

Tawang district of Arunachal Pradesh is a storehouse of variety of forest plants ,including rare medicinal plants. The district is a treasure trove of high altitude flora. Trees around the villages are mostly oak (pasheng), magnolia(nga-ngang),poplar (sharmasheng) ,blue pine (brosheng), walnut (keasheng) etc.

The forest plants play a major role in life of Monpa villagers. Its leaves are converted into manures for cultivation fields and its wood is used for firewood. The forest plants are also used in making baskets, planks for house construction, and as fencing materials.

A large nos. of pests and diseases attack the forest plants. Among them, following are the major diseases:

Damping off : A nursery disease of forest plants



Cause :

Fungi species like *Fusarium*, *Rhizoctonia*, *Phytophthora*, *Pythium* etc.

Symptoms:

- Necrotic areas at or below the ground line.
- Water-soaked, discoloured areas at the ground level that rapidly become sunken
- Affected seedlings fall over (damp off)

Management :

- Lower the soil PH by adding some granular sulphur or Sulphuric acid
- Improve soil drainage by levelling soil of the nursery.
- Soil fumigation with mixtures of methyl bromide and chloropicrin.

Pine wilt

Cause:

P i n e w o o d n e m a t o d e s i . e . *Bursaphelenchusxylophilus*, which are carried from diseased trees to living trees by pine beetles and enter the trees through feeding wounds.

Symptoms:

- Needles appear as off colour greyish green, then turn yellow and red.
- The trees die rapidly after the needles turn colour in late summer or during fall.

Management :

- Once a pine has started to die, it needs to be removed from the site immediately or burned where burning is still permitted.
- The wood should not be kept for firewood.



Fig. Pine Wilt

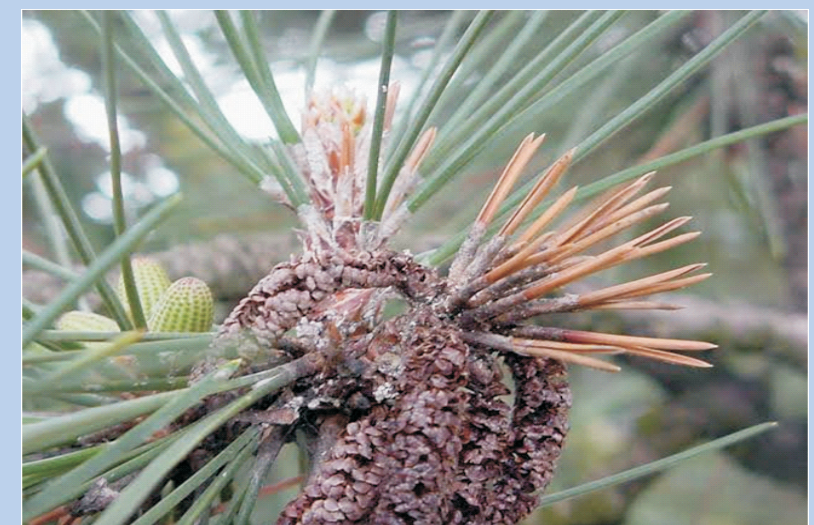
- Insecticide treatment to control the nematode carrying beetles, but it may be impractical because the beetle has a long period of activity.

Use resistant varieties, if the disease has been diagnosed in the particular site.

Needle blight/ caste in pines

Cause:

Lophodermium pinastri (Fungus)



Symptoms :

- Needles develop yellow spots.
- Swelling of needles, off-white fruiting bodies formed on infected needles.
- The fungi live on dead tissue and so continue to carry the infection on needles after they have fallen.

Management:

- Non shaded areas where good drainage is available should be selected for plantation establishment.
- Attentive tree care must be undertaken including nutrient management and water, weed control.
- Thinning practice is useful .Infected needles on or under the tree contain spores, so they should be removed as soon as possible.
- In heavy infection, 5 applications of fungicides like chlorathalonil or Iodine is recommended in every 5-6 weeks.



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MAJOR DISEASES OF FOREST PLANTS IN TAWANG DISTRICT AND THEIR MANAGEMENT



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