



DISEASE OF ROSE AND MERIGOLD

Session-20

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A photograph of a rose bush with red and yellow flowers in front of a wooden fence. The text "DISEASE OF ROSE" is overlaid in the center.

DISEASE OF ROSE



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POWDERY MILDEW

• CAUSAL ORGANISIM:

Sphaerotheca pannosa var. rosae

SYMPTOMS

- The infected leaves show grayish powdery fungal growth.
- Rolling of leaf margins with the onset of sprouting season.
- Affected leaves become curled and distorted.
- Badly infected flower buds fail to open.
- Infected floral parts become discoloured, dwarfed and dried.



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SURVIVAL AND SPREAD

- P.I: Mycelium in dormant buds and shoots or as cleistothecia
- S.I: Wind borne conidia

MANAGEMENT

- Collect and destroy infected plant debris
- Four sprays with wettable S@0.3% or carbendazim@0.1% or Dinocap@0.1% at 10 days interval
- Resistant varieties: **Ashwini, Ambika, Angeles, American pride, Surabhi**



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POWDERY MILDEW OF ROSE





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BLACK SPOT

**CAUSAL ORGANISIM– *Diplocarpan rosae*
(Anamorph: *Marssonina rosae*)**

Symptoms

- Dark brown tar coloured spots with fringed borders.
- Spots coalesce forming large patches.
- Infected leaves turn brown and defoliate.
- Fungus may also attack stems and flowers of rose .
- On stems, infected areas are blackened with blistered appearance dotted with pustules.



CONT...

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SURVIVAL AND SPREAD

- Pycnidia or ascospores in infected plant debris
- Wind borne conidia

MANAGEMENT

- Affected parts should be collected and destroyed
- Spray Tridemorph @0.025% or benomyl @0.1% at weekly intervals starting with the sprouting of the plants till new foliage appears.
- Shade and extensive irrigation should be avoided.
- Resistant varieties: Bebe bune, coronado ,Grand opera, sphinx.



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BLACK SPOT OF ROSE





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DIE-BACK

CAUSAL ORGANISM– *Diplodia rosarum*

SYMPTOMS

- Infection starts from the pruned surface of the twigs.
- The infected portion become brown to dark brown or black.
- Infected twig dries from tip downwards.
- Infection spreads from twig to main stem and roots and finally whole plant is killed.
- Older plants and neglected bushes are more frequently attacked.



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SURVIVAL AND SPREAD

- **Pycnidia present in dead twigs**
- **Conidia through irrigation water**

MANAGEMENT

- **Diseased twigs should be carefully removed and destroyed.**
- **After pruning the cut end should be protected with chaubattia paste.**
- **Spray Difolatan@0.2% or mancozeb@0.2% or Chlorothalonil@0.2% in early September and late October.**
- **Resistant varieties: Blue moon, Red gold, Summer queen, etc.**



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DIE-BACK





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Symptom:
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DISEASES OF MERIGOLD (BOTRYTIS BLIGHT)

- Flower petal become water soaked and become brown.
- Affected parts become necrotic and die.
- A gray mass of spores develops on necrotic tissue during wet conditions.

Causal organism: *Botrytis cinerea*

Sub-division: *Deuteromycotina*

Disease cycle:

- **Primary Infection:** By infected flower
- **Secondary Infection:** Conidia

Favourable condition: High humidity and rainy condition favour the disease development

Management:

- Remove all dead and dying plant parts (particularly blossoms) on and around plants.
- Avoid overhead irrigation or apply such that plants are not wet for extended periods of time.
- Space plants for good air circulation.



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SYMPTOM ON FLOWER

