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## Genetic uniformity of host plant

It is the time line of the disease. If the whole field of large area has the genetics of the uniformity, then the attack of a race of pathogen will result in the cause of epidemic and whole field destroyed.

Therefore the field should have the variety of the different genetics.

The pathogen can overcome easily over the vegetatively propagated.

It is also much more susceptibility for self pollinated crop to have epidemic. The wild variety have the less chances of attacked by pathogen to cause the epidemic because have the variation due to crossing over.

\* Cochliobolous Blight of Victoria oak

\* Southern corn leaf Blight

On both the oak and corn the male cytoplasm were sterile then the epidemic will occur.

## Type of the crop:-

In the annual, agronomic crop fast epidemic appear, like corn, maize, vegetable. But the tree and the forest and fruit tree have the latter development of the disease this is why they have less chance of epidemic.



Tristiza virus of citrus.  
pear decline  
'chust nut disease' Blight  
Bunch of disease

## Age of host plant:-

The dynamics of the epidemic is different for the different stages of the plant either for seedling, young stage or old stage. As in the case of citrus withertip, the first damage of the disease is at the tip because the saprobic bacteria cause the losses at the young and new forming branches and attack is over the withertips.

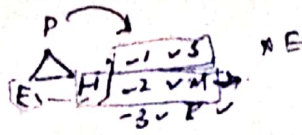
\* The root rot, downy mildew, peach, leaf curl, Rust, bacterial blight the plant is susceptible over the early stages and adult stage is resistant.

\* Few of the rust and the viral disease, the plant is resistant over the early (young) stage but the susceptible over the older stages and again resistant over the older stages.

\* post harvesting diseases, fungal rot, penicillium, ~~morel~~ monilinia glomitryla, Botrytis and cause disease at the ripening stage.

i Early blight (*Alternaria solanae*)  
ii late blight (*Phytophthora infestans*)



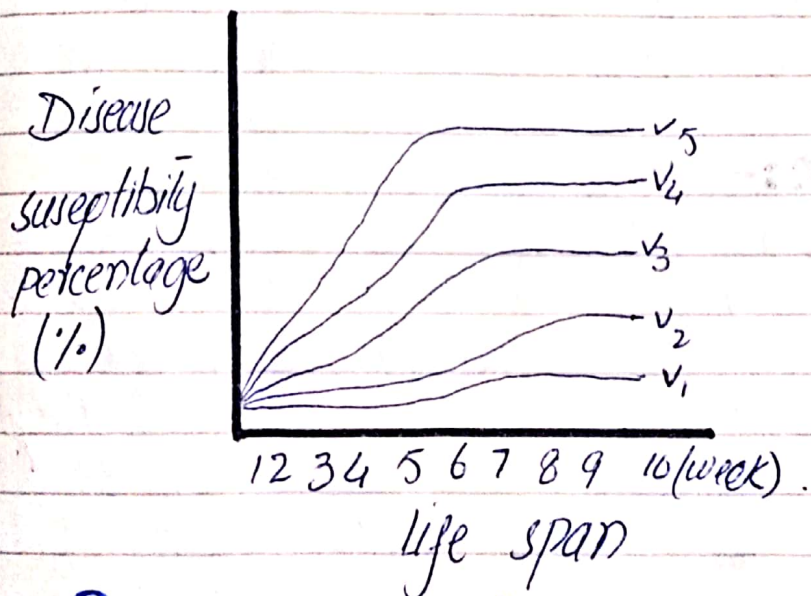
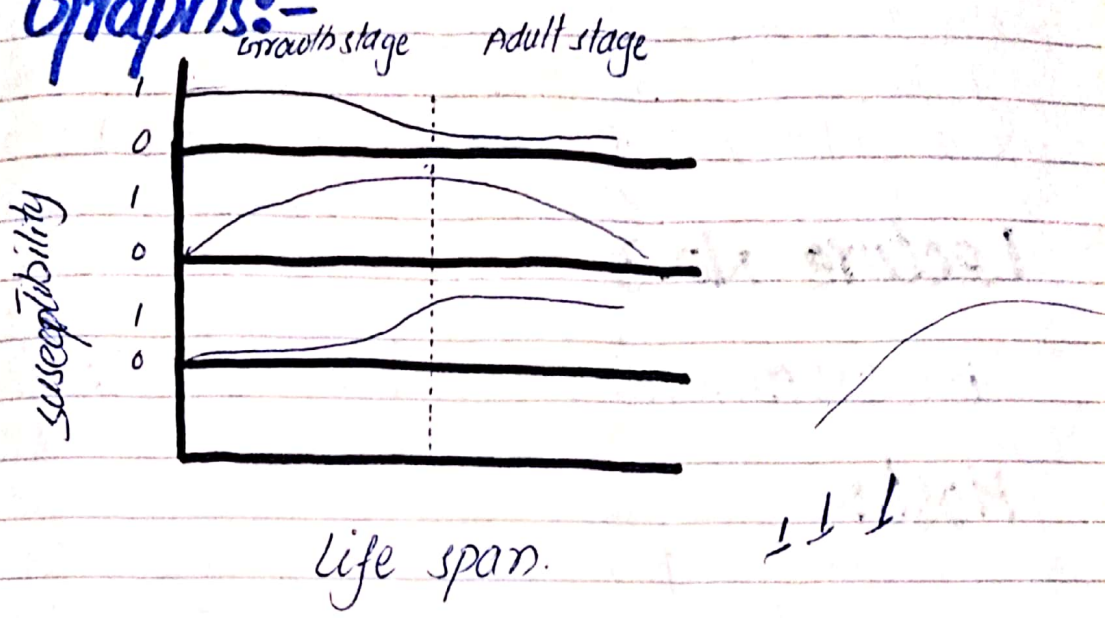


wheat

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Here the juvenile stage is susceptible but the young stage is resistant and also the older stage susceptible.

### Graphs:-



### Pathogens factors that result in diseases:-

#### Level of virulence:-

The virulent pathogen have more chances to cause the disease in epidemics form.

# Practical No.2

## Meteorological Studies:-

Meteorological studies are related to the climate, weather and season. The meteorological factors are divided into two factors.

1. Microclimate

2. Macroclimate.

### A. Macroclimate:-

It is the climate of a whole field or whole country. Following are the factors that can be used for the study of macroclimate.

1. Thermohygrograph:- Temperature, Relative humidity Average Temperature.

2. Dynes rain gauge:- It is used to measure the rain.



**3. Cup-anemometer:-** It is an instrument that is used to measure the force speed and sometime the direction of wind.

**4. Cowbell stroke sunshine record:** It is an instrument that is used to measure the duration of sunshine (hr/day) and also the maximum and minimum light.

**5. Kipp solarimeter:-** It is measure the total shortwave length and long wavelength of waves.

**6. Tensiometers:-** It is used to measure the duration of leave wetness.

**7. Thermometer:-** It is used to measure the temperature of plant in range of 10, 20 50°C and also the temperature of the soil.