

Center for Smart Agriculture

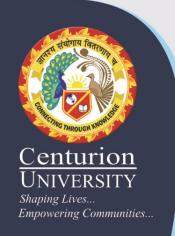
Applied Hi-Tech Horticulture



Module 2: Fertigation

Sessions 19: Methods, technique and advantages of

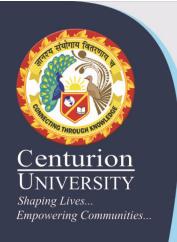
fertigation



Method of fertigation:

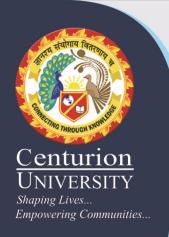
Fertigation is a method of fertilizer application in which fertilizer is incorporated within the irrigation water by the drip system.

Fertilizer use efficiency is increased from 80 to 90 per cent.



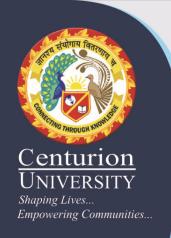
Advantages of fertigation

- ✓ Nutrients and water are supplied near the active root zone through fertigation which results in greater absorption by the crops.
- ✓ As water and fertilizer are supplied evenly to all the crops.
- ✓25-50 per cent higher yield.
- ✓ Fertilizer use efficiency through fertigation ranges between 80-90 per cent.
- ✓25% nutrient saving.
- ✓ Water, time, labour and energy use is also reduced substantially.



Precautions during fertigation

- ✓ Fertilizer tank must be used to inject water soluble fertilizer solution.
- ✓ Fertigation should be given last half an hour and another 5-6 hrs after completion of fertigation
- ✓ Concentration of solution should never exceed more than 10 percent.



Equipments for fertigation

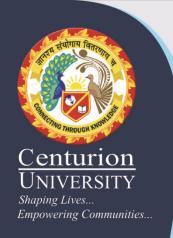
- 1.Fertilizer tank (By pass system)
- 2. Venturi Injector
- 3. Fertilizer injection pump





Fertilizer Injection pump

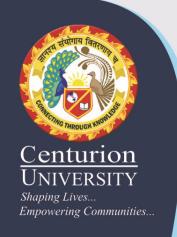
Fertilizer mixing tank



Fertilizer Injector

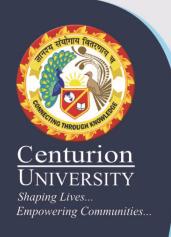
Modern fertigation equipment should be able to regulate:

- ✓ quantity applied
- ✓ duration of applications
- ✓ proportion of fertilizers
- ✓ starting and finishing time
- ✓ It is important to select an injection method that best suits the irrigation system and the crop to be grown.
- ✓ Each fertilizer injector is designed for a specified pressure and flow range.





Fertigation unit



Fertilizers commonly used in fertigation

Name	N-P-K
Ammonium nitrate	34-0-0
Ammonium sulphate	21-0-0
Urea	46-0-0
Monoammonium phosphate	12-61-0
Diammonium phosphate	18-46-0
Potassium chloride	0-0-60
Potassium nitrate	13-0-44
Potassium sulphate	0-0-50
Monopotassium phosphate	0-52-34
Phosphoric acid	0-52-0

