
6. Thrust areas identified	Varietal substitution(OBG-17) Ujala with ICM,INM,IPM
7. Detail of Technology demonstrated with source and year	Use of HYV Ujala with all scientific management practices:OUAT 2005
8. Detail if variety used with source and year of release	OUAT 2005Mutant of B-3-8-8,Duration :65-70 days:avg yield:10 q/ha:suitable for all seasons:Resistant to YMV and Cercospora Leaf spot:MR toPowdery mildew and leafcurl virus.
9. Thematic Area	ICM,INM,IPM

10. Details of critical input identified and supplied

Farming situation –Irrigated

Sl no	Name	Detail	Quantity per/ha	Cost (Rs/ha)	Supplied by KVK or invested by the farmer
1	**Variety – OBG-17(Ujala)**	-	-	-	-
2	**Seed rate**	-	25kg	1279	By KVK
3	**Seed treatment- .**		-	-	-
4	**Seed Inoculation, Soil application**	Rhizobium Seed inno. Soil application	 0.5 kg 1.5 kg	19 57	By KVK
	Soil application	PSM	200 ml	187	By farmer
5	**Sowing method- Line sowing**	R X R (25cm) PXP (10cm)	-	-	-
6	**Organic manure- Compost**		40 q/ha	2000	By farmer
7	**Nitrogen**	-	-	-	-
8	**Phosphorus 20:40:0**	DAP	60 kg	583	By KVK
9	**Potash**	MOP	60 kg	278	By KVK
10	**Hand weeding/ Thinning (one)**		-	-	-
11	**Cultural operation**		-	-	-
12	**Chemical weed control**	-	-	-	-
13	**Insect control**	Termite,Cutworm, Hairy-caterpillar , Pod borer	Choropyriphos: 1000 ml Endosulphan : 1000 ml	260 260	By KVK
14	**Disease control**	Powdery mildew,Leafspot	Covert:750 gm (Carbendazim + Mancozeb)	450	
15	**Micronutrient foliar spray**	Energy (B & Mo mixture)	920 ml	488	-
Other					
Cost of critical inputs supplied by KVK			Rs. 3674/-		
Cost of critical inputs supplied by the farmers			Rs.2187/-		
Total cost of critical inputs			Rs.5861/-		

11. Details of implementation

Crop variety	Village	Dist.	Season & year	Technology demonstrated	Area (ha)		SC		ST		OBC		Other		Total		Grand Total
					Proposed	Actual	M	F	M	F	M	F	M	F	M	F	
OBG-17 (Ujala)	Karadabahal	Angul	Rabi, 2009-10	HYV Ujala , ICM ,INM, IDPM	05	05	-	-	-	-	15	-	-	-	15	-	15

12. (A) Farming situation under Front Line Demonstration (Farmer wise)

Sl. No	Name of the farmer	Type of farmers	Category	Area (ha)	Previous crop	Source of irrigation	Soil type	Soil texture	Sowing date	Date of Harvest	Fertility status						
											EC (dS/m)	P^H	OC (%)	N (kg/ha)	P (kg/ha)	K (kg/ha)	Other
1	Balunkeswar Pradhan	large	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	11.01.10	21.03.10	0.165	5.70	0.35	220	22	200	-
2.	Keshari Pradhan	Small	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	11.01.10	21.03.10	0.156	5.75	0.34	210	18	180	-
3.	Panchanan Pradhan	Small	OBC	0.33	Paddy	Canal	Sandy loam	Sandy loam	12.01.10	23.03.10	0.145	5.30	0.30	248	16	194	-
4.	Bhima Sahu	Small	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	12.01.10	22.03.10	0.148	5.26	0.31	234	13	220	-
5.	Gobardhan Sahu	Small	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	12.01.10	21.03.10	0.148	5.48	0.30	239	20	216	-
6.	Kastu Bagha	Small	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	13.01.10	25.03.10	0.160	5.45	0.35	224	18	212	-
7.	Prafulla Pradhan	Small	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	13.01.10	24.03.10	0.168	5.50	0.36	224	18	218	-
8.	Bamdev Pradhan	Small	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	14.01.10	22.03.10	0.145	5.25	0.34	236	20	186	-
9.	Makademi Behera	Small	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	14.01.10	23.03.10	0.152	5.18	0.32	244	18	196	-
10.	Laxman Pradhan	marginal	ST	0.33	Paddy	canal	Sandy loam	Sandy loam	14.01.10	21.03.10	0.151	5.16	0.32	222	16	206	-
11.	Narayan Sahu	marginal	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	15.01.10	25.03.10	0.146	5.65	0.34	232	18	212	-
12.	Bijay Pradhan	Small	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	11.01.10	24.03.10	0.149	5.84	0.35	226	16	212	-
13.	Pramod Dehuri	marginal	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	13.01.10	21.03.10	0.150	5.80	0.36	234	20	214	-
14.	Manu Sahu	marginal	OBC	0.33	Paddy	canal	Sandy loam	Sandy loam	12.01.10	23.03.10	0.155	5.82	0.35	222	18	186	-
15.	Naran Pradhan	marginal	ST	0.33	Paddy	canal	Sandy loam	Sandy loam	15.01.10	24.03.10	0.165	5.76	0.32	232	20	196	-

12 (B) Farming situation under Front Line Demonstration (Consolidated)

Name of crop	Village	No.of farmer	Type of farming situation							Seasonal rainfall (mm)	No.of rainy days	Remarks
			Source of irrigation	Soil type	Status of Nutrients (kg/ha)			Previous crop	Showing time	Harvesting time			
					N	P	K						
Blackgram	Karadabahal	15	canal	Sandy loam	232	18	184	Paddy	11.01.10 to 15.01.10	21.03.10 to 25.03.10	27.4	03	-

13. (A) Yield and cost particulars of demonstration and local check plots (Farmer wise)

		Demonstration							Local check						
Sl. No.	Name of the farmer	Critical inputs	Cost of cash inputs (Rs/ha)	Cost of cultivation (Rs/ha)	Seed yield (Kg/ha)	By product (Kg/ha)	Gross Income (Rs/ha)	Net income (Rs/ha)	Inputs	Cost of cash inputs (Rs/ha)	Cost of cultivation (Rs/ha)	Seed yield (kg/ha)	By product (Kg/ ha)	Gross income (Rs/ ha)	Net income (Rs/ ha)
1.	Blunkeswar Pradhan	Seed, Rhizobium, Manure, Fertilizer (DAP & MOP), Insecticides: (Chloropyriphos & Endosulphan) Fungicide: (covert) Micro-nutrient: (Energy)	1953	3470	313	-	9400	5929	Seeds, Manure, Fertilizer	1250	2467	220	-	5500	3033
2.	Keshari Pradhan		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
3.	Panchanan Pradhan		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
4.	Bhima Sahu		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
5.	Gobardhan Sahu		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
6.	Kastu Bagha		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
7.	Prafulla Pradhan		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
8.	Bamdev Pradhan		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
9.	Makademi Behera		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
10.	Laxman Pradhan		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
11.	Narayan Sahu		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
12.	Bijay Pradhan		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
13.	Pramod Dehuri		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
14.	Manu Sahu		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033
15.	Naran Pradhan		1953	3470	313	-	9400	5929		1250	2467	220	-	5500	3033

13 (B). Average yield and cost particulars of demonstration and local check plots

Crop	Variety	Critical inputs	No. of farmers	Area (ha)	Av.yield (kg/ha)						Increase in yield (%)	Cost of cash inputs (Rs)		Additional cost (Rs/ha)	Additional yield (kg/ha)	B:C Ratio		Average productivity of the district
					Demonstration			Local check										
					Max	Min	Avg	Max	Min	Avg		Demo	Local check			Demo	Local check	
Black gram	OBG-17 (ujwala)	Seed, Rhizobium,Manure, Fertilizer (DAP & MOP), Insecticides: (Chloropyriphos & Endosulphan) Fungicide: (covert) Micro-nutrient: (Energy)	15	05	980	890	940	690	620	660	42.42	5861	3750	2111	280	2.71:1	2.23:1	334

14. Details of Extension activities under FLD

Sl no	Name of Activities	No	No.of Participants						
			SC		ST		Others		Total
			M	F	M	F	M	F	
1	Training of extension personnel	-	-	-	-	-	-	-	-
2	Training of farmers	-	-	-	-	-	-	-	-
3	Field day	1	-	-	2	-	32	6	40
4	Farmers meeting	05	-	-	12	4	75	38	129
5	Farmers visit to KVK farm	18	06	1	08	02	32	7	56
6	Scientist visit to farmers field	14	-	-	-	-	-	-	-
7	TV Programme	-	-	-	-	-	-	-	-
8	Others(leaflet)	1	mass						

15. Weather data during the crop period.

Standard meteorological week (SMW)	RH (%)	Temperature (^{0} C)		Rainfall (mm)	No.of rainy days	Wind velocity
		Max	Min			
-	**67**	42.3	27.1	27.4	03	-

16. Expenditure statement

Sl.No	Head	Sanctioned budget by ZC(Rs.)	Released budget by OUAT(Rs.)	Fund utilization (Rs.) (met from KVK contingency)	Balance(Rs.)
1	Critical input	18,400	18,400	18,364	36
2	Extension activities	2650	2650	2650	-
3	POL, TA, DA etc	3950	1100	1100	-
Total		**25,000**	**22,150**	**22,114**	**36**

17. Technical observation: I) Healthy crop stand
II) Pod numbers and filling is satisfactory

18. Farmers reaction:

1. Appropriate yield by introduction of improved variety,Rhizobium culture,Micro nutrient application with appropriate pest management.

19. Technical feedback on the demonstrated technologies & suggestions: -

19. (A) For further research:

i. Development of YMV resistant variety for Mid Central Table Land Zone
ii. Development of suitable cultural practices for growing Blackgram in the zone.

19. (B) For developments Departments:

i. More emphasis should be given to seed village Programme.
ii. Popularization of Amonium molybdate, Rhizobium & PSM, culture through extension network.

19. (C) For policy consideration:

i. Timely availability of quality seed
ii. Block wise installation of pulse, processing unit.

20. Explanation about failure of demonstration, if any: -

21. Any serious constraints in implementation of the programme: -

22. Other relevant information: -

Date:- **Programme Coordinator**