

## OFT-9

1.	Title of On farm Trial	Assessment of performance of different irrigation system for homestead vegetable cultivation
2.	Problem diagnosed	In-situ-moisture stress affects the poor yield in vegetable cultivation in homestead kitchen garden area
3.	Details of technologies selected for assessment/refinement	100 m <sup>2</sup> drip irrigation kits
4.	Source of Technology	Jain Irrigation, IIT Kharagpur
5.	Production system and thematic area	Home stead kitchen vegetable cultivation and Micro Irrigation System
6.	Performance of the Technology with performance indicators	Yield, yield increase, and water saving
7.	Final recommendation for micro level situation	Bottle gourd cultivation under drip irrigation kits showed an increased of yield by 46.80% having yield of 55.80 tonne/ha with nearly 35.70% water saving as compared to bucket irrigation and pitcher irrigation system.
8.	Constraints identified and feedback for research	Drudgery on tank filling, Quick Evaporation loss, be advocated for mulching
9.	Process of farmers participation and their reaction	Oriented and motivated towards collaborative assessment on performance of drip irrigation kits. It needs subsidy and proper popularisatin and practice.

**Thematic area:** Drip Irrigation system for more crops per drop under Micro irrigation System

**Problem definition:** In-situ moisture stress in root zone of kitchen garden vegetable cultivation in home stead area reults a poor yield and excess water need

**Technology assessed:** 100m<sup>2</sup> Drip Irrigation Kits for Bottle gourd Cultivation in home stead kitchen garden in upland under red laterite soil.

Table: 9 Assessment of performance of different irrigation system for homestead vegetable cultivation

Technology option	No. of trials	Performance component			Water use efficiency t/ha-cm	Yield (t/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		Quantity in litre of water applied per plant/irrigation	No. of fruits per plant	Test wt. (100 fruits wt.)						
<b>Farmers' Practice</b> -Basin irrigation with help of bucket	10	2.0	8	7.0 kgs	0.70	38.01	151200.00	304000.00	152800.00	2.01
<b>Technological option –I</b> 100M <sup>2</sup> drip irrigation kits	10	1.250	12	8.5 kgs.	1.03	55.8	212500.00	446400.00	233900.00	2.10
<b>Technological option –II</b> Plastic perforated bottle irrigation in situ.	10	1.500	10	7.5 kgs	0.90	48.76	192000.00	390000.00	198000.00	2.03

**Results:** Bottle gourd cultivation adapted in homestead kitchen up land in red laterite under drip irrigation kit yielded as an average 55.8 t/ha with water use efficiency of 1.03 t/ha-cm giving a water saving to a tune of 35.70 %.