On-Farm Trials (OFTs) (2019-20)

OFT Summary (January- December 2019)

Discipline	Crop / Enterprise	Number of technology/ Social Concept		No. of trials		% of achievement	Reasons for shortfall, if any
		A	R	T	A		
Agronomy	Maize	1	-	5	3	60	-
	Maize + Chickpea	1	-	3	3	100	-
Plant Breeding & Genetics	Rice	1	-	5	5	100	-
	Rice	1	-	5	5	100	-
Plant Protection	Rice	1	-	3	5	166	-
	Cowpea	1		3	5	166	-
Home Sc.	Amla	1		5	5	100	-
	Squash Bori	1		5	5	100	-
Total		8		34	36	-	-

On Farm Trial Details

Discipline - Agronomy

Title of OFT- 1. IWM in Spring Maize

Crop	Major Problem diagnosed	Severity of the problem (%)
Maize Var.Vijay Composite	Heavy weed infestation and high cost of hand weeding	60%

Area (ha)	No. of trials
0.36	3

Location

Wangmataba, Charangpat, Khangabok

Details of technology

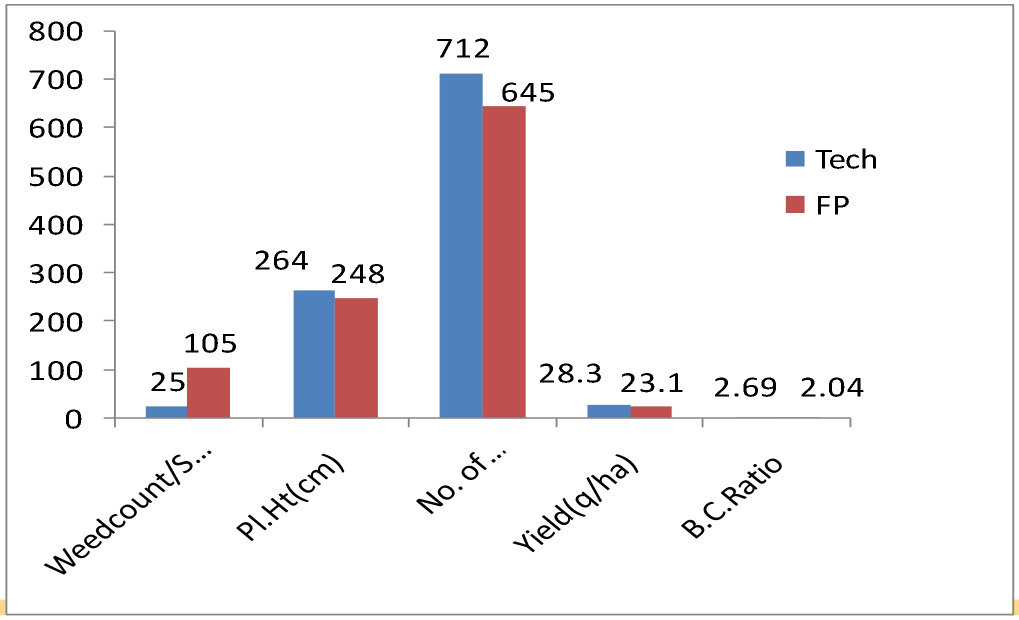
Oxyfluorfen @ 850 ml/ha + slight HW at 25-30 DAS

Source of technology

TNAU, 2014

Parameters of Assessment

Parameters	Treatment	Farmers practice
Weed count/sq.m	25	102
Plant ht.(cm)	264	248
Nos. of grain/cob	712	645
Yield(q)	2.83	2.31
B.C ratio	2.69	2.04



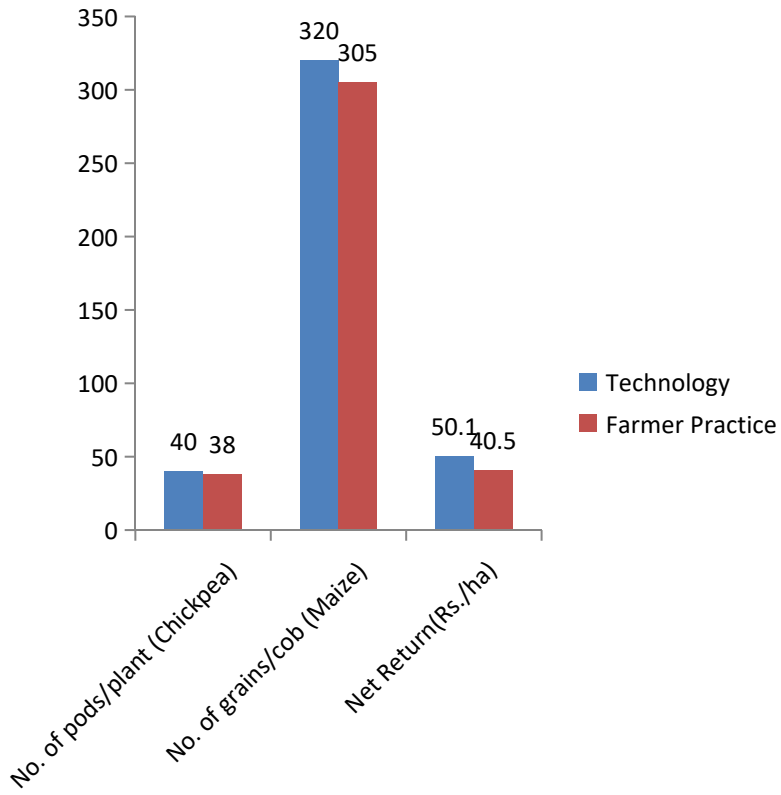
Discipline –Agronomy

Title of OFT - 2. Performance on Intercropping of Maize with Chickpea

Crop	Major Problem Diagnosed	Severity of Problem %	Details of technology
Maize Var- HQPM-1 Chickpea- JG-16	Farmers usually grow Chickpea as mixed crop which leads to crop competition thereby reducing yield, LER & yield equivalent ratio.	80 %	i. Intercrop ratio- 1:2(Maize:Chickpea) ii. Spacing : Maize-90 cm Chickpea-40 cm iii. NPK: 20:40:20 (chickpea) , 50:40:30 (maize)

No. of trials	**3**
Source of technology	ICAR ,IIMR,New Delhi,2012
Area	0.35 ha

Parameters	Technology	Farmer Practice
Plant Height (cm)	Maize- 180 Chickpea-45	Maize- 178 Chickpea-45
No. of branch/plant (Chickpea)	7	7
No. of pods/plant (Chickpea)	40	38
No. of grains/cob (Maize)	320	305
Yield(t/ha)	Maize- 2.48 Chickpea- 0.70	Maize- 1.86 Chickpea- 0.54
Net Return(Rs./ha)	50100	40500
B.C ratio	2.15	2.02
LER	1.52	1.00
Equivalent Yield kg/ha	1645	nil



NR – net return (in 10,000)

Remark for recommendation for FLD :-

Need repetition as yield of maize could not be up-to the expectation

Discipline -PBG

Title of OFT-1 –Cultivation of rice Var. WR-15-6-1 (First year)

Crop	Major Problem Diagnosed
Rice Var. Wr-15-6-1	Timely sowing of winter crops not possible due to long duration rice varieties

Severity of Problem :43%

Area: 1.25 ha

No. of Trials:5

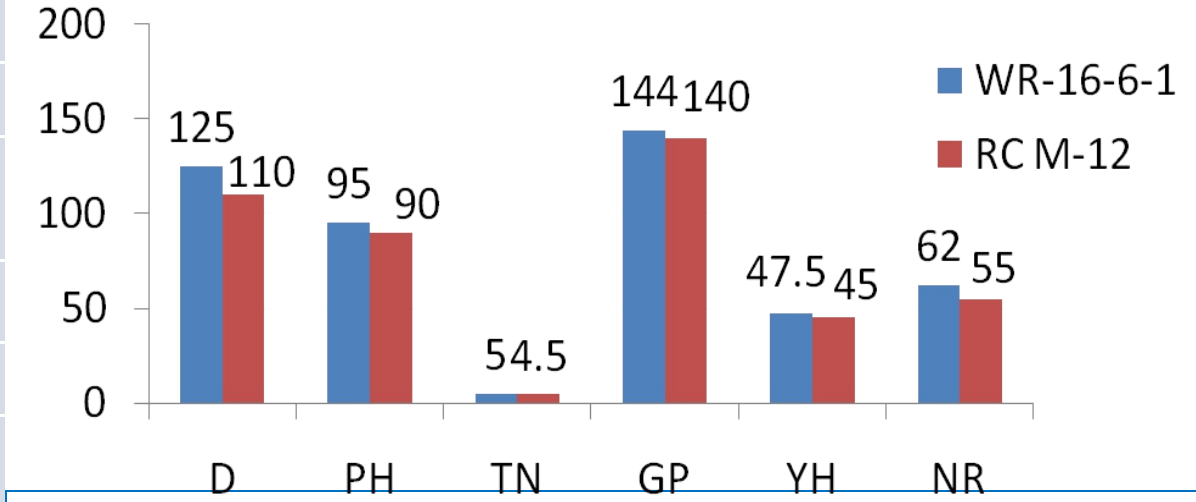
Source : Dept. of Agriculture, Manipur, in pipeline

Details of technology:

i.Transplanted cultivation for earlier harvesting
ii. Seed rate- 45 kg/ha
iii. N:P:K-60:40:30
iv.Spacing - 20 x 15cm

Location: Khongjom, Wangjing,Thoubal, Wangmataba,Thongjao

Parameters	Techno logy	Farmer Practice
5	125	110
Plant Height (cm)	95	90
Tiller no.	5	4.5
No. of grains/panicle	144	140
Grain Size	Slender	bold
Yield(q/ha)	47.5	45.0
Net Return(Rs./ha)	62000	55000
B.C ratio	1.87	1.77



Note:D-Duration; PH-Plant height; TN-Tiller no;
GP-Grain/ panicle; YH-Yield/ha; NR-Net return(Rs. in hundred);
BC-Benefit cost ratio

OFT-2. Testing of rice var. CAUR-4 in semi deep water area under direct seeded wet sown condition(2nd year)

Discipline -PBG	
Crop	**Major Problem Diagnosed**
Rice	Lodging and yield reduction(assesed in 2018-19 without any fertilizer)

Severity of Problem : 30%

Parameters	Technology	Farmer Practice
Duration(days)	150	145
Plant Height(cm)	160	157
Tiller no.	14	10
No. of grains/panicle	189	175
Grain Size	Long bold	Slender
Yield(q)	48	46
Net Return(Rs./ha)	70000	51000
B.C ratio	2.09	1.7

Source: CoA/CAU, Imphal,2016

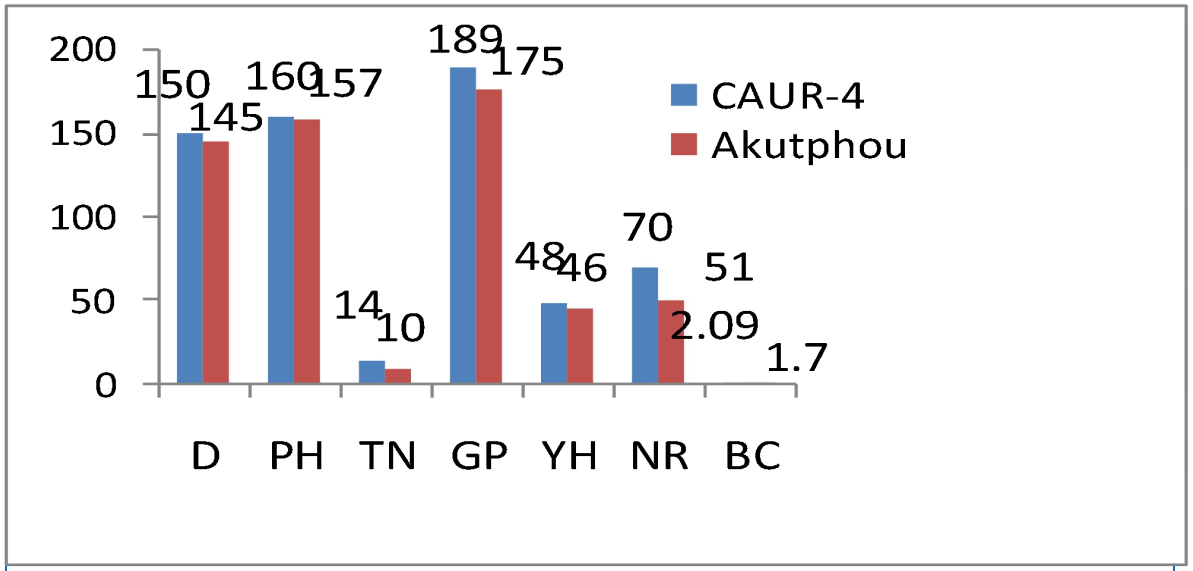
Area : **1.25** ha

No. of trials:5

Details of technology:

i. Direct seeded wet sown
ii. Refinement in fertilizer dose@ of N:P:K:: 0:40:40
iii. Seed rate-60 kg/ha
iv. Date of sowing-May

Location: Wangoo, Kakching, Khekman



Note: D-Duration; PH=Pl. Height; TN-Tiller no; GP-Grain/panicle; YH-Yield/ha; NR-Net return; BC-Benefit cost ratio

Discipline – PBG

Title of OFT - 2. Performance evaluation of Zero tillage mustard (2nd year)

Crop	Mustard Var. DRMR 150-35	
Major Problem diagnosed	Only a few short duration mustard variety (100 -115 days) are available suited to multiple cropping	
Severity of the problem(%) – 60%	**Source** - ICAR, DRMR, Bharatpur 2015	
Details of Technology	i. Seed rate -18 kg/ha ii. NPK: :40:30:30 (kg/ha) ; N in two splits (first –before true leave, 2nd – preflowering	
No. of trials - 3	**Area** - 1.25 ha	

Discipline -PBG

OFT - 3. Performance evaluation of Zero tillage mustard (2nd year)

Crop	Major Problem Diagnosed
Mustard Var. DRMR 150-35	Only a few short duration mustard variety (100 -115 days) are available suited to multiple cropping

Severity of Problem : 60%

Source: - ICAR, DRMR, Bharatpur 2015

Area : **1.25** ha

No. of trials:3

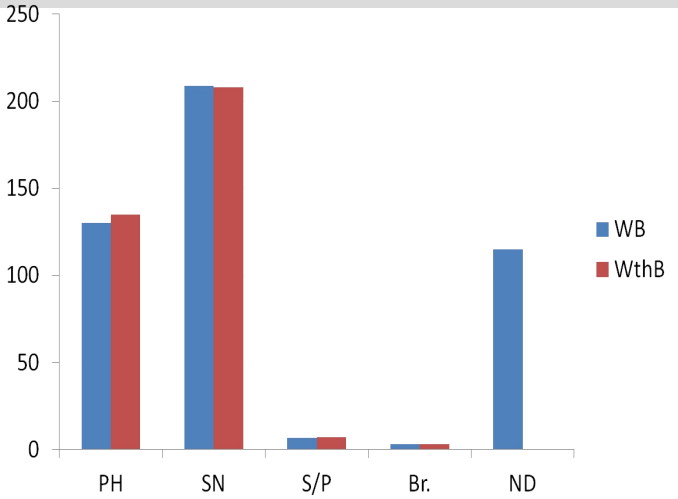
Details of technology:

i. Seed rate -18 kg/ha

ii. NPK: :40:30:30 (kg/ha) ; N in two splits (first –before true leave, 2nd – preflowering

Location: Kakching,Lourembam,Wangjing,Irengband

Parameters of assessment	New technology (Zero tillage without burning paddy straw)	Farmer practice (after burning straw)
PH(cm)	130	135
Siliqua/plant-	208.6	208
Seed/siliqua	6.6	7
No. of branches-	3	3
Duration (days)	115	115
Production per unit (Q/ha)	8.8	8.82
Net return	20710	18500
BC ratio	1.84	1.85
Remark	Recommended for FLD	



- WB -with burng paddy straw ,WthB Without burning ,PH- Plant height
- SN-Siliqua number ,S/P-seed per siliqua ,Br.-branches/plant ,ND-No. of days

Discipline –Plant Protection

Title of OFT-1 – Insect pest management of stem borers & plant hoppers (First year)

Crop	Major Problem Diagnosed	Severity of Problem %
Rice	Higher rate of incidence of Stem borer and plant Hopper in rice field	**Stem borer 12%** **Plant Hopper 20%**

% of infested plants before spray	**Stemborer-8** **Hopper- 7**

Area : 1.25 ha

No. of trials :5

Location : Sikhong,Tentha, Heirok,Sugunu, Elangkhangpokpi

Details of Technology: Mgmt. of Stemborer & plant hoppers with Voliam flexi(Chlorantraniliprole 8.8% w/w + Thiamethoxam 17.5% w/w) @ 400 ml/ha

Source: TNAU, 2015

Parameters	Technology	Farmer Practice (Glamore)
30 DA treatment	Stemborer- 10 Hopper- 8	Stemborer- 12 Hopper- 7(cumulative)
60 DAT	Stemborer-11 Hopper- 10.4	Stemborer- 13 Hopper- 8(cumulative)
Prodn.(q/ha)	57	55
Net Return(Rs./ha)	70,500	67,500
B.C ratio	1.98	1.96

Discipline: Plant Protection

Title of OFT 2 : Insect pest management of fruit borer & Aphid

Crop	Major Problem diagnosed
Cow pea	Fruit borer,Semi loopers & sucking insects

Details of Technology : Fruit Borer & Aphid mgmt. with Emamectin benzoate 5SG(0.0002%)

Source : Mahatama Phule Krishi Vidyapeeth,Rahuri, 2015

Severity of the problem(%):
Fruit borer-15%
Aphid infested shoot-20% Semiloopers

%infestation level before spraying	Pod borer-14 , Aphid infested shoot -23 Semilooper -9	
Parameters of Assesment	**Technology**	**Farmers Practice (coragen)**
% of infestation level 10 DAT	Pod borer -3 Aphid infested shoot-7 Semilooper-4	Pod borer -2.1 Aphid infested shoot-11 Semilooper-5
% infestation level 40 days after 1st spray or 10 days after 2nd spray	Pod borer -1.1 Aphid infested shoot- 2.3 Semilooper-0	Pod borer -1.0 Aphid infested shoot-7 Semilooper-2.3
Yield(q/ha)	26	24.2
Net return(Rs./ha)	2,08,000	1,93,600
BC ratio	3.7	3.53

No. of trials	Area (ha)
5	1.25

Location :
Heirok Pt II,
Laipham lotnung,
Elangkhangpokpi,
Tentha, Lourembam

Discipline - Home Science

Title of OFT 1 : Production of Chow Chow Bori(2nd Year)

Crop/ Enterprises	Major Problem diagnosed	Severity of the problem (%)	Details of technology	Source	No. of Trials
Chow-Chow Bori	High Cost of production for Blackgram bori	60%	Development of bori from squash (40 % squash mixed with KMS @ 1.5 g/kg with blackgram paste 60%)	Collegeof Home Science,Tura, Meghalaya, 2014	5

Parameters	Product recovery/kg	Cost/Unit (10 kg)	Net return/Unit	B.C Ratio	Location
Technology	370 nos	Rs.845	Rs.1005	2.1	Khongjom, Athokpam, Khangabok, Leiphrakpam, Sapam
Farmers Practice	350 nos	Rs.1225	Rs. 875	1.7	

Discipline -Home Science

Title of OFT -2. Osmotic Dehydration of Amla

Enterprises	Major Problem diagnosed	Severity of the problem (%)	Details of technology	Source	No. of Trials
Amla	Due to perishable nature, Amla is difficult to store	70	Washing, Blanching, segment making, deeping in sugar syrup-60˚ brix, drying	IIHR, Bangalore, 2012	5


Parameters	Gross return(from 15kg)	Net return	B.C Ratio	Location
Technology	Product recovery 700g/kg Rs. 3150@350/kg (for 10.5 kg)	2,080	2.9	Lamding, Kakching Khunou , Umathel, Kakching, Thoubal
Farmers Practice	600g/kg Rs. 2700@350/kg (for 9kg)	1,487	2.2	

Osmotic Dehydration of Amla

Performance Evaluation of Spraying of urea of mustard

Testing of rice var. CAUR-4 in semi deep water

Osmotic Dehydration of Amla

IPM of fruit borer & Aphid