



Diseases of Colocasia

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Devendra



Phytophthora blight



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Causal organism

- ***Phytophthora colocasiae***

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Symptom



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Symptom

- Disease affects the leaves, petioles and corms
- small, dark brown flecks or light brown spots on the upper leaf surface
- These early spots often occur at the tips and margins of leaves where water accumulates.
- The spots enlarge rapidly, becoming circular, zonate, and purplish brown to brown in color

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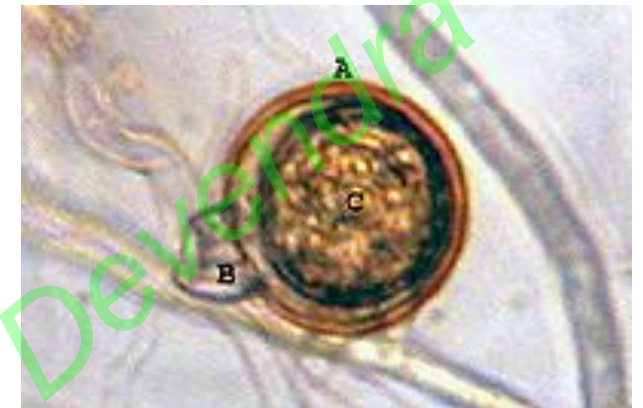
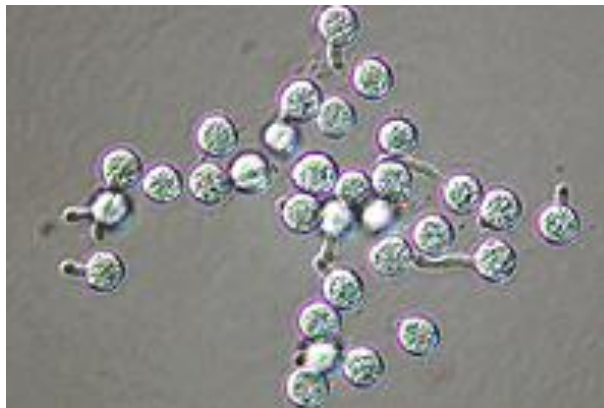
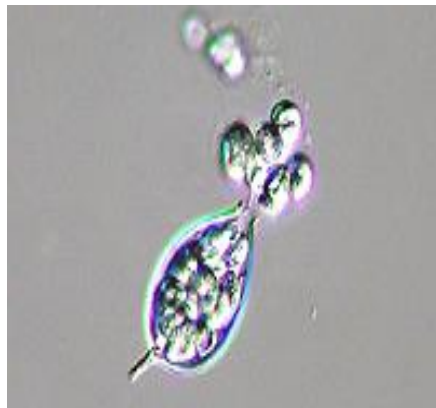
Symptom

- As spots increase in size they coalesce and quickly destroy the leaf
- In dry weather or on some resistant cultivars, the centers of lesions become papery and fall out, producing a “shot-hole” appearance.
- Yellow liquid ooze out from affected area
- Dead leaves often hang on their long petioles like flags

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Etiology

- The pathogen produces non-septate and hyaline mycelium.
- Sporangiophores emerge through the stomata on the lower surface singly or in groups.
- They are unbranched and bear single celled, hyaline, round or oval sporangia at the tip singly.
- The sporangia germinate to produce abundant zoospores.
- The fungus also produces oospores and chlamydospores in adverse seasons.



Disease cycle

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Disease cycle of Phytophthora blight

Infection through Stomata

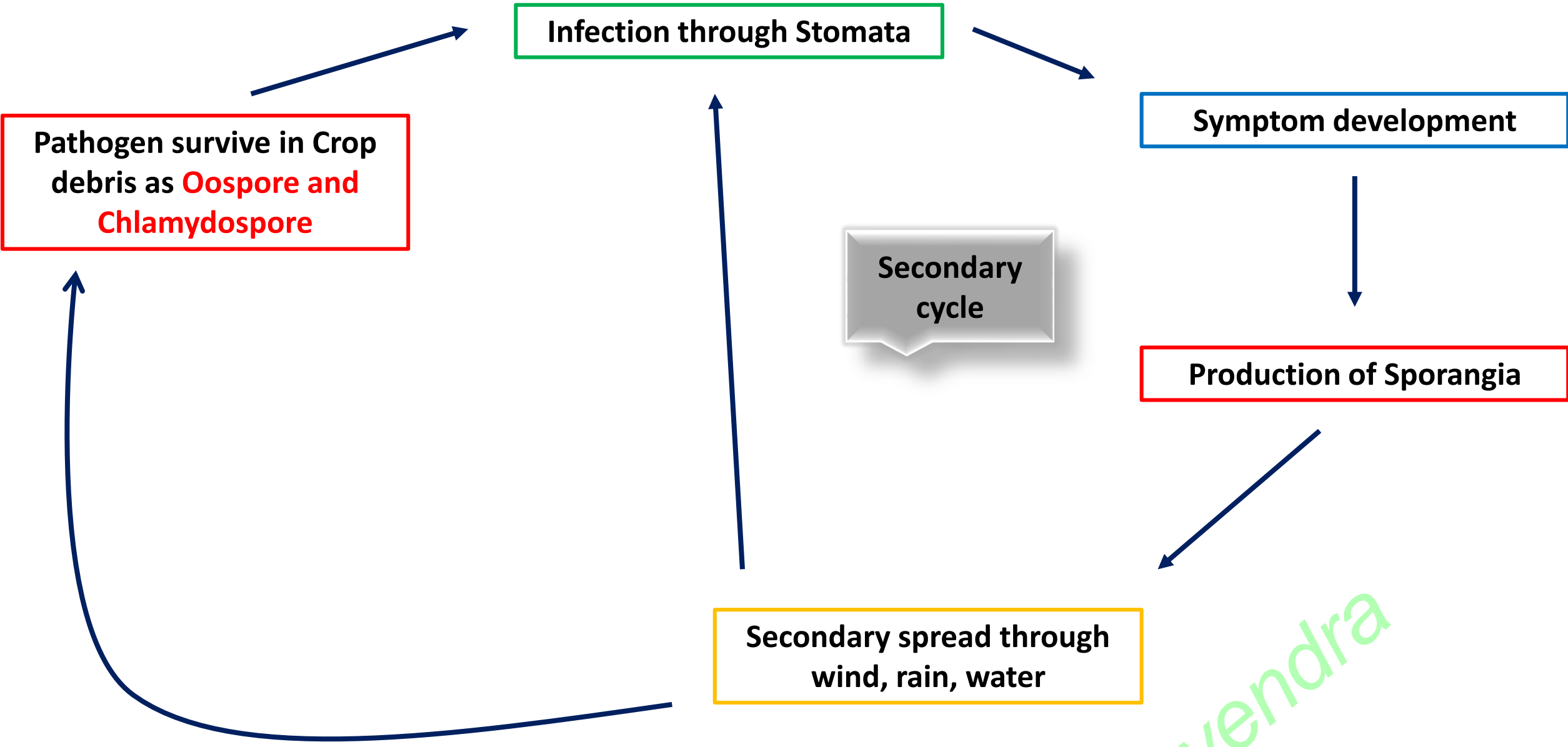
Symptom development

Production of Sporangia

Secondary cycle

Secondary spread through wind, rain, water

Pathogen survive in Crop debris as **Oospore and Chlamydospore**



Epidemiology

- $T = 20-22^{\circ}\text{C}$
- $>90\%$ RH
- Cloudy days
- Intermittent rains
- Dense cropping
- Poor drainage of soil

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Management

- Hot Water Disinfestations
- Fallows for Disease Suppression.
- Isolate plantings (e.g., three small, separate patches instead of one large patch).
- Prepare the soil well and amend it before planting if calcium, magnesium, or phosphorus are needed.
- Monitor plant calcium levels by leaf analysis, and maintain calcium at recommended concentrations to prevent development of *Pythium* corm rot.
- Add lime material before planting to raise soil pH to 6.0-6.8.
- Rotate taro with other crops.
- Incorporate compost and apply surface mulch.
- Rogue (kill and remove) diseased plants, taking them far from the planting area and destroying them by burying, burning (if allowed), or composting



**Thank
You**

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