

## Bele (Abelmoschus) leaf blotch (322)

### Common Name

Leaf mould, leaf blotch

### Scientific Name

*Pseudocercospora abelmoschi*; previously *Cercospora abelmoschi*, *Oidium abelmoschi*.

### Distribution

Asia, Africa, North, South and Central America, the Caribbean, Oceania. Recorded from American Samoa, Australia, Fiji, Palau, Samoa, Solomon Islands, Tonga, and Vanuatu.

### Hosts

*Bele* (*aibika*, *sliperi kabis*, island cabbage), *Abelmoschus manihot*. Also recorded on okra (*Abelmoschus esculentus*).

### Symptoms & Life Cycle

Leaf spots are circular to irregular, often limited by the veins, brown with a blackish brown margin on the upper leaf surface (Photo 1), and pale brown mould on the underside (Photo 2). Often, spots do not develop, instead there are sooty, olive-brown to blackish-brown indistinct angular leaf blotches (Photo 3). Spores develop predominantly on the lower leaf surface; the patches with spores may join together so that fungal growth covers the whole leaf (Photo 2&4). Severely affected leaves may become chlorotic, rolled, wilted, and fall to the ground.

Spread is by spores blown in the wind. Survival is in crop debris.

### Impact

The disease is only of minor importance. It is mostly on older leaves and so it is likely that the impact on *bele* is minimal as it is the young leaves that are used as a greens. However, on okra the disease may have greater impact. It is said to be serious in Bangladesh where the use of fungicides is said to be needed to bring about control.

### Detection & inspection

Look for the pale brown spots with distinct margins on the older leaves on the upper surface (*bele*), or dark indistinct patches (okra). Look at the underside of the leaf to see blackish-brown fungal growth, sometimes covering the whole leaf.

### Management

#### CULTURAL CONTROL

Before planting:

- Do not plant new crops next to those that are infected: spores blowing from existing infected plants are a major source of infection.

During growth:

- Remove older infected leaves, and burn them, when harvesting young leaves (*bele*) or fruit (okra) for consumption.

After harvest:

- Collect and burn or bury as much of the crop as possible after final harvests.
- Do not plant crops of *bele* or okra one after another in the same land; use a rotation of at least 2 years, rotating with other types of vegetables.

#### CHEMICAL CONTROL

If blemish-free leaves are required, use copper fungicides or mancozeb.



Photo 1. Spots, round to irregular with wide dark margins, on the upper surface of bele caused by leaf mould, *Pseudocercospora abelmoschi*.



Photo 2. Under surface of *bele* leaf covered by sporulating infections of leaf mould, *Pseudocercospora abelmoschi*.



Photo 3. Upper surface of okra leaf showing dark patches of *Pseudocercospora abelmoschi*.



Photo 4. Leaf mould, *Pseudocercospora abelmoschi*. Patches joining together and forming spores on the underside of an okra leaf.

*When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval. Recommendations will vary with the crop and system of cultivation. Expert advice on the most appropriate pesticides to use should always be sought from local agricultural authorities.*

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Information from *Pseudocercospora abelmoschi*. Editor Bob Macfarlane. Ecoport: ([http://ecoport.org/ep?Fungus=23085&entityType=FU\\*\\*\\*&entityDisplayCategory=full](http://ecoport.org/ep?Fungus=23085&entityType=FU***&entityDisplayCategory=full)); and from (including Photos 1,2&4) McKenzie E (2013) *Pseudocercospora abelmoschi*. PaDIL - (<http://www.padil.gov.au>).

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