

Frontline Demonstration (FLD) 2023



Summary of Front Line Demonstrations (FLD) 2023



Discipline	Crop/enterprise	No: of Technology/ Social Concept	No. of demos proposed	Area (ha) to be covered/ no. of activity	No. of participants/famers to be covered
PBG	Lentil	1	10	2.5	10
	Rice	1	10	2.5	10
Plant Protection	Mustard	1	10	2.5	10
	Rice	1	10	2.5	10
Horticulture	Tomato	1	8	0.5	8
	French bean	1	8	0.5	8
Fisheries	Walking Catfish	1	7	7 unit	7
	Climbing perch	1	7	7 unit	7
Home Sc.	Gauva Cheese	1	10	10 unit	10
	Pineapple	1	10	10 unit	10
Agronomy	Maize with Soybean	1	7	1.75	7
	Maize	1	10	2.5	10
Total		12	107		107



DISCIPLINE: PLANT BREEDING & GENETICS

FLD 1: Popularization of Biofortified Lentil Var. IPL-220 (Biofortified with Zn & Fe) 1st year

Crop	Technology demonstrated	Demonstration Yield (Qt/Ha)			Yield of local Check (HUL 57)	% increase/change in avg. yield over local	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio (GR/GC)
		H	L	A	(Qt/ha)	%				
Lentil IPL 220	<p>Title:</p> <ul style="list-style-type: none"> ➤ Seed Rate: 40 kg/ha ➤ Seed Treatment- Trichoderma viride@4g/kg seed ➤ Fertilizer Application : NPK @ 20:40:20 Kg/ha as basal dose, ➤ Plant Protection : As and when required 	Continuing...					SOWN ON DECEMBER 2023 AND WILL BE HARVESTED DURING MARCH 2024			





Discipline: Plant Breeding & Genetics



FLD -2 Seed production of Pre kharif Rice Var. RC Maniphou-12 (2nd Year)

Crop	Technology demonstrated	Demonstration Yield (Qt/Ha)			Yield of local Check (CAU R3) (Qt/ha)	% increase/ change in avg. yield over local %	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio (GR/GC)
		H	L	A						
Rice	<p>Variety - RC Maniphou - 12</p> <p>➤ Seed rate : 60 kg /ha (Transplanted- one seedlings per hill and transplanted at 24 DAS)</p> <p>➤ Seed treatment : <i>Trichoderma viride</i> @ 4 gm/kg seed</p> <p>➤ Spacing: (20 X 10) cm</p> <p>➤ Isolation distance: 3m</p> <p>➤ Fertilizers application : NPK @60:40:30 kg/ha, ½ N,full P and 2/3 K as basal, ¼ N at 25-30 DAT and ¼ N + 1/3 K at panicle initiation stage</p> <p>➤ Roguing : 2 times (Vegetative and ripening stage)</p>	43.4	41.2	42.3	40.32	2.53	96000	211500	115500	2.20





Discipline : Horticulture FLD-1-Popularization of Tomato Var. Arka Rashak (2ndYear)



Crop	Technology demonstrated	Demonstration Yield (Qt/Ha)			Yield of local Check (Qt/ha)	% increase/ change in avg. yield over local %	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio (GR/GC)
		H	L	A						
Tomato	Tomato Var. Arka Rakshak ➤ Seed rate: 500 g/ha ➤ Spacing: 60 x 45 cm ➤ Planting time : Aug-Sep ➤ Seed treatment: Trichoderma @ 2g/kg of seed. ➤ Nutrient requirement: NPK 100: 50: 50kg/ha. Full P and K as basal, ½ N after 15 days remaining ½ N after 35 DAT	259	243	248.8	241	3.13	116000	497600	381600	4.2



Uyal-
Lat: 24°36'58.3 N" Long: 94°03'38.5 E"



Salungpham-
Lat 24.606941°N Long 24.072799°E





Crop	Technology demonstrated	Demonstration Yield (Qt/Ha)			Yield of local Check	% increase/ change in avg. yield over local	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio (GR/GC)
		H	L	A	(Qt/ha)	%				
French bean	<ul style="list-style-type: none"> ➤ Variety – Arka Arjun ➤ Seed rate: 60kg/ha ➤ Spacing: 45 x 15 cm ➤ Sowing time : Aug- Sep ➤ Seed treatment: Trichoderma @ 2g/kg of seed. ➤ Nutrient requirement: NPK: 20: 30: 20kg/ha as basal dose. ➤ Local check: Champhut Hawaii 	52	39	46.5	41	11.82	86500	186000	99500	2.15



Khangabok
Lat: 24°37'00.3 N" Long: 94°00'36.4 E"



Khangabok
Lat: 24°37'00.3 N" Long: 94°00'36.4 E"

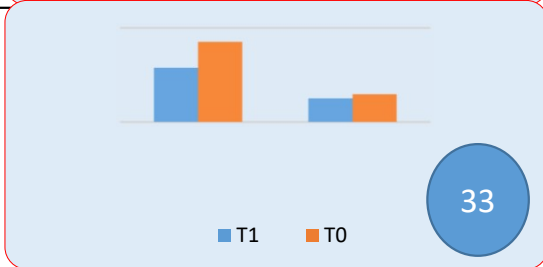
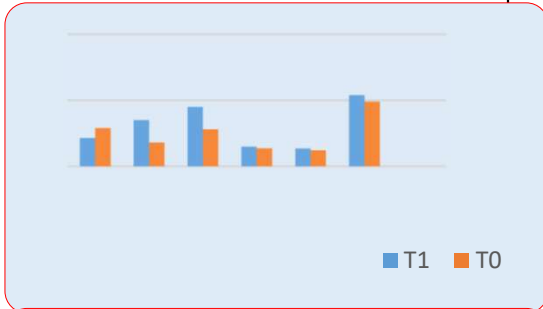


Discipline: Plant protection

FLD-1 Integrated Management of Blast disease in rice (1st Year)



Crop	Technology demonstrated	Area (ha)	No. Of demonstrations	Performance parameters/ indicators	Data on parameters in relation to technology demonstrated		% Change/ increase over local	
					Demo	Local		
Rice	1. Seed treatment with <i>Pseudomonas fluorescens</i> at the rate of 10 g per kg of seeds. 2. Spraying of copper oxychloride @ 0.25% twice after 30 & 60 DAT. 3. Application of recommended dose of fertilizer (60: 40:30 N:P:K Kg/Ha)	2.5	10	Per cent infected plant	5 th day after last spray	42.11	58.93	10%
					7 th day after last spray	30.11	47.87	
					10 th day after last spray	14.12	20.98	
					Mean	28.78 %	42.59	
				Relative lesion height (%)		2.15	2.90	
				Per cent neck blast infection	5 th of the last spray	17.87	20.89	
					7 th day of the last spray	11.79	13.43	
					10 th day of the last spray	7.88	10.01	
					Mean	12.51	14.78	
				Disease incidence		25	37.5	
				Average disease control %		33.33(over local)		
				Mean plant population		30	28.9	
				Crop damage %		12.67	15	
				B:C Ratio		1.49	1.36	
Gross return		134750(1.34lak kh)	122500(1.22lak hs)					
Yield (tonnes/ha)		5.39	4.90					





Discipline: Plant protection

FLD-2: Popularization of Organic management of painted bug, aphid and sawfly in mustard (1st year)



Crop	Technology demonstrated	Area (ha)	No. Of demonstrations	Performance parameters/ indicators	Data on parameters in relation to technology demonstrated		% Change/ increase over local	
					Demo	Local		
Mustard (var. NRCHB-101)	<ul style="list-style-type: none"> <i>Bacillus thuringiensis</i> @2ml/ L (750 ml/ha) Spraying at 1, 3, 7, 10 days interval after infestation 	2ha	10	No. of infested plants	Continuing.....			
				% Infestation				
				Average disease controlled %				
				Pest incidence %				
				Crop damage %				
				Mean population				
				Time of disease occurrence				
				Yield				
				Economics				Gross return
								Net return
	B: C ratio							





Fisheries FLD 1.

Title: Popularization of Seed production of walking cat fish (*Clarias magur*) using BRICS (Barrier Removal In Catfish for Voluntary Captive Spawning) method (1st year)



Enterprise (Pl. give name of livestock/ fishery enterprise)	Breed	No. Of farmers	Fisheries (Units)	Performance parameters/ indicators	Results on parameters in relation to technology demonstrated		% Change/ increase over local
					Demo	Local	
Fish (walking cat fish)	<i>Clarias magur</i>	7	7	Hatchability Fry weight (g) at 45 days Survivability % Gross return Gross cost Net return/unit (Rs.) BC Ratio ** 1 unit = 10 kg of brooder	76% 5 g 56% Rs.88400/- 22400 Rs.66000/- 3.94	38 % 5 g 43 % Rs.77670/- 23800/- Rs.53870 3.26	22.5%



Kiyam Siphai
 Lat: 24°39'47.1N" Long: 93°58'32.2E"



Chairel
 Lat: 24-352738 N"
 Long: 98.850584 E"



Kang Samaram, Manipur, India
 Unnamed Road, Kang Samaram, Manipur 795148, India
 Lat 24.548456° Long 94.034062°



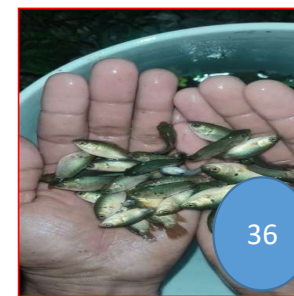


Fisheries FLD 2.



Title: Popularization of Seed production of climbing perch (*Anabas testudineus*) (1st Year)

Enterprise (Pl. give name of livestock/ fishery enterprise)	Breed	No. Of farmers	Fisheries (Units)	Performance parameters/ indicators	Results on parameters in relation to technology demonstrated		% Change/ increase over local
					Demo (Local Koi)	Check (Vietnam koi)	
Fish (Climbing perch)	<i>Anabas testudineus</i>	7	7	Hatchability Fry weight (g) at 30 days Survivability % Gross return Gross cost Net return/unit BC Ratio *** 1 unit = 40 kg of brooder	92% 6 g 75 % Rs.289500/- Rs.104000/- Rs.185800/- 2.78	94 % 8 g 79 % Rs.248400/- Rs. 85000/- Rs.163400/- 2.92	13.83%





Discipline : Home Science

FLD 1.

Title: Popularization of Guava cheese (2nd year)



Enterprise	Technology	No. of farmers/ farm women	No of unit	Performance Parameters/ indicator	Data on parameters in relation to technology demonstrated	
					Demo	Check
Preparation of guava cheese	<ul style="list-style-type: none"> Ingredients -Pulp :Sugar (kg) - 1:1.25 ,Citric acid (gm) - 3 , Butter (gm) -60 1 kg firm ripe guava pulp cooked to a thick paste Addition of 1.25 kg sugar Addition of citric acid@ 1.5 gm & butter 60gm/kg Spread the hot cheese in oil smeared tray & set to cooldown & cut into desired shape <p>Nutritional content per 100gm</p> <p>Energy (Kcal/100g) : 128.2</p> <p>Protein (g) : 1.57</p> <p>Fats (g) : 2.32</p> <p>Carbohydrate (g) : 25.26</p> <p>Vitain C (mg) : 72.42</p> <p><i>Tested at College of Food Tech., CAU [I]</i></p>	10	10	i) Product recovery/kg	1.5	No farmer practice NA
				ii) Shelf life (months)	3	
				iii) Acceptibility (Hedonic Scale)	Like moderately (Hedonic Scale5)	
				iv) B:C ratio	2.3	





Discipline : Home Science FLD 2.



Title: Osmotic dehydration of pineapple (2nd year)

Enterprise	Technology	No. of farmers/ farm women	No of unit	Performance Parameters/ indicator	Data on parameters in relation to technology demonstrated		% Change
					Demo	Check	
Osmotic dehydration of pineapple (2 nd year)	<ul style="list-style-type: none"> ➤ Washing and grading , Peeling of fruit and preparation of fruit pieces ➤ Potassium meta bisulphite pre treatment @ 1.5gm/kg for 8h before osmosis. ➤ Dipping in sugar syrup(60 degree brix sugar syrup concentration for 24 hours ➤ Draining and Drying (sundry for 2 days)) 	10	10	i) Product recovery/kg	700g	600g	16.6
				ii) Shelf life (months)	6	5	
				iii) Acceptibility (Hedonic Scale)	Like moderately (Hedonic Scale 5)	Like moderately (Hedonic Scale5)	
				iv) B:C ratio	2.7	1.7	
				v) Moisture content	22.50-23.5/100g		





Discipline : Agronomy **FLD -1** Intercropping of maize with soybean (1st Year)



Crop	Technology demonstrated	Demonstration Yield(Qt/Ha)				Land Equivalent Ratio	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio (GR/GC)
		Maize		Soyabean						
		Sole	Intercrop	Sole	Intercrop					
Maize with Soybean	Maize: HQPM-5 Seed rate: 15kg/ha Spacing: 90cmx 25 cm Soybean: VL Soya 63 Seed rate: 30kg/ha Spacing: 30 cm x 10 cm Seed treatment – Carbendazim @4gm/kg seed Fertilizer dose: 80:30:60 kg NPK/ha 1/2 N, full P & K as basal, 1/4 N at knee high stage , 1/4 N Taselling stage	24.20	18.30	10.80	6.5	1.35	47000.00	116050.00	69050.00	2.47

Remarks: An LER of 1.35 indicates that the area of planted to monoculture or sole would need to be 35% greater than the area of planted to intercrop for the two crops to produce the same combined





Crop	Technology demonstrated	Demonstration Yield(Qt/Ha)			Yield of local Check (q/ha)	% increase	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio (GR/GC)
		H	L	A						
Maize	Variety –HQPM Seed rate – 18-20kg/ha Seed treatment – Carbendazim 50%WP@3gm/kg seed Spacing – 60cm x 25cm Weed management – Atrazine@ 0.5-1.0kgai/ha in 1000lt of water as pre emergence followed by HW at 40 to 45 DAS Fertilizer dose – 60:40:40 kg NPK/ha 1/2N,full P and K as basal,1/4 at tasseling stage	24.50	20.10	22.80	20.30	12.32	38000.00	798000.00	418000.00	2.10

