

CLUSTER FRONT LINE DEMONSTRATION OF SUMMER PULSE (2019-20)

1. **Name of KVK:** Rathindra Krishi Vigyan Kendra
2. **Year of establishment:** 1994
3. **Host Institution:** Visva-Bharati University, Santiniketan, Dist. – Birbhum, Pin. – 731235, West Bengal.
4. **Address of KVK:** Rathindra Krishi Vigyan Kendra, Palli Siksha Bhavana, Visva-Bharati, Sriniketan, P. O. – Sriniketan, Dist. – Birbhum, Pin. – 731236, West Bengal. Phone: 03463-264771, email: rathindrakvk@gmail.com, rathindrakvk@rediffmail.com

Performance of the demonstration:

A. Technical Parameters:

Sl. No.	Crop demonstrated	Existing (Farmer's) variety name	Existing yield (q/ha)	Yield gap (Kg/ha) w.r.to			Name of Variety + Technology demonstrated	Number of farmers	Area in ha	Yield obtained (q/ha)			Yield gap minimized (%)		
				District yield (D)	State yield (S)	Potential yield (P)				Max.	Min.	Av.	D	S	P
1	Summer-Green gram	Panna	8.0	250	+11	700	Summer -Green gram Var: IPM-02-3+ Herbicides pendimethalin as pre emergences @ 3lt/ha+ Micronutrient spray Boron-20 @2gm/lt water in 25 and 45 DAS	62	10	12.85	8.80	12.25	30	538	60
2	Summer-Black gram	Kali-50	6.2	2	56	780	Summer -Black gram Var: PU-31+ Herbicides pendimethalin as pre emergences @ 3lt/ha+ Micronutrient spray Boron-20 @2gm/lt water in 25 and 45 DAS	47	10	13.00	9.5	12.20	3000	1071	77

Seeds of Improved Variety IPM-02-3 of Green gram and PU-31 of Black gram @ 30 kg/, Method of seed sowing: - Broadcasting, Application of herbicides; Pendimethalin @ 3 lit. / ha at 1- 3 DAS, Foliar Spray of Micro- Nutrients: - B- 20 @ 2 gm. / lit. of water at 25 and 45 DAS.

B. Economic parameters

Sl. No.	Variety demonstrated & Technology demonstrated	Farmers' Existing plot				Demonstration plot				Farmers' feedback
		Gross Cost (Rs. /ha)	Gross return (Rs. /ha)	Net Return (Rs. /ha)	B:C ratio	Gross Cost (Rs. /ha)	Gross return (Rs. /ha)	Net Return (Rs. /ha)	B:C ratio	
1	Green gram, Var IPM-02-3 Herbicides, Micronutrient spray	19700	48000	28300	2.44	20900	73500	52600	3.51	Additional net return is Rs.24300/ha
2	Black gram Var, PU_31, Herbicides, Micronutrient	16450	34100	17650	2.07	17500	67100	49600	3.83	Additional net return is Rs.31950/ha

C. Socio-economic impact parameters

Sl. No.	Crop and variety Demonstrated	Total Produce Obtained	Produce sold (Kg. /household)	Selling Rate (Rs. /Kg.)	Produce used for own sowing (Kg.)	Produce distributed to other farmers	Purpose for which income gained was utilized	Employment Generated (Man days / house hold)
1.	Summer- Green Gram Var: IPM-02-3 + Herbicides, Micronutrient spray	12250 kg	100	60.00	Rest is kept for Dal processing and sowing seeds in the next season.	–	Payment for Labor bill, payment for irrigation, fertilizer and pesticide expenditures.	11
	Summer- Black gram Var: PU-31 + Herbicides, Micronutrient spray	12200 Kg	100	55.00	Rest is kept for Dal processing and sowing seeds in the next season	–	Payment for Labor bill, payment for irrigation, fertilizer and pesticide expenditures.	08

D. Pulse Farmer's perception of the intervention demonstrated

Sl. No.	Technologies demonstrated (with name)	Farmers' Perception parameters					
		Suitability to their farming system	Likings (Preference)	Affordability	Any negative effect	Is Technology acceptable to all in the group/village	Suggestions, for change/improvement, if any
1.	Crop: - Green Gram Var- IPM-02-3 + Herbicides, Micronutrient spray	Suitable to a large extent.	Farmers prefer medium size of seeds and luxurious shiny colour of the seeds of the variety.	New improved variety seeds are affordable. However other components of package of practices like herbicides, plant protection chemicals, micro-nutrients, chemical fertilizers, irrigations etc. are not at all affordable except a very few from the beneficiaries when the programme support would be withdrawn.	None	No, the improved variety and the technological supportive package of practices are acceptable to the partner farmers of the Cluster FLD; but other farmers are still apprehensive about the availability of seeds of the improved varieties and the market acceptance of these new improved varieties. The farmers are greatly concerned about the rising prices of inputs like herbicides, micro-nutrients, plant protection chemicals, irrigation water, labour etc.	Availability of seeds should be ensured in time. Appropriate good quality <i>Rhizobium</i> culture should be ensured for supply among the farmers. Low cost quality herbicides and micro-nutrients should be encouraged for dissemination among the farming community. Proper irrigation facilities should be created by the Governmental agencies.
1.	Summer- Black gram Var: PU-31 + Herbicides, Micronutrient spray	Suitable to a large extent.	Farmers prefer medium size of seeds and luxurious shiny colour of the seeds of the variety.	New improved variety seeds are affordable. However other components of package of practices like herbicides, plant protection chemicals, micro-nutrients, chemical fertilizers, irrigations etc. are not at all affordable except a very few from the beneficiaries when the programme support would be withdrawn.	None	No, the improved variety and the technological supportive package of practices are acceptable to the partner farmers of the Cluster FLD; but other farmers are still apprehensive about the availability of seeds of the improved varieties and the market acceptance of these new improved varieties. The farmers are greatly concerned about the rising prices of inputs like herbicides, micro-nutrients, plant protection chemicals, irrigation water, labour etc.	Availability of seeds should be ensured in time. Appropriate good quality <i>Rhizobium</i> culture should be ensured for supply among the farmers. Low cost quality herbicides and micro-nutrients should be encouraged for dissemination among the farming community. Proper irrigation facilities should be created by the Governmental agencies.

E) Specific Characteristics of Technology and Performance

Specific Characteristic	Performance	Performance of Technology vis-a vis Local Check	Farmers Feedback
1. Duration	Shorter	New variety: 80 days Local check: 90 days	53 % increase in yield was obtained through the new technology than local check. The new variety fetched more benefit in shorter duration i.e. additional net return Rs. 24300/ha than local check which is very much encouraging for summer green gram cultivation instead of summer rice.
2. No. of branches/ plant	Highly branched	New technology: 18 Local check: 11	
3. No. of pods /plant	Higher	New technology: 34 Local check: 21	
4. No. of Seeds/Pod	More	New technology: 12 Local check: 7	

Specific Characteristic	Performance	Performance of Technology vis-a vis Local Check	Farmers Feedback
1. Duration	Shorter	New variety: 70 days Local check: 95days	96% increase in yield was obtained through the new technology than local check. The new variety fetched more benefit in shorter duration i.e. additional net return Rs. 31950/ha than local check which is very much encouraging for summer green gram cultivation instead of summer rice.
2. No. of branches/ plant	Highly branched	New technology: 16 Local check: 8	
3. No. of pods /plant	Higher	New technology: 48 Local check: 26	

F) Extension activities under FLD conducted till dates:

Sl. No.	Extension Activities organized	Date and place of activity	Number of farmers attended
1.	Audio Conference on Management of Summer Pulses during Lock down	29.04.2020 Rathindra KVK	52

G. Sequential good quality photographs (as per crop stages i.e. growth & development)

Rathindra KVK Scientists at the Off-Campus Training Programme on the Cluster FLD Programme on Summer Pulse



Photographs of Seed Distribution



Rathindra KVK Technology Agent Collecting Data at the Vegetative Stage of Green Gram



Rathindra KVK Technology Agent collecting Data at the Flowering Stage of Green Gram



Rathindra KVK Scientist collecting Data at the Maturity Stage of Green Gram



Rathindra KVK Scientist collecting Data at the Harvesting Stage of Green Gram



H. Details of budget utilization

Crop (provide crop wise information)	Items	Budget Received (Rs.)	Budget Utilization (Rs.)	Balance (Rs.)
Summer,2019-20, (Green Gram and Black gram)	i) Critical input	1,80,000.00	1,32,700.00	47,300.00
	ii) TA/DA/POL etc. for monitoring			
	iii) Extension Activities (Field day, training etc)			
	iv)Publication of literature etc.			
Total		1,80,000.00	1,32,700.00	47,300.00

I. List of Farmer under FLD (Crop wise)

Crop: - Green Gram, Summer, 2019-20

Name of farmer	Father's name	Village	Block	Mobile No.	Email ID	GPS Coordinates (DDMMSS format)		Soil testin g done (Yes/ No)	Reco mme ndati ons based on soil test value	Brief techno logy interv ention	Variety	Seed quan tity used	Area sown (ha.)	Demo. Yield (q/ha)			Yi eld of lo ca l ch ec k q/ ha	% incr ease
						Latitud e	Longitud e							H	L	A		

											Crop: Green gram, Var. IPM- 02-3	30 kg /ha	10 ha.	12.85	8.80	12.25		
KRISH NA TUDU	LT. BOLAI TUDU	KUSHUD ANGA	BOLPUR SRINIK E TAN										0.0 7					
HEML AL HEMB RAM	LT. BHIM HEMBR AM	KUSHUD ANGA	BOLPUR SRINIK E TAN										0.0 7					
SHYA MLAL HEMB RAM	LT. BHIM HEMBR AM	KUSHUD ANGA	BOLPUR SRINIK E TAN										0.0 7					
NOYEL HANS DA A	SUBRAT A HANS DA	KUSHUD ANGA	BOLPUR SRINIK E TAN										0.0 7					
NIMAI SOREN	GANSAI SOREN	KUSHUD ANGA	BOLPUR SRINIK E TAN										0.0 7					
KAMA L MURM U	LT. KUROR AM MURMU	KUSHUD ANGA	BOLPUR SRINIK E TAN										0.0 7					
BADY ANATH MARDI	TUMUI MARDI	KEODAH A	BOLPUR SRINIK E TAN										0.1 9					
BAHA DUR EEMBR AM	SHUKAL HEMBR AM	KEODAH A	BOLPUR SRINIK E TAN	98510292 37									0.1 3					
SUKAL MARDI	LAKSH MIRAM MARDI	KEODAH A	BOLPUR SRINIK E TAN	77977874 76									0.1 3					

BAHA MURMU	LT. BOLAI MURMU	KEODAH A	BOLPUR SRINIKETAN										0.13					
BHUBAN MARDI	CHANDAN MARDI	KEODAH A	BOLPUR SRINIKETAN										0.13					
SANKAR KISKU	LT. SOM KISKU	BARADAGA	BOLPUR SRINIKETAN	7076560994									0.07					
GUPIN MURMU	LT. CHHOTKA MURMU	PALASHD ANGA	SAINTHI A	7865955860									0.07					
NABIN MURMU	LT. CHHOTKA MURMU	PALASHD ANGA	SAINTHI A										0.07					
MANGLA MARDI	LT. RUPAI MARDI	PALASHD ANGA	SAINTHI A	7029650474									0.13					
KALOMURMU	LT. PURNA MURMU	PALASHD ANGA	SAINTHI A	7001274866									0.07					
MIHIR HEMBRAM	LT. LAKSH MIRAM HEMBRAM	PALASHD ANGA	SAINTHI A	9126026603									0.13					
ANASHI HEMBRAM	LT. LAKSH MIRAM HEMBRAM	PALASHD ANGA	SAINTHI A										0.13					
SOM MARDI	LT. RAM MARDI	BARADAGA	BOLPUR SRINIKETAN										0.13					
BURO KISKU	LT. CHURO KISKU	BARADAGA	BOLPUR SRINIKETAN	7718193213									0.07					

JIBAN BESRA	ROBIK BESRA	CHOWHA TTA	MD.BAZ AR										0.3 9					
SHIBN ARAY AN HANSD A	KALICH ARAN HANSDA	CHOWHA TTA	MD.BAZ AR										0.2 6					
FULMO NI HANSD A	HARINA RAYAN HANSDA	CHOWHA TTA	MD.BAZ AR										0.1 3					
SAHAG INI HANSD A	TAPAN HANSDA	CHOWHA TTA	MD.BAZ AR										0.1 3					
ANIL HANSD A	LT. NIMAI HANSDA	CHOWHA TTA	MD.BAZ AR										0.1 3					
RAM TUDU	BUDI TUDU	CHOWHA TTA	MD.BAZ AR										0.2 6					
DEBU HANSD A	HOPAN HANSDA	CHOWHA TTA	MD.BAZ AR										0.1 3					
JAGU SOREN	MONGA L SOREN	CHOWHA TTA	MD.BAZ AR										0.1 3					
SABYA SACHI SAHA	RABIND RANATH SAHA	DEBAGR AM	BOLPUR SRINIKE TAN	98513428 01									0.2 6					
SANAT AN GHOSH	KASHIN ATH GHOSH	BISHNUB ATI	BOLPUR SRINIKE TAN										0.2 6					
PRIYA SISH GHOSH	SISHIR GHOSH	DIGHA	SAINTHI A	96476802 22									0.3 9					
SANJO Y GHOSH	TAPAN KANTI GHOSH	DIGHA	SAINTHI A	97321020 01									0.3 9					

UTPAL ROY	DHIREN DRANATH ROY	BEJURI	RAMPUR HAT-II	8641081986									0.13					
TAPAS MONDAL	MANIK MONDAL	BEJURI	RAMPUR HAT-II	8641081986									0.13					
CHITTA MONDAL	SHISHIR MONDAL	BEJURI	RAMPUR HAT-II	9775384346									0.13					
BIMANCHANDRA ROY	LT-DHIREN DRANATH ROY	BEJURI	RAMPUR HAT-II	7602250219									0.26					
RITALET	LT-NARAYAN LET	BEJURI	RAMPUR HAT-II										0.26					
BUDDHADEB LET	LT-BHUSHAN LET	BEJURI	RAMPUR HAT-II	8972931964									0.13					
BIDHAN LET	BHAJHORI LET	BEJURI	RAMPUR HAT-II	9453403250									0.13					
SANJOY MONDAL	SUDHIR MONDAL	BEJURI	RAMPUR HAT-II	9564957736									0.13					
BOLRAM MONDAL	SHIBSARAN MONDAL	BEJURI	RAMPUR HAT-II	8926133349									0.26					
BIDYUT MONDAL	NIDHIR MONDAL	BEJURI	RAMPUR HAT-II	6295718331									0.26					
DINUBANDHU MONDAL	NIMAI MONDAL	BEJURI	RAMPUR HAT-II	8016660075									0.13					

KARUNA SINDHU MONDAL	NIMAI MONDAL	BEJURI	RAMPUR HAT-II	8972434703									0.13					
DIPAK MONDAL	MRITTA NJOY MONDAL	BEJURI	RAMPUR HAT-II	8670524913									0.26					
AMIYO MONDAL	BHOLANATH MONDAL	BEJURI	RAMPUR HAT-II	9547039420									0.26					
CHANDLET	NISHAKARLET	BEJURI	RAMPUR HAT-II	9547953636									0.13					
GAJAL MURMU	FELU MURMU	BEJURI	RAMPUR HAT-II	8145672616									0.26					
CHANDAN HEMBRAM	CHUNA HEMBRAM	BEJURI	RAMPUR HAT-II	8509362035									0.13					
RUPAL MURMU	KHELU MURMU	BEJURI	RAMPUR HAT-II										0.13					
SOHAGI LET	LT. ASTIK LET	BEJURI	RAMPUR HAT-II										0.26					
NARAYAN LET	LT. HARIPADA LET	BEJURI	RAMPUR HAT-II	9635237034									0.13					

2. List of Farmer under FLD (Crop wise)

Crop: - Black gram, Summer, 2019-20

Name of farmer	Father's name	Village	Block	Mobile No.	Email ID	GPS Coordinates (DDMMSS format)		Soil testing done (Yes/No)	Recommendations based on soil test value	Brief technology intervention	Variety	Seed quantity used	Area sown (ha.)	Demo. Yield (q/ha)			Yield of local check q/ha	% increase
						Latitude	Longitude							H	L	A		
											Crop: Black gram, Var: - PU-31	30 kg/ha	10 ha.	13.00	9.5	12.20		
ARUN KR SAHA	LT. MAHADEV SAHA	DEBGRAM	BOLPUR SRINIKETAN	8900661355									0.13					
MANIK CHANDRA SAHA	LT. MAHADEV SAHA	DEBGRAM	BOLPUR SRINIKETAN	8951103776									0.13					
NUR ISLAM	JALEMAN	SALAN	BOLPUR SRINIKETAN	9547473917									0.26					
BHADU SARDAR	CHANDI SARDAR	RADHAKRISHNAPUR	BOLPUR SRINIKETAN	894200968									0.26					
SK YASIN	LT. MUKTAR	BHERAMARI	BOLPUR SRINIKETAN	9635549695									0.26					

