

Diseases caused by phanerogamic parasites

- Parasitic flower & seed producing plants
- More than 2500 sp are known

Dodder (Cuscuta):

- Widely distributed, Hosts (alfalfa, onions, sugar beats & several ornamentals)
- Loss slight to complete destruction
- Also transmit plant viruses

Symptoms:

- Orange or yellow strands around plant parts up to 10 feet areas
- White, pink or yellowish flowers lead to seed formation
- Infected host weekend, declined, poor yield & finally killed

Disease cycle:

- Seed over winter in infested fields or mixed with seed of crops
- In growing season, seed germinating to produce slender like shoots with haustoria
- It is a shoot parasite

Management:

- Preventing introduction
- Clean implements
- Limiting movement of domestic animals
- Spray contact herbicides
- Frequent tillage & flaming

Witch weed (Striga)

- On sugarcane, rice, cow pea, tobacco & small grains
- First time reported in 1956 in USA
- Root parasite

Symptoms

- Affected plants stunted, wilted, turn yellowish
- Flowers small, red, yellowish or white
- Single plant can produce 5000-50000 seeds
- Life cycle takes 90-120 days

Management:

- Prevent introduction
- Catch crops (stimulate germination & destroy)

- Trap crops (initiate germination but not host)

Use herbicides

Broomrapes Orobanchae

- Occur in warm & dry regions worldwide
- Cause losses up to 70 %
- Root parasite

Symptoms

- Whitish to yellowish plant 15-50 cm tall
- Pretty, white, yellow-white or purple flowers arise singly on stem
- Over winter as seed, can survive 10 years in soil

Produce cup like appressorium

Management

- Prevent introduction
- Grow resistant crops
- Removal of broomrape before seed producing
- Fumigate soil with methyl bromide
- Flax serve as a trap crop

Mistletoes

- Mistletoes occur wherever conifers trees grow
- Height of infected plants may reduced from 50-80 %
- Some infected plants are killed by mistletoes
- Stem parasite

Symptoms

- Shoots of mistletoes occur along the twigs of host
- Infected twigs and branches develop swellings and cankers on infected areas

Management

- Physical removal of parasite is the only control

Abiotic diseases

Zn deficiency in Rice

Khaira disease of Rice

- Non availability of Zinc to rice plants
- More severe with high rates of N & P

Symptoms:

- Reduced tillering, slight stunting & chlorosis (yellowing) of lower leaves between veins
- Tips of leaf blades also develop brown spots

Management

- Dipping seedlings in Zinc oxide at transplanting
- Spray with Zinc sulphate or Zinc chloride solutions

Tirak of Cotton

- Light soil (sandy), alkaline soil, Nitrogen deficiency, seed inferior quality, crust formation in soil

Symptoms:

- Upper leaves light green & lower turn yellow, stems become shorter
- Bad opening of bolls, lint inferior quality

Management

- Use healthy seeds
- Grow in loamy soils
- Apply organic matter & balanced N,P,K
- Deep ploughing
- Green manuring