

DRAWBACKS IN CONVENTIONAL IRRIGATION METHOD

For plant growth Soil, Water, Air, Nutrients and Sunlight are basic input needs. In the conventional irrigation method, normally the plant is irrigated at the interval of 8-15 days & the water distribution uniformity is limited up to 33% only. This means the irrigation efficiency is reduced & plant does not get the total applied quantity of water. Only 35% to 40% of the total quantity of water is utilised by the plant in reality.

If irrigation is at the interval of eight days, the exact status of moisture level in the soil will be as shown below.

First Three Days After Irrigation



During first three days of irrigation soil pores are saturated with water. In this condition, total air in the soil is replaced by water & field capacity level is not maintained in the soil. Though sufficient nutrients are available in the soil, the excess water condition suffocates the roots of the plant & water absorption by roots is totally ceased. As the plant is under suffocation the growth is hampered.

Middle Three Days



During next three days, due to evaporation & percolation losses, the excess soil moisture is reduced & soil comes to field capacity level wherein air, moisture & nutrients are available at optimum level.

Plant growth takes place only during this phase.

Last Two Days



In last two days, the moisture level in the soil goes below the root zone hence, plant is under stress condition in this period.

Even though air and nutrients are sufficiently available in the root zone they can not be taken easily by plant as the plant is under stress and hence growth restricted.

Conclusion: It is very clear from the above phenomenon that for the plant growth, optimum moisture level available is only for about three days out of 8 days' cycle. Rest of the time plant is either under stress or suffocation condition, hence growth is restricted thereby yield is reduced.

JAIN MICRO IRRIGATION SYSTEM

Jain Micro Irrigation System by its very definition is the application of small and precisely predetermined amount of water near the root zone of plant at frequent intervals through emitting devices via a network of PVC/HDPE mains, submains, filtration unit, control valves and LLDPE laterals.

By this advanced method of irrigation, 90-95% irrigation efficiency and uniformity of application is achieved. And the optimum balance of nutrients, air & water is maintained in the soil resulting in continuous & better plant growth and high yields.



 **Jain™**
Drip
JALGAON

*With optimum level of field capacity
Abundant yield of high quality.*

ARE YOU LOOKING FOR A SCIENTIFIC, EFFICIENT AND ECONOMICALLY VIABLE MICRO IRRIGATION SYSTEM? THEN GO FOR JAIN IRRIGATION SYSTEM

WE CONSIDER THE FOLLOWING ESSENTIAL PARAMETERS WHEN WE DESIGN A DRIP IRRIGATION SYSTEM FOR YOU THAT ENSURES SATISFACTORY SERVICE YEAR AFTER YEAR. ALL THE COMPONENTS OF THE TOTAL SYSTEM ARE MANUFACTURED BY JAINS THEMSELVES UNDER STRICT QUALITY CONTROL. THAT IS WHAT MAKES THE JAIN IRRIGATION SYSTEMS THE BEST MICRO IRRIGATION SYSTEMS THAT YOU ARE LOOKING FOR,



Engineering Survey

Technical survey of the land & collection of certain data are pre-requisites for designing a micro irrigation system. Therefore a survey of the land is conducted and necessary data like information of farmer, details of crop & their spacings, water-source, existing pump details, water-availability, field dimensions, undulations, agroclimatic information, etc. are collected. Samples of soil & water are also collected for testing in our laboratory.



Agroclimatic Data

Agroclimatic data like total rainfall, temperature, sunshine hours, relative humidity, evapotranspiration, wind velocity, wind direction etc. are collected & fed to the computer, to decide the stagewise and agewise irrigation schedule for better crop growth.



Design

After studying the interrelationship between crop, water, soil and Agro-climatic data, a suitable hydraulic and economical system is designed on computer by keeping in view the existing pump capacity, existing pip line and peak water requirement of crop.



Soil and Water Analysis

The soil sample so collected is tested in our laboratory to know the pH factor, salinity, water holding capacity, soil infiltration rate, depth of soil, soil texture, fertility, etc.

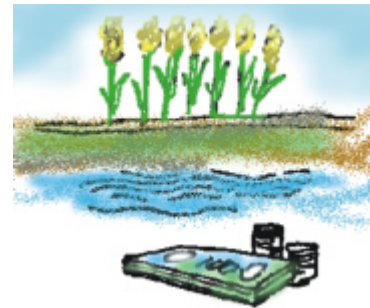
The water is tested to know its quality, pH factor, electrical conductivity, hardness or softness, total dissolved solids, suspended particles, etc.

Such tests on soil and water are conducted to design a suitable system tailor-made to suit the site conditions and also to establish needs for frequency of chemical treatment to ensure proper working of the micro irrigation system. It also helps to decide fertigation schedule.



Crop

Crop details like variety, row & plant spacings, age, canopy development, root system, cultivation-methods, etc. are collected to decide the proper irrigation schedule.



Conclusion

Jain Micro Irrigation System is the only scientific method of irrigation which considers all above parameters and designs the most suitable & economically viable system for better harvest.

Proven Benefits

- Increase in yield to the extent of 20% to 100%.
- Saves water from 30% to 80%.
- Cost of chemicals, fertilizers, labour & plant protection can be reduced by 30-40%.



J A L G A O N

**MAKING A DROP OF WATER
GROW A LONG WAY**