

## Precautions

- ❖ Don't use super phosphate for fertigation
- ❖ DAP & MOP do not fully solubilise in water. Hence, use supernatant solution of DAP/MOP only
- ❖ Dissolve fertilizers in water (1:10) overnight
- ❖ Filter fertilizer solution before fertigation

## Maintenance of Drip System

- ❖ Clean & wash filters once in 15 days
- ❖ Flush mains & laterals periodically
- ❖ Leakages in drip laterals, rectify with joiner
- ❖ Maintain at least 1 kg/cm<sup>2</sup> pressure at the head unit for proper water distribution

## Drip Fertigation : Economics (Acre/Yr)

Particulars	Drip Fertigation	Flood Irrigation
N:P <sub>2</sub> O <sub>5</sub> :K <sub>2</sub> O (kg)	101:54:34	134:72:45
Fertilizer Cost (Rs.)	4656	6239
Labour Cost (Rs.)	15400	24400
Other Costs (Rs.)	4700	4700
Annual Drip Cost (Rs.)	9895	NIL
Total Cost (Rs.)	34651	35339
Leaf Yield (kg)	13479	10790
Leaf Cost/kg (Rs.)	5	5
Gross Income (Rs.)	67395	53950
B:C Ratio	1.95:1	1.53:1

## ADVANTAGES OF DRIP FERTIGATION

- ❖ Increased leaf yield by 26%
- ❖ Saves water by 24%
- ❖ Saves fertilizer by 25%
- ❖ Saves labour by 37%
- ❖ Saves time & energy
- ❖ Improves leaf quality by 56%
- ❖ Improves water use efficiency by 70%
- ❖ Improves nutrient use efficiency by 66%
- ❖ Precise application of water/fertilizers
- ❖ Lesser weed competition
- ❖ Minimizes nutrient losses



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**CSRTI**

# Low Cost Drip Fertigation for Mulberry



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## DRIP FERTIGATION

Drip fertigation is an innovative technology to improve water and nutrient use efficiency in mulberry cultivation by water and fertilizer delivery directly to the root zone as per crop needs. This system would benefit farmers by enhancing leaf productivity and quality; leading to increase in the brushing capacity of sericulture farmers. Drip fertigation technology involves higher initial costs (Rs.50,000-75,000/acre). These costs could be brought down by 30-40%, replacing conventional drip laterals by drip tape laterals. Drip fertigation system is most suitable for wider spacing (3'×3') than closer spacing (2'×2') plantations. However, the advantages and savings of water, fertilizers, labour etc. make the Drip Fertigation System more affordable to the farmers. Besides, leaf productivity and quality could be enhanced significantly leading to higher economic returns to the mulberry farmers.

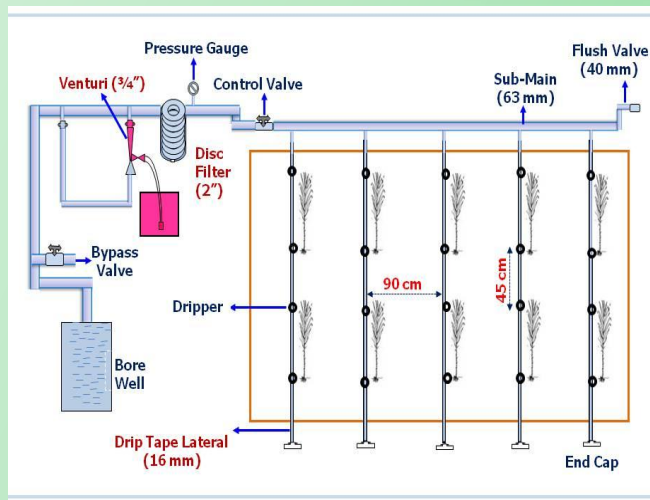


## COMPONENTS

- ❖ Disc/Screen filter (1"), Venturi, Control valve
- ❖ PVC main & sub mainline, Pressure gauge
- ❖ Laterals (Drip tape), Flush valve, Connector, Rubber cromate, Take off
- ❖ End cap & PVC fittings

### Drip Tape

- ❖ Seamless tube (250 micron)
- ❖ Flexible for coiling& decoiling
- ❖ Life span: 3-4 years



Lateral Spacing: 90 cm; Lateral Size: 16 mm dia  
Lateral Type: Drip Tape; Laterals per Row: One  
Drip Hole Spacing: 45 cm

## Drip Irrigation Schedule (One Acre)

- ❖ 2.8 litres of water/day/plant in 3'×3' spacing
- ❖ Irrigate @ 27,653 litres on alternate days

## Drip Fertigation Schedule (One Acre)

Optimal mulberry growth could be obtained with

**75% of Recommended Dose of Fertilizers =**  
20:11:7 kg/ac/crop (N:P<sub>2</sub>O<sub>5</sub>: K<sub>2</sub>O)

Fertilizers could be provided in 6 split doses

Fertigation Schedule	Urea (kg)	DAP (kg)	MOP (kg)
15 <sup>th</sup> Day	2.0	8.8	1.4
22 <sup>nd</sup> day	2.0	8.8	1.4
29 <sup>th</sup> day	9.8	2.9	1.4
36 <sup>th</sup> day	9.8	2.9	1.4
42 <sup>nd</sup> day	5.4	0	2.8
49 <sup>th</sup> day	5.4	0	2.8
<b>Total</b>	<b>34.4</b>	<b>23.3</b>	<b>11.2</b>

## Steps in Fertigation

- ❖ Pre-irrigate field for one hour before fertigation
- ❖ Inject fertilizers for 20 minutes through venturi
- ❖ Re-irrigate field for 10 minutes