Frontline Demonstration (FLD) 2023



Summary of Front Line Demonstrations (FLD) 2023



ICAR			-		105 mm
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 28



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)	
		Н	L	A	(Qt/ha)	%					
Lentil IPL 220	 Tittle: Seed Rate: 40 kg/ha Seed Treatment- Trichoderma viride@4g/kg seed Fertilizer Application : 	Continuing					SOWN ON DECEMBER 2023 AND WILL BE HARVESTED DURING MARCH 2024				
	 NPK @ 20:40:20 Kg/ha as basal dose, ▶Plant Protection : As and when required 		UP 220 (LENTII) BIOFORTIFIC D WAD FO KRISHI VIGYAN KENDRA.	& Zn		Thoubal, Manipur, India United Augustations Coople 21/2/22 0012 AM GMT 405	ST. FR	amera 2	Thoubal, Manipur, India Unname Road, Manipur, 295145 Lat 24 657169* Long 40 0082644* 21/12/23 0910 AM GMT +05:30	enda 29	

NEAR

Discipline: Plant Breeding & Genetics FLD -2 Seed production of Pre kharif Rice Var. RC Maniphou-12 (2nd Year)

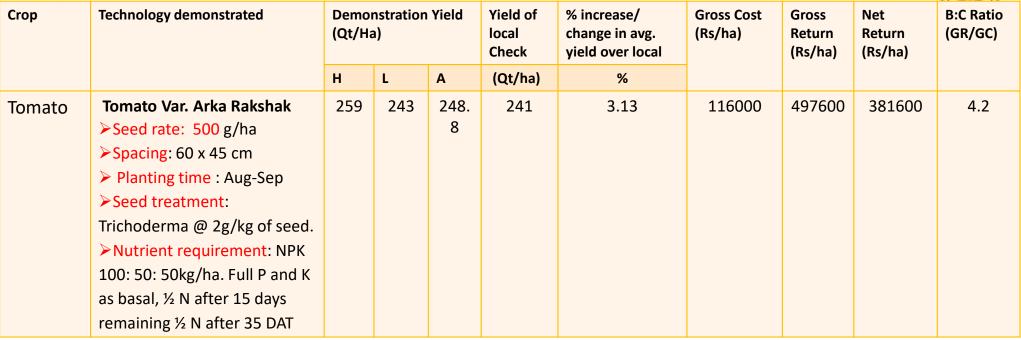


ICAR	FLD-2 Seeu	produ		I UI PIE		Le val. RUI	vianiphou	-TT (Z	rear) 🕓	E So Stan
Сгор	Technology demonstrated	Demon (Qt/Ha)	stration \	/ield	Yield of local Check (CAU R3)	% increase/ change in avg. yield over local	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio (GR/GC)
		н	L	А	(Qt/ha)	%				
Rice	Variety - RC Maniphou - 12 > Seed rate : 60 kg /ha (Transplanted- one seedlings per hill and transplanted at 24 DAS) > Seed treatment : Trichoderma viride @ 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	43.4	41.2	42.3	40.32	2.53	96000	211500		2.20
	 panicle initiation stage ▶ Roguing : 2 times (Vegetative and ripening stage) 						Kakching Khunou			30
		E Conte	AT S	day the	(hangabok	A A A A A A A A A A A A A A A A A A A	Lat 24 E16° Lon	04 00EE4	Sectore and the sector	50

Lat 24.613892° Long 94.018672°

at 24.516

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





Lat: 24º36'58.3 N" Long: 94º03'38.5 E" Salungpham-Lat 24.606941°N Long 24.072799°E





ICAR
ICAR

Discipline-Horticulture FLD 2- Popularization of French bean Var. Arka Arjun (2nd Year)



Crop	Technology demonstrated		Qt/Ha) Check cl a		% increase/ change in avg. yield over local	Gross Cost (Rs/ha)	Gross Return) (Rs/ha)	n Return	B:C Ratio (GR/GC)	
		н	L	Α	(Qt/ha)	%				
French bean	 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. 	52	39	46.5	41	11.82	86500	18600 0	99500	2.15
Khangabok	► Local check: Champhut Hawai	~		J27W+WRX	Image: Strategy of the	Khanga	bok			32

0:

Lat: 24°37'00.3 N"

Long: 94000'36.4 E"

Khangabok Lat: 24°37'00.3N" Long: 94000'36.4 E"



Discipline: Plant protection FLD-1 Integrated Management of Blast disease in rice (1st Year)



Crop		nology onstrated	Area (ha)	No. Of demonstration s	ion indicators d		eters/ Data on parameter relation to technol demonstrated		% Change/ increase over local
							Demo	Local	
Rice	1.	Seed treatment with Pseudomonas	2.5	10	Per cent infected plant	5 th day after last spray 7 th day after last	42.11 30.11	58.93 47.87	10% Conjugar Ox, yehlonidlu (50% WIP Contact Fungleide
	<i>flourescens</i> at the rate of 10 g per kg of				spray 10 th day after last spray	14.12	20.98	Blue Star 50	
		seeds.				Mean	28.78 %	42.59	
	2. Spraying of copper oxychloride @ 0.25% twice after 30 & 60			Relative lesion height (%)		2.15	2.90		
				Per cent neck 5 th of the	5 th of the last spray	17.87	20.89	ZANGER	
twice after 30 & 60 DAT.	r 30 & 60		blast infection	7 th day of the last spray	11.79	13.43			
	3. Application of			10 th day of the last spray	7.88	10.01			
		recommended dose				Mean	12.51	14.78	
	of fertilizer (60: 40:30		Disease incidence		25	37.5			
N:P:K Kg/Ha)				Average disease	e control %	33.33(over local)			
				Mean plant pop	oulation	30	28.9		
				Crop damage %		12.67	15		
			B:C Ratio		1.49	1.36			
		Gross return		134750(1.34la kh)	122500(1.22lak hs)	T1 T 1			
					Yield (tonnes/h	a)	5.39	4.90	



Wangjing, Manipur, India Lat.24.59759 Long. 94.04210





Wangbal, Manipur, India Lat.24.61469 Long. 94.018190



Crop damage % Mean population Time of disease	A Contraction	d sawfly	aphid an	l bug, a	f painted	cipline: Plant prote nic management c in mustard (1st ye a		Popula	FLD-2:	AB2-DER ICAR		
Mustard (var. • Bacillus thuringiensis 2ha 10 No. of infested plants (var. ml/ha) @2ml/ L (750 ml/ha) Mustard % Infestation Spraying at 1, 3, 7, 10 days interval after infestation Pest incidence % Continuing Crop damage % Mean population Mean population Time of disease Time of disease Mean population	GPS Mat Canada		Change/ increase	o Sy ated	paramete relation to technolog demonstr				•••	Сгор		
(var. thuringiensis % Infestation NRCHB-101) @2ml/L (750 ml/ha) % Infestation Spraying at 1, 3, 7, 10 days interval after infestation Pest incidence % Crop damage % Mean population Time of disease Time of disease	Cromap Camera	J3VM+F7F, Pechi, Manipur 795149, India		Local	Demo	No. of infested plants	10	Jha	Bacillus	Mustard		
NRCHB-101) @2ml/L (750 ml/ha) Spraying at 1, Average disease controlled % 3, 7, 10 days interval after infestation Pest incidence % Crop damage % Mean population Time of disease Time of disease	ANT I VOT				-	•	10	Zlid				
interval after infestation Pest incidence % Continuing Crop damage % Mean population Time of disease Time of disease		is small				-			NRCHB-101) @2ml/ L (750 ml/ha) Spraying at 1,			
infestation Crop damage % Mean population Index 12433715* Time of disease Time of disease		Sikhong Saknal Majour India	•••	Continuing		Pest incidence %			interval after			
Mean population Google Long 94.083365* Time of disease Time of disease	ang Sekmai, Manipur 795149,	J3QQ+7CF, Ukhongshang Rd, Ingourok Khunou, Sikhong India		Ŭ	1	Crop damage %			infestation			
					1	Mean population						
occurrence						Time of disease occurrence						
Yield				-		Yield						
Economics Gross return						Economics Gross return						
Net return	2 MA					Net return						
B: C ratio	tong Sekmal, 11 196149,	Sikhong Sekmai, Manipur, India Jidoq+2CF, Ukhongshang Ra, Ingoureik Khunou, Sikhon India		-		B: C ratio						

Fisheries FLD 1.

MIGHAR

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





Fisheries FLD 2.



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

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











HERITAR ICAR		Home Science zation of Guava ch		D 1. nd year)		Core of
Enterprise	Technology	No. of farmers/ farm women	No of unit	Performance Parameters/	Data on parameters technology demons	
				indicator	Demo	Check
Preparation of guava	 Ingredients -Pulp :Sugar (kg) - 1:1.25 Citation and (num) - 2 	10	10	i) Product recovery/kg	1.5	No farmer practice
cheese	 ,Citric acid (gm) - 3 , Butter (gm) -60 1 kg firm ripe gauva pulp cooked to a thick paste 			ii) Shelf life (months)	3	NA
	 Addition of 1.25 kg sugar Addition of citric acid@ 1.5 gm & butter 			iii) Acceptibility (Hedonic Scale)	Like moderately (Hedonic Scale5)	
	 60gm/kg Spread the hot cheese in oil smeared tray & set to cooldown & cut into 			iv) B:C ratio	2.3	
	desired shape <u>Nutritional content per 100gm</u>	E B				200-
	Energy (Kcal/100g) : 128.2 Protein (g) : 1.57	BRA			GX95+F4V, Wabagai Letitote 24.519382* Letat 0437.18 PM	Manipur 795103, India Longitude 93.9576752*
	Fats (g) : 2.32					
	Carbohydrate (g) : 25.26	We walk				
	Vitain C (mg) : 72.42 Tested at College of Food Tech., CAU [I]	Khangabok, Manipur, India J279+07W, Moirang Palil Rd, Part I, Shani Manipur 798138, India 22 4613995° Long 94.018682*	rou, Khangabok,			



Discipline : Home Science FLD 2. Title: Osmotic dehydration of pineapple (2 nd year)												
Enterprise	Technology	No. of farmers/ farm women	No of unit	Performance Parameters/ indicator	Data on paramete to technology den	% Change						
					Demo	Check	1					
Osmotic	Washing and grading , Peeling of	10	10	i) Product recovery/kg	700g	600g	16.6					
dehydration Of	neapple (2ndpiecesar)Potassium meta bisulphite pre treatment @ 1.5gm/kg for 8h before osmosis.			ii) Shelf life (months)	6	5						
pineapple (2 nd year)				iii) Acceptibility (Hedonic Scale)	Like moderately (Hedonic Scale 5)	Like moderately (Hedonic Scale5)						
	 Dipping in sugar syrup(60) degree brix sugar syrup concentration for 24 hours Draining and Drying (sundry for 2 days)) 			Iv) B:C ratio v) Moisture content	2.7 22.50-23.5/100g	1.7						















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



Сгор	Technology demonstrated	Demon	stration Yie	ld(Qt/Ha)		Land	Gross	Gross	Net	B:C Ratio
		Maize		Soyabean		Equivalen t Ratio	Cost (Rs/ha)	Return (Rs/ha)	Return (Rs/ha)	(GR/GC)
		Sole	Intercrop	Sole	Intercrop					
Maize with	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	116050.0 0	69050.00	2.47
Soybean						•	the two crop	oculture oe s os to produce	the same co	mbined

Long 94.07902



Discipline - Agronomy FL

FLD-2 Scientific cultivation of hybrid maize var. HQPM -5 (2nd year)



Сгор	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)
		н	L	А	(9/118)					
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 0f 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
		Langathel Lat: 24.4908	20° Long; 9					hnology Farm	er Practice	