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Alternaria

- Content-
- Classification
- Introduction
- Symptoms
- Mycelium
- Reproduction.

Alternaria

1

Taxonomic position \ Classification -

- Alexopoulos(1962) –
- Division- Mycota
- Subdivision- Eumycotina
- Form class- Deuteromycetes
- Form order- Moniliales
- Form family- Dematiaceae
- Form genus- Alternaria
- Mycologists used the word “ form” as a prefix to denote the artificial and temporary nature of this class of fungi.

Alternaria

2

- **Introduction** - The form-genus Alternaria occurs universally(worldwide).It has several form-species, 299 approx. Many of these are **contaminants** in laboratory media and on Petri-dish cultures. In nature mostly grow as **saprophytes** on plant debris and dying plant parts , airborne, indoors, on objects, in water and also in the soil. Several form-species are **parasitic** on plants as Alternaria solani causes early blight of potato and other members of family Solanaceae. A. brassicae and A. brassicicola cause leaf spot disease in crucifers such as mustard, cabbage, cauliflower etc. A. cucumerina grows on various cucurbits. A. tenuis causes late blight of wheat . A. zinneae parasitizes *Ageratum conyzoides*. A. citri causes black rot on citrus plants. A. carotiincultae causes leaf blight on carrot .

- Here is the description of Alternaria solani - It causes early blight of Potato(Solanum tuberosum.).
- **Symptoms-** 1. **Premature defoliation** occurs, which results in **tuber yield reduction**. 2. Initial infection occurs on older leaves, **with concentric dark brown spots developing mainly in the leaf center**. 3. Infected leaves turn **yellow** and either **dry off** or fall off the stem. 4. **Tuber** lesions are dry, dark and pressed into the tuber surface, with the underlying **flesh turning dry, leathery and brown**.
- **Mycelium-** Mycelium is short, slender, septate, branched, light brown but becoming dark-coloured with age. The colonies of Alternaria are wooly but more compact with the underside very dark coloured. The hyphae are at first intercellular, later penetrating into the cells of the invaded tissue.

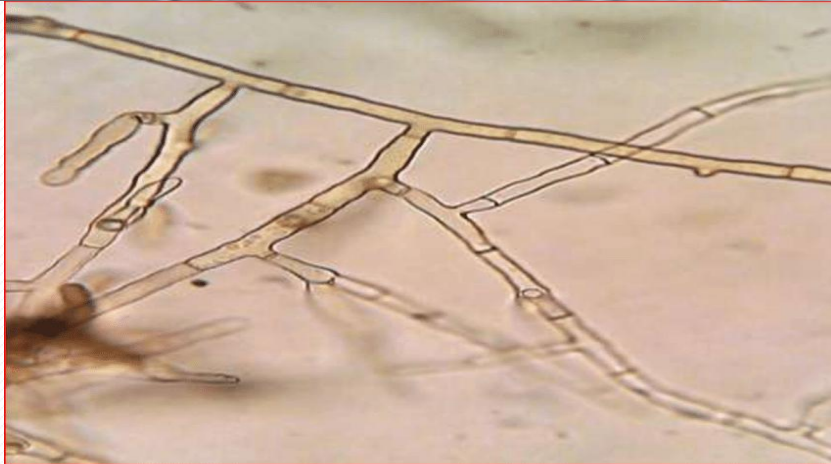
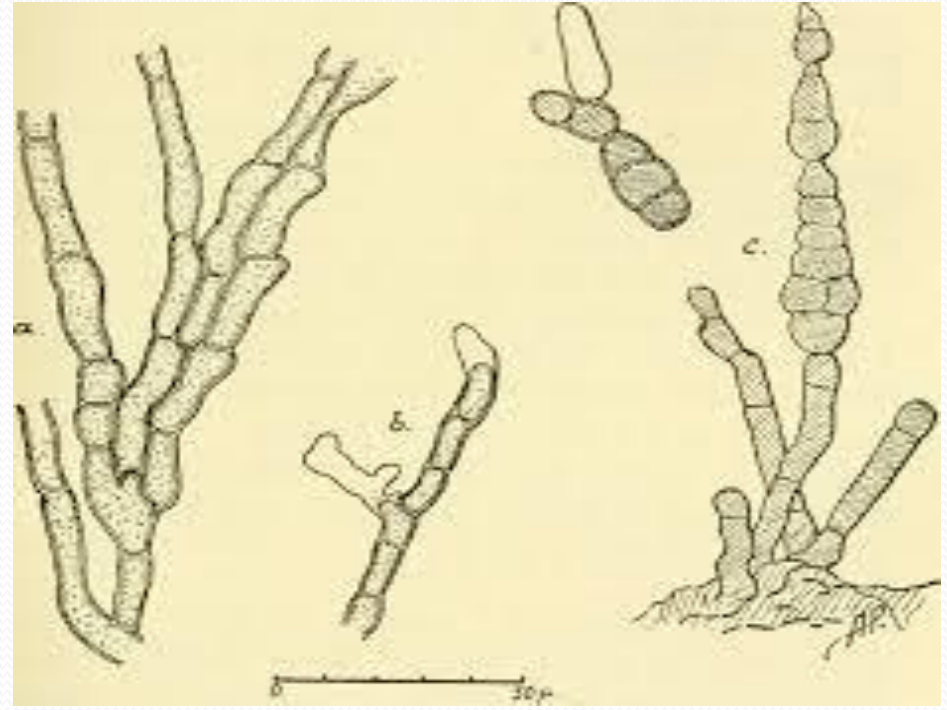
- Reproduction - Alternaria has **no sexual or perfect stage**.
They multiply **asexually** by the method of Sporulation.
- The characteristic asexual spores which are produced exogenously are the **conidia**. The conidia are produced at the tips of ordinary hyphae which are comparatively short and dark coloured, termed as **conidiophores**. Conidiophores are relatively short(50-90 u long and 9 u broad) and dark coloured arise from the older diseased tissue of the host and emerge through the stomata. The conidia are borne on the tip of conidiophores. The conidia are large(120 to 296 u in length and 12- 20 u in breadth) , dark coloured, multiseptate ie several celled, muriform and beaked. The number of cells varies from 8-14 or even more in a conidium. The septa dividing the spore(conidia) into the cells are both transverse and vertical and their number is not fixed, may be 5-10 transverse septa and a few longitudinal one. Usually conidia are borne end to end in chains of two or three. Occasionally they may occur singly at the tip of hypha.

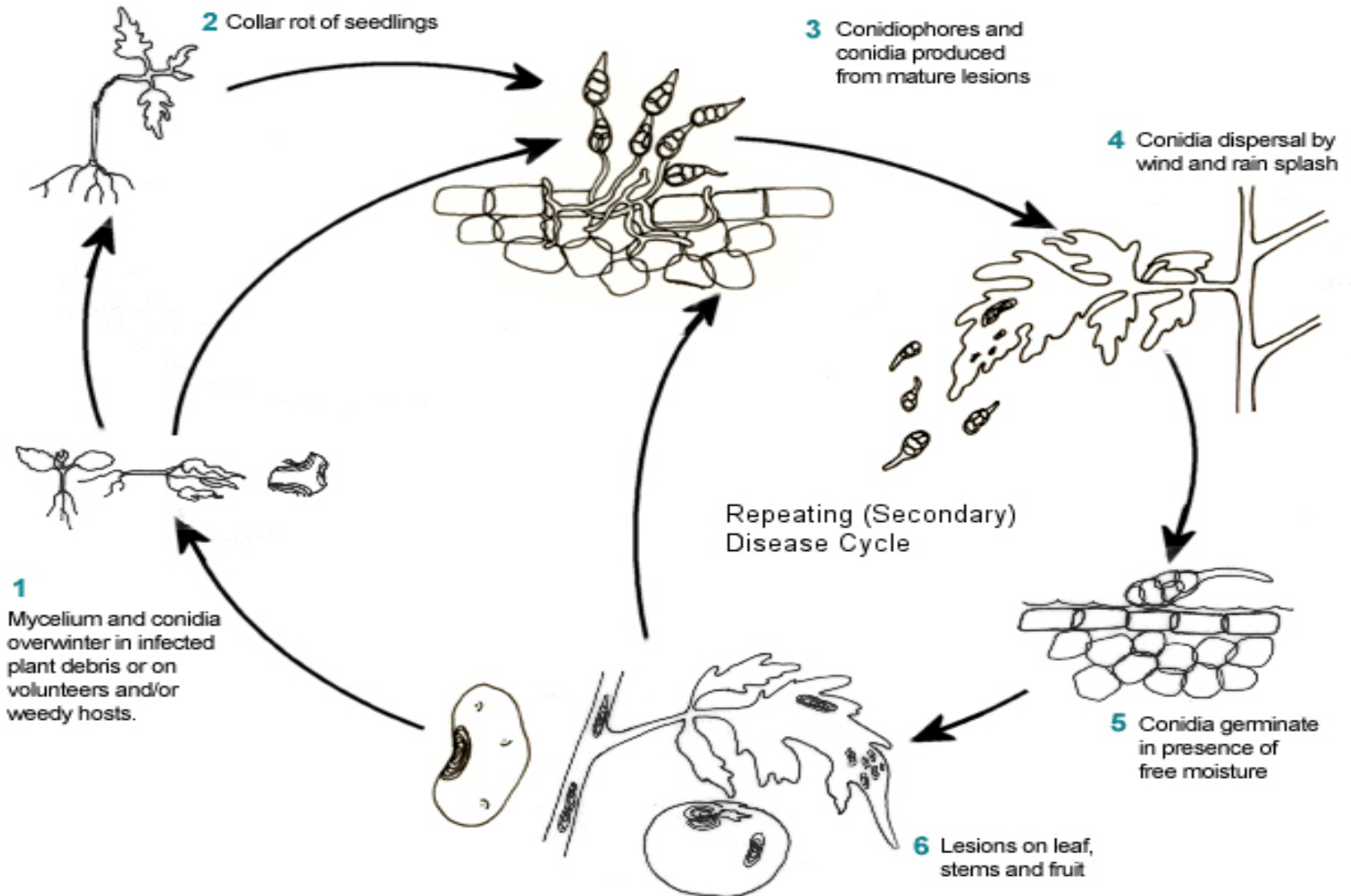
- The conidia are deciduous ie detached readily and dispersed by air currents and thus invade laboratories where they contaminate cultures. They are abundant in the house dust. The conidia germinate readily on suitable host, in the presence of moisture and suitable temperature by putting out a number of germ tubes(5-10). By which new mycelium will be formed.

Alternaria - symptoms on leaves & tubers 6



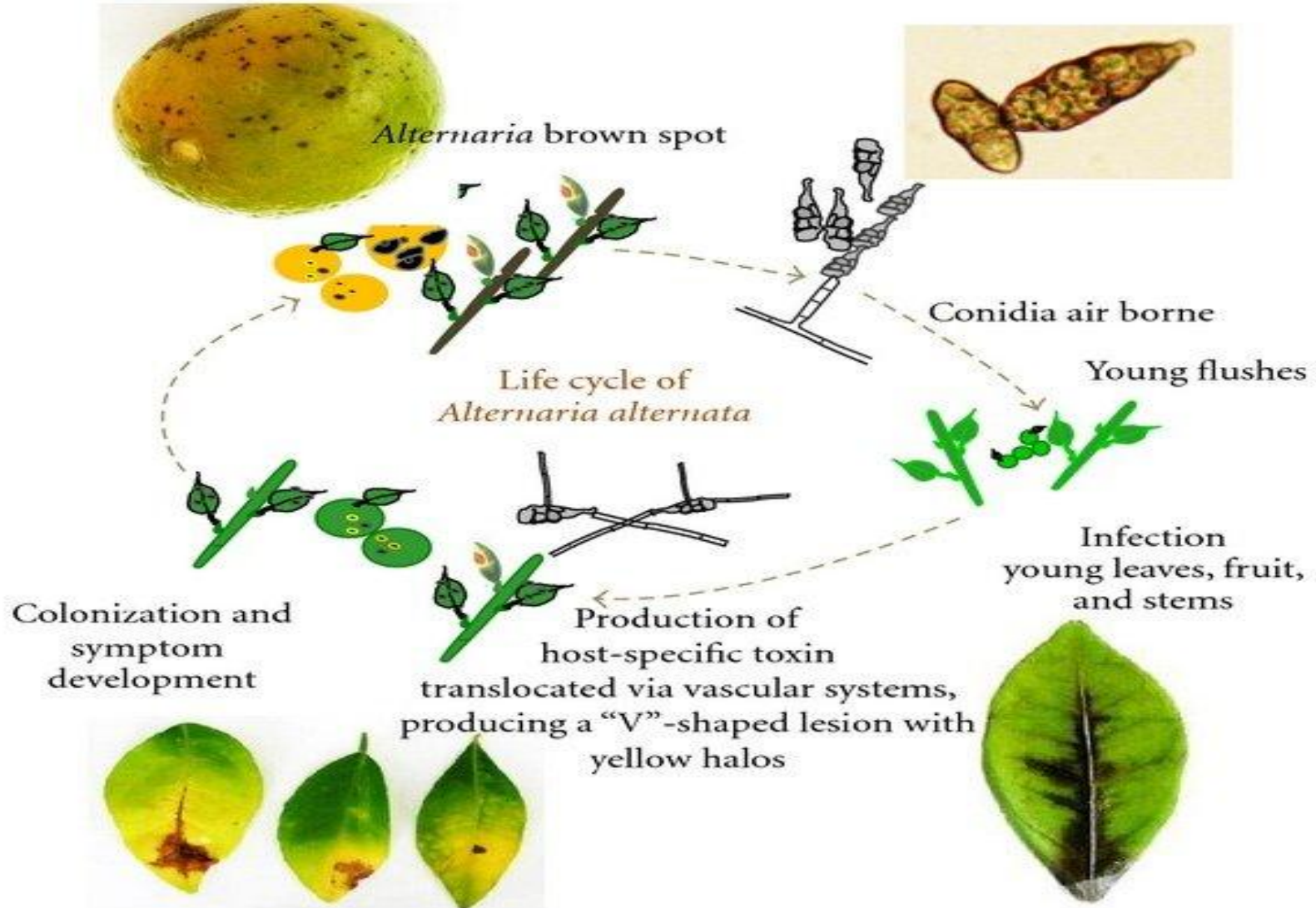
Alternaria- mycelium & conidia 7





Alternaria

9





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THANK

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