

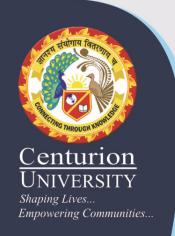
#### **Center for Smart Agriculture**

**Applied Hi-Tech Horticulture** 



**Module 2:Innovative Technologies in Hi-Tech Horticulture** 

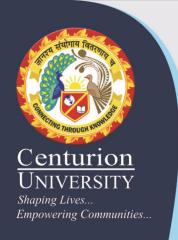
**Sessions** 19: Methods, technique and advantages of fertigation



## Method of fertigation:

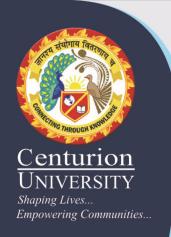
Fertigation is a method of fertilizer application in which fertilizer is incorporated within the irrigation water by the drip system.

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



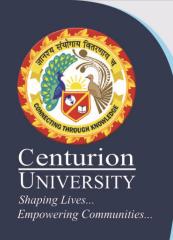
### Advantages of fertigation

- ✓ 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**

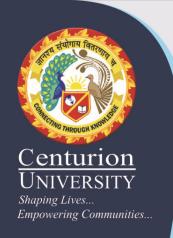
- 1.Fertilizer tank (By pass system)
- 2. Venturi Injector
- 3. Fertilizer injection pump





**Fertilizer Injection pump** 

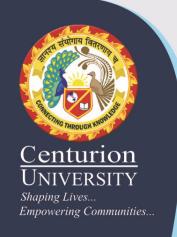
Fertilizer mixing tank



#### **Fertilizer Injector**

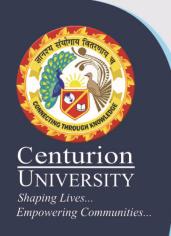
Modern fertigation equipment should be able to regulate:

- ✓ 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

