OFT- 3

1.	Title of On farm Trial	Effect of mulching on water use efficiency and yield of drip irrigated bitter gourd in summer.
2.	Problem diagnose	High infestation of weeds and low water use efficiency.
3.	Details of technologies selected for assessment	**Farmers practice -** Without mulching **Technological option i-** Mulch with black colour polythene. **Technological option ii** - Mulch with silver colour polythene.
4.	Source of Technology	IARI, New Delhi
5.	Production system and thematic area	Water conservation
6.	Performance of the Technology with performance indicators	Given in table
7.	Final recommendation for micro level situation	Silver mulching is recommended in drip irrigated summer bitter gourd cultivation due to 38% high yield and net return compare to without mulch drip irrigated summer bitter gourd cultivation.
8.	Constraints identified and feedback for research	Spacing should be increased from 60cm to 90 cm in case of mulching of drip irrigated summer bitter gourd due to large growth of plant and high density.
9.	Process of farmers participation and their reaction	Farmers are happy and satisfied with mulching in drip irrigated summer bitter gourd due to seed control, water saving and high yields. They are also interested to mulch in other vegetable crops.

Thematic area: Water conservation

Problem definition: High infestation of weeds and low water use efficiency.
Technology assessed: Assessment

Table:1 Effect of mulching and its colour on yield of bitter gourd.

Technology option	Wt of fruit per plant (kg)	Water used (cm/ha)	Water use efficiency kg/ha/cm	Yield (q/ha)	Cost of cultivation Rs./ha	Gross income Rs./ha	Net income Rs./ha	B:C ratio
Farmers practice - Without mulching	5.6	18.29	1744.12	319	215000	478500	263500	2.22
Technological option i Mulch with black colour polythene.	7.5	12.15	3604.93	438	255000	657000	402000	2.57
Technological option ii - Mulch with silver colour polythene.	7.8	12.15	3629.62	441	255000	661500	406500	2.59

Cost of bitter gourd= Rs. 15/kg

$$\text{Water use efficiency} = \frac{\text{Yield (kg/ha)}}{\text{Water required (cm)}}$$

OFT- 5

1.	Title of On farm Trial	**Management of late blight of potato in rabi season.**
2.	Problem diagnose	Low productivity of potato due to late blight disease.
3.	Details of technologies selected for assessment	**Farmers practice -** Foliar spray of Mancozeb75% @ 2g/lit. water after initiation of symptom. **Technological option I -** 3 Spray of Carbendazim + Mancozeb @ 2g/lit. Water at 10 days interval right from 30th day of planting. **Technological option ii –** 2 spray of Metalaxyl 81% + Mancozeb 72% wp @ 2g/lit. Water at 15 days interval from 30th day of planting.
4.	Source of Technology	BAU, Ranchi
5.	Production system and thematic area	Disease Management
6.	Performance of the Technology with performance indicators	Given in Table
7.	Final recommendation for micro level situation	
8.	Constraints identified and feedback for research	
9.	Process of farmers participation and their reaction	

Thematic area: Disease Management

Problem definition: Low productivity of potato due to late blight disease.

Technology assessed: Assessment

Table:1 **Management of late blight of potato in rabi season.**

Technology option	Disease (%)	Yield (q/ha)	Cost of cultivation Rs./ha	Gross income Rs./ha	Net income Rs./ha	B:C ratio
Farmers practice - Foliar spray of Mancozeb75% @ 2g/lit. water after initiation of symptom.	25.26	122		122200	55000	1.82
Technological option I - 3 Spray of Carbendazim + Mancozeb @ 2g/lit. Water at 10 days interval right from 30th day of planting.	16.2	162		162000	94400	2.39
Technological option ii – 2 spray of Metalaxyl 81% + Mancozeb 72% wp @ 2g/lit. Water at 15 days interval from 30th day of planting.	10.32	202		202000	129300	2.78

Cost of wheat= Rs. 8/kg

OFT- 6

1.	Title of On farm Trial	Assessment of different sowing method on wheat yield.
2.	Problem diagnose	Low yield of wheat due to improper sowing method .
3.	Details of technologies selected for assessment	**Farmers practice –** Conventional method (wheat sowing behind the plough). **Technological option i-** Sowing with conventional seed drill. **Technological option ii** – Sowing with Zero tillage machine.
4.	Source of Technology	BAU, Ranchi.
5.	Production system and thematic area	Farm Mechanization.
6.	Performance of the Technology with performance indicators	Given in table.
7.	Final recommendation for micro level situation	Zero tillage machine is suitable for high yield and high profit.
8.	Constraints identified and feedback for research	Zero tillage is not used in low land due to high moisture content and this machine is also not available in local market.
9.	Process of farmers participation and their reaction	Farmers are happy and satisfied with Zero tillage machine due to low cost of cultivation and high yield and profit.

Thematic area: Farm Mechanization.

Problem definition: Low yield of wheat due to improper sowing method.

Technology assessed: Assessment

Table:1 Effect of different sowing method on wheat yield.

Technology option	Moisture content of soil before sowing	Plant population after 21 days	Effective tiller per sq.m	No. of grain per ear head	Yield (q/ha)	Cost of cultivation Rs./ha	Gross income Rs./ha	Net income Rs./ha	B:C ratio
Farmers practice - Conventional method (wheat sowing behind the plough).	12.11	171	266	36.5	24.54	28500	49080	20580	1.72
Technological option i Sowing with conventional seed drill.	12.82	178	275	40.2	26.16	27000	52320	25320	1.94
Technological option ii - Sowing with Zero tillage machine.	16.70	160	282	42.4	27.21	24000	54420	30420	2.26

Cost of wheat= Rs. 20/kg

OFT- 9

1.	Title of On farm Trial	Control of pod borer in pigeon pea in kharif season.
2.	Problem diagnose	Low productivity of pigeon pea due to heavy infestation of pod borer.
3.	Details of technologies selected for assessment	**Farmers practice -** Use of Chlorpyriphos 20 EC 1.5ml/lt. as per appearance of larva. **Technological option i-** 2 spray of Indoxacarb 15.8% EC @ 0.5 ml/lit. water 1st spray at 50% flowering and 2nd spray at 15-20 days after 1st spraying. **Technological option ii –** 2 spray of Chlorantraniliprole 18.5% SC 1ml/3lit. water + Bt var. kurstaki 2g/lit. water. 1st spray at 50% flowering and 2nd spray at 15-20 days after 1st spraying. **Technological option iii –**2 spray of Indoxacarb 15.8% EC @ 0.5 ml/lit. water + NSKE 5%. 1st spray at 50% flowering and 2nd spray at 15-20 days after 1st spraying.
4.	Source of Technology	G.B. Pant University of Agriculture & Technology, Horticulture, Uttrakhand
5.	Production system and thematic area	Integrated Pest Management
6.	Performance of the Technology with performance indicators	
7.	Final recommendation for micro level situation	
8.	Constraints identified and feedback for research	
9.	Process of farmers participation and their reaction	

Thematic area: Integrated Pest Management

Problem definition: Low productivity of pigeon pea due to heavy infestation of pod borer.

Technology assessed: Assessment

Table:1 Control of pod borer in pigeon pea in kharif season.

Technology option	Pod damage (%)	Yield (q/ha)	Cost of cultivation Rs./ha	Gross income Rs./ha	Net income Rs./ha	B:C ratio
Farmers practice	18.49	7.86		39300		
Technological option-i	14.32	10.35		51750		
Technological option ii	12.26	11.56		57800		
Technological option iii	11.71	13.64		68200		

Cost of Pigeon pea= Rs. 50/kg

OFT- 10

1.	Title of On farm Trial	Evaluation of onion variety khrif season
2.	Problem diagnose	Low productivity and profitability of onion due to poor selection of varieties.
3.	Details of technologies selected for assessment	**Farmers practice -** Nasik-53 (Mahalaxmi) **Technological option i-** . Prema (East West) **Technological option ii –** TopaZ (Rasi)
4.	Source of Technology	East-west, Rasi & Mahalaxmi
5.	Production system and thematic area	Crop Improvement
6.	Performance of the Technology with performance indicators	
7.	Final recommendation for micro level situation	
8.	Constraints identified and feedback for research	
9.	Process of farmers participation and their reaction	

Thematic area: Crop Improvement

Problem definition: Low productivity and profitability of onion due to poor selection of varieties.

Technology assessed: Assessment

Table:1 Evaluation of onion variety **kharif** season.

Technology option	Plant height (cm)	No. of leaf	Bulb wt. (gm)	Bulb diameter (cm)	Yield (q/ha)	Cost of cultivation Rs./ha	Gross income Rs./ha	Net income Rs./ha	B:C ratio
Farmers practice - N53	66	13.2	23.8	2.4	40	56000	80000	24000	1.42
Technological option-i Prama	62.4	9.6	26.4	2.9	52	63000	104000	41000	1.65
Technological option ii – Topaz	64.6	9.2	29.2	3.0	55	74000	110000	36000	1.48

Cost of onion= Rs. 20/k