

# FERTIGATION: AN EFFECTIVE TOOL OF SAVING WATER IN FRUIT CROPS

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Agriculture is the backbone of Indian economy and water along with nutrients are the pillar of agriculture. When combined with an efficient irrigation system both nutrients and water can be manipulated to achieve higher production in horticultural crops. Micro irrigation is one of the major innovations, in which water is supplied in small quantity directly above or below the soil surface. Fertigation is a phenomenon of fertilizer application in which a complete fertilizer is given in the form of solution directly in the root zone of the crop through drip irrigation system. Fertigation is one of the latest innovations, in which fertilizer is liquefied with water and applied to obtain the higher yields of marketable production from a given quantity of inputs. In this method fertilizer solution is evenly distributed in irrigation water. Mostly orchard growers will have experienced the management constraints of solid fertilizer side-dressings the day before heavy rainfall and then doubting how much of the fertilizer is either washed off from the crop or leached down below the root zone.

Fertigation is superior over traditional methods of fertilization for increasing the availability of plant essential nutrients in the soil as well as to enhance the fertilizer use efficiency. By

this technique, fertilizer use efficiency can be increased from 80 to 90 per cent. In this method mostly liquid as well as water soluble fertilizers are used.

To overcome these problems, fertigation is the best technique which save labour, minimize soil hardness in the field, fertilizer being placed around the plant roots evenly and enhance the rapid uptake of nutrients by the plant.



Managing irrigation to minimize the leaching of water below the crop rooting depth is critical to minimizing their leaching below the root zone.

## ADVANTAGES:

- Reduction in wastage of water due to the ability of the plant root hold water for longer time period.
- It enhances the usage efficiency of irrigation water, chemical fertilizers as well as the use of other chemicals that might compromise the integrity of the soil.
- Amplified uptake of essential nutrients by plants.
- Uniform nutrient application, where the water moves, the nutrient goes as well.
- High efficiency is achieved in nutrients application rate in terms of time and quantity.
- Risk of soil-borne diseases is reduced.
- Minimized loss of nutrients as they are passed via water dripping system.

## DISADVANTAGES

- Selection of bad quality equipment may lead to poor nutrient placement.
- The concentration of the solution may be decreased due to the use of liquified fertilizers.
- Main irrigation pipe line may suffer from loss of pressure.
- Fertigation process totally depend on the water supply system. If the water supply is compromised, so will the fertigation process.

