OFT – 01 (Horticulture)
(Kharif/ Perennial crop 2023-24)

- **Thematic area:** Mulching
- **Problem definition/Name of OFT:** Moisture stress leads yield losses in Mango

1.	**Title of On farm Trial (OFT)**	**Assessment of Biomass Mulching in Mango**
2.	**Problem diagnosed**	More no. fruit dropping
3.	**Details of technologies selected for assessment/refinement**	**FP** - No Mulching/ Liter fall of trees. **TO_1** – Taphrosia 1 kg dry biomass/ m^2 Canopy (Plant spread) **TO_2** – Grass/ Paddy straw/ Any local available mulching 15 cm thick (Plant spread) + Greece band 30 cm from GL.
4.	**Source of Technology (ICAR/ AICRP/SAU/other, please specify)**	ICAR-FSRCHPR, Palndu, Ranchi
5.	**Production system and thematic area**	Mango Production System and Mulching
6.	**Performance of the Technology with performance indicators**	Table- Assessment of biomass mulching in Mango

Table- Assessment of biomass mulching in Mango

Technology Option	No. Of replication	Data related problem addressed				Yield (q/ha)	C.C. (Rs.ha)	Gross income	Net Return (Rs/ha)	B:C
		Soil Moisture (%)	Weed number							
			1st month Nov 23	2nd Month Dec 23	3rd month Jan 24					
FP - No Mulching/ Liter fall of trees.		9.95	27.30	32.10	40.30	82.0	60500	205000	144500	3.38
TO_1 – Taphrosia 1 kg dry biomass/ m^2 Canopy (Plant spread)	10	11.44	6.50	8.40	11.20	120.0	65500	300000	234500	4.58
TO_2 – Grass/ Paddy straw/ Any local available mulching 15 cm thick (Plant spread) + Greece band 30 cm from GL		10.94	8.10	10.90	15.40	102.0	62500	255000	192500	4.08
SEM+			0.66	0.77	1.15	1.34				
CDCP=0.05			1.97	2.31	3.47	4.02				

7.	**Final recommendation for micro level situation**	The on Farm Trail was conducted on 10 Farmers Field of Village Shivrajpur of Ghaghra Block During Kharif/ Perennial Crop (2023-24) to find Out mulching Maximizing The Fruit Yield and income. The data Collected during the trail Clearly indicated that minimum weed number (11.20) at 3rd month January 2024. Maximum Soil Moisture (11.44%), Maximum Fruit Yield (120 q / hac), net income (Rs. 234500) and B:C ratio (4.58) was found under Technology option 1 (Taphrosia 1kg dry biomass/Square meter canopy (Plant spread).

		The Present yield enhancement of 46.34 and 17.64 was found over FP and Technology option 2. Hence T01 (Taphrosia 1kg dry biomass/Square meter canopy (Plant spread) is being recommended.
8.	**Constraints identified and feedback for research**	• Lack of knowledge about Taphrosia mulching . • More number of awareness is required about Taphrosia mulching
9.	**Process of farmers participation and their reaction**	• Participatory and interactive. • Awareness about Taphrosia through field training • By Seeing the result of Taphrosia farmer of adjoining village was highly impressive

B. Results with Table and good quality photographs in jpg.

Thematic area	Technology options with detailed treatments	Area (ha in crop & Fodder)/ Nos (in livestock)		Yield (q/ha	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		Proposed	Actual					
Mulching	**FP** - No Mulching/ Liter fall of trees.	0.025	0.025	82.0	60500	205000	144500	3.38
	TO$_1$ – Taphrosia 1 kg dry biomass/ m^2 Canopy (Plant spread)	0.025	0.025	120.0	65500	300000	234500	4.58
	TO$_2$ – Grass/ Paddy straw/ Any local available mulching 15 cm thick (Plant spread) + Greece band 30 cm from GL	0.025	0.025	102.0	62500	255000	192500	4.08

NPK Status

Sampling Time	Avg N (kg/ha)	Avg P$_2$O$_5$ (kg/ha)	Avg K$_2$O (Kg/ha)
NPK status (Pre)	201.25	10.32	210.19
NPK status (Post)			
FP	205.34	16.46	215.65