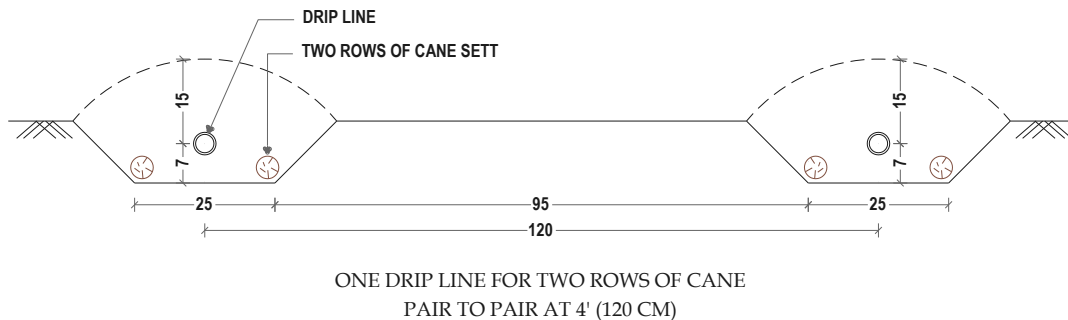


GUIDE LINE FOR SUB SURFACE DRIP IRRIGATION (SDI) SYSTEM USING 'JAIN TURBO EXCEL' AND 'JAIN TURBOLINE SUPER'

- Placement of lateral in SDI for Sugarcane:



Please follow:

1. Install 'Jain Turbo Excel/Jain Turboline Super' 10-15 cm below the surface of the soil.
2. Place cane setts at 22 cm below the soil.
3. Setts should be below the lateral and 30 cm (minimum) away from the lateral.

The logic is:

1. Roots tend to grow down and at least in the first year they do not attack the lateral.
 2. Water moves down (gravity) more than it moves up (capillary) so it reaches the newly planted sett and initiate germination.
 3. The depth of 10-15 cm at planting will increase as earthing-up is carried out and altogether protect the lateral while the harvester operates.
- Proper soil preparation is very important. Do not allow any clods in the field.
 - Flushing head control, main and submains.

Flush the head and pipes thoroughly until the tail water is clear. Be sure to flush out all plastics cuttings, grit, stones etc. It is recommended to flush just before installation of the laterals.

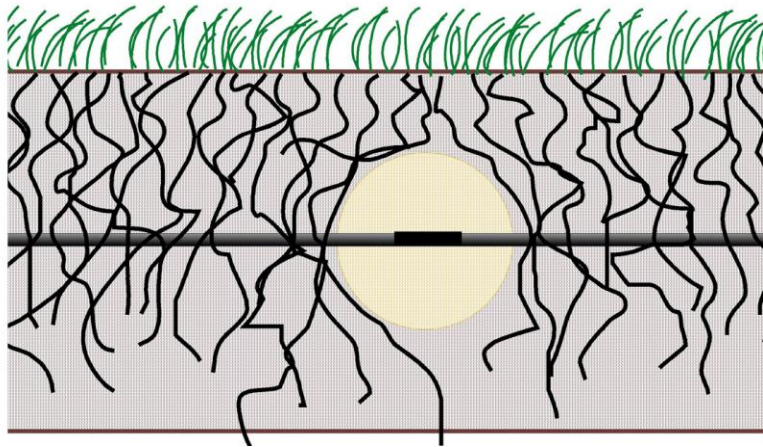
Note: Do not leave pipes or connector outlets open for more than a few minutes.

- Connecting laterals : Prevent sharp bends to avoid kinks in the laterals. Use polyelbows to avoid kinking of lateral.
- Place the emitter of Jain Turbo Excel facing up while laying it.
- Even though longer running length can be achieved using Turboline PC or Turbo Cascade PC (Amnon PC); It is not necessary all the time go with PC. Similar running length is possible by using higher dia. (20mm and more) inline tubing.

- For larger section select 63mm/50mm size collecting drain sub main to accommodate more space for silt and to minimize the head losses.
- It is recommended to place the collecting sub main at 6" to 8" lower than lateral level. This is to avoid backflow of dirt in to the laterals of 'Jain Turbo Excel/Jain Turboline Super'.
- Connect ARV/ vacuum breaker valve with each sub-main inlet, near the flush valves, at inlet and flushing end of the collecting drain and at head control unit. Single Union ARV can be used for this purpose.
- NRV is necessary part of the system. Install NRV before head control unit.
- It is recommended to install "Spin Clean Filter" which is a combination filter of 'Jain Sand Separator' and Screen/disc filter. All debris collected on the periphery of screen/disc element will settle down in the sand separator when pump is put off.
- Select proper filtration according to quality of water.
- Wherever possible connect Venturi before hydrocyclone/sand separator filter and its outlet is to be connected after the outlet of the screen/disc filter to minimize the head loss at the venturi point. This reduces the throttling of valve.
- Keep pressure check points at various locations in section to check the pressure.
- Clean the flush valve with higher pressure to achieve higher flushing velocity.
- While cleaning disc filter, ensure that it has properly cleaned and tightened to avoid escape of through the discs.
- During rainy season the system will allow to run at least minimum 15 to 20 minutes in a day if not, there may be a chance to form salt deposition at the emitters.
- Similarly, the system does not allow idle for more than two days unless the root will enter into the emitters to absorb water. Keep sufficient moisture level within the root zone to avoid root intrusion.
- After completing installation, check the inline properly connected with elbow, plain lateral, sub main and connection of Inline elbows.
- Before refilling the trenches ascertain any leakages or improper joints incurred, if so it has to correct carefully.
- Ensure that you are getting sufficient wetted zone near roots. Use low cost Augur for this purpose.

CHEMICAL TREATMENTS:

A.TRIFLORALIN TREATMENT :



- To avoid root intrusion,inject Trifluralin 0.125ml per dripper 3 weeks after 1st irrigation and give 2nd treatment two weeks before harvesting.
- Inject the Trifluralin for short period of 5-10 minutes only. Allow the irrigation after 24 hours of the treatment.

B.CHLORINE TREATMENT:

- Chlorine injection is required after 75 days after planting. And next treatment is required 250 days after planting.It is recommended to give 10 ppm to 20 ppm concentration at dripper end.And flush the system after 2 hour of the treatment.
- If root has already occurred , inject Chlorine at higher concentration of 20 ppm at dripper point.then inject Hydrogen Peroxide at the rate of 0.05 ml per dripper after 2 days of Chlorine Treatment.
- Flush the system with higher pressure to get removal of intruded root mass.

C. ACID TREATMENT:

- For removing deposited salt , inject acid through venturi and ensure PH 4 at the last dripper.
- Allow the system for 6 to 8 hours then flush the system with higher pressure.
- The frequency of acid treatment is depending upon quality of water (approximately once in a two months) .
- Don't give acid and chlorine treatments at a time.