



**Frontline Demonstration
(FLD) 2022**



Summary on Frontline Demonstration (FLD) 2022



Discipline	Crop / Enterprise	Number of technology	No. of demonstrations		% of achievement	Remark
			Target	Achievement		
Agronomy	Field Pea	1	8	8	100	
	Maize with Soybean	1	7	7	100	
Horticulture	Tomato	1	8	8	100	
	French bean	1	8	8	100	
Plant Protection	Oyester Mushroom	1	10	10	100	
	Rice	1	10	10	100	
PBG	Mustard (Oilseed)	1	10	10	100	
	Rice	1	10	10	100	
Fisheries	Common Carp	1	7	7	100	
	Climbing perch	1	10	10	100	
Home Science	Water melon rind candy	1	10	10	100	
	Pineapple	1	10	10	100	
Agril. Extension	Impact assessment	1	120 Farmers	120 Farmers	100	
	Impact assessment	1	130 Farmers	130 Farmers	100	
	Total	14				



Discipline -Agronomy

FLD-1 Improved cultivation of Field pea Var. HFP-715 (1st year)

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						
Field Pea	Variety – HFP-715 Seed rate – 80kg/ha Seed treatment – Carbendazim @3gm/kg seed Spacing – 30cm x 10 cm Weed management – Pendimethalin @ 3 litre/ha at 1 DAS Fertilizer dose – 20:40: 30 kg NPK/ha as basal dose	10.58	7.80	9.23	8.75	5.49	38000	73841	35840	1.94





Discipline : Agronomy **FLD -2** 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	<p>Maize: HQPM-5</p> <p>Seed rate:15kg/ha</p> <p>Spacing: 90cmx 25 cm</p> <p>Soybean: VL Soys 63</p> <p>Seed rate:15kg/ha</p> <p>Spacing: 90 cm x 25 cm</p> <p>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</p>	22.5	17.4	10.2	6.4	1.41	45000	105700	60700	2.35
<p>Remarks: An LER of 1.41 indicates that the area of planted to monoculture/sole would need to be 41% greater than the area of planted to intercrop for the two crops to produce the same combined yields.</p>										





Discipline : Horticulture FLD-1-Popularization of Tomato Var. Arka Rashak (1st Year)



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 Samrat ➤ 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	258	245	250	242	3.31	115000	500000	385000	4.34





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 var. Arka Ariun	<ul style="list-style-type: none"> ➤ 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. 	45	32	40	34	17.65	85000	180000	95000	2.11

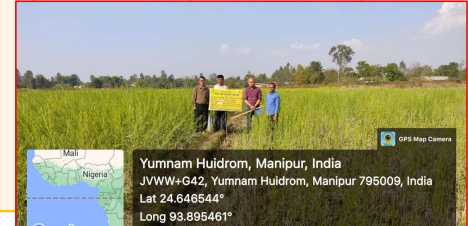




DISCIPLINE: PLANT BREEDING & GENETICS



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)	%				
Mustard (<i>Brassica Juncea</i>)	<p>Title:</p> <ul style="list-style-type: none"> ➤ Seed Rate: 12 kg/ha ➤ Fertilizer Application : NPK @ 60:30:30 Kg/ha(½ N,full P and K as basal dose, ½ N at flowering stage) ➤ Plant Protection : As and when required 	9.5	9	9.4	8.4	10.63	30000	61000	31000	2.03





Discipline: Plant Breeding & Genetics

FLD -2 Seed production of Rice Var. RC Maniphou-12 (1st Year)



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						
Rice Var RC Maniphou-12	<ul style="list-style-type: none"> ➤ Seed rate : 60 kg /ha (Transplanted- one seedlings per hill and transplanted at 24 DAS) ➤ Seed treatment : <i>Trichoderma viride</i> @ 4 gm/kg seed ➤ Spacing: (20 X 10) cm ➤ Isolation distance: 3m ➤ 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 ➤ Roguing : 2 times (Vegetative and ripening stage) 	44	40	43.5	37.15	17.06	20920	52920	32000	2.5



Discipline: Plant protection

FLD-1 Popularization of Voliam Flexi in mgmt. of Stem borers & Plant hoppers in rice (1st Year)



Crop	Technology demonstrated	Area (ha)	No. Of demonstrations	Performance parameters/ indicators (% infestation)		Data on parameters in relation to technology demonstrated		% Change/ increase over local	Farmer reaction
						Demo	Local		
Rice	Popularization of Voliam Flexi (Chlorantraniliprole 8.8% + Thiamethoxam 17.5% W/W) in mgmt. of Stem borers & Plant hoppers in rice	2.5	10	30 DAT (days after treatment)	Hopper	4	5	9.75%	The technology demonstrated is effective for management of hoppers and borers, resulting in higher yield.
					Stem Borer	6	8		
				60 DAT (days after treatment)	Hopper	6	10		
					Stem Borer	8	12		
				B:C Ratio		1.25	1.13		
Yield (tonnes/ha)		4.50	4.10						





Discipline: Plant Protection

FLD-1. Popularization of Oyster mushroom Var. Elm (*Hypsizygous ulmarius*)- (2nd Year)



Enterprise	Variety/ Breed/ Species/ others	No. Of farmers	No. Of Units	Performance parameters/ indicators	Data on parameters in relation to technology demonstrated		% Change/ increase over local	Remarks
					Demo	Local		
(Mushroom)	Elm (<i>Hypsizygous ulmarius</i>)	5	5	Yield per bag (kg)	1.89	1.60	18.12%	-
				B:C Ratio	3.89	3.29		
				Duration of mycelium run	22	27		
				Pin formation	28	31		



Discipline Fisheries

FLD-1. Popularization of paddy cum fish culture (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	Remarks
					Demo	Local		
Fish (Common carp)	Fish (Common carp)	7	7	i. Final weight gain (g)	150g	-	18.35	
				ii. Fish Yield (Kg/ha) kg	428	-		
				iii. Paddy Yield (q/ha)	32.2	35.0		
				iv. B:C ratio	1.58	1.29		





Discipline Fisheries



FLD-2. Popularization of grow out monoculture of fresh water 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	
Fish- <i>Anabas testudineus</i>	Fish- <i>Anabas testudineus</i>	10	10	i. Avg. final weight gain (g) ii. Fish Yield (Kg/ha) iii. B:C ratio :	230 g 4875 kg 3.23	190g 3925 kg 2.85	24.20





Discipline : Home Science

FLD 1.

Title: Popularisation of water melon rind candy (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	
Popularisation of water melon rind candy	<ul style="list-style-type: none"> •Cut rind of water melon •Peeled with stainless steel knife •Cut into cuboids (4.5 cm x 1cm) with 1-15 cm thickness •Blanched in boiling water for 5 mins. •Addition of 100gm sugar directly with 100 gm blanched rind. •Raised the sugar syrup to 10 brix & keep overnight •Repeat process till 70 brix •Rinse with boiling water •Dry/dehydrate candy (sundry for 2 days) 	10	10	i) Product recovery/kg	700g	No farmer practice	NA
				ii) Shelf life (months)	6		
				iii) Acceptability (Hedonic Scale)	Like moderately (Hedonic Scale5)		
				iv) B:C ratio	2.5		





Discipline : Home Science FLD 2.
Title: Osmotic dehydration of pineapple (1st 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 (1st 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 Scale5)	Like moderately (Hedonic Scale5)	
				iv) B:C ratio	2.7	1.7	





Discipline : Agricultural Extension

FLD 1. Title: Impact of NARI (Nutri-Sensitive Agricultural Resources & Innovations) in enhancement of Farmers' livelihood and Nutritional security. (1st year)



Enterprise	Technology (give details)	No. Of farmers/ Farm Women	No. Of Units/ Item etc.	Performance parameters/ indicators	Results on parameters in relation to technology demonstrated		% Change/ increase over local	Remarks	
					Demo	Local			
Impact of NARI (Nutri-Sensitive Agricultural Resources & Innovations) in enhancement of Farmers' livelihood and Nutritional security	<ul style="list-style-type: none"> On-farm availability Diversity (own) Safety of food Nutritional knowledge Intervention (Investment in agriculture) 	130	130	Increase in income (net income in Rs.)	36250.00	28600.00	26.74	Objectives under study are achieved and adoption % increased by 48.14.	
				Nutritional status of farm family					
				On-farm availability	60.00%	35.84%	69.56		
				Diversity (own)	44.61%	26.15%	70.58		
				Safety of food	69.23%	52.30%	32.35		
Nutritional knowledge	73.84%	63.07%	17.07						
Intervention (Investment in agriculture)	73.84%	35.38%	104.34						
Adoption rate	61.53%	-	48.14						

Location: :Thoubal & Kakching district

Farmers Problem in adoption: 1. Lack of awareness 2. Lack of enough land for diverse crops 3. 4. Unavailability of Quality seed 5. Low income for intervention





Discipline : Agricultural Extension

FLD 2. Title: Impact on Participatory rice seed Production of RC Maniphou 13 under DFI Villages in Thoubal district (1st year)



Enterprise	Technology (give details)	No. Of farmers/ Farm Women	No. Of Units/ Item etc.	Performance parameters/ indicators	Results on parameters in relation to technology demonstrated		% Change/ increase over local	Remarks
					Demo	Local		
Impact on Participatory rice seed Production of RC Maniphou 13 under DFI Villages in Thoubal district (1 st year)	Impact of Rice seed Production on income enhancement	120	120	Kharif: Paddy RC Maniphou -13	RC Maniphou -13 (Seed)	RC Maniphou -13 (Grain)		
				Crop Yield (q/ha)	64	57	12.28%	
				Increase in income (net income in Rs.)	97500.00	67244.00	40.53%	
				Adoption rate:	72.00%	-		
				BCR	2.03	1.89	30.45%	



Farmers Problem in Utilization: 1. Unavailability of fertilizers 2. Procurement of right/true seeds 3. Late in buyback 4. Labour intensive 5. Lack of awareness

Location: :Thoubal & Kakching district