



## PENYAKIT ANTRAKNOS

Patogen penyebab: *Colletotrichum* sp.

Tanaman: Lada

### Tanda-tanda penyakit:

Kesan buruk pada buah (tanda berpusar) dan buah akan gugur.

### Cara merebak:

- Air Hujan.
- Angin.
- Sisa-sisa tanaman yang berpenyakit.

### Kawalan:

- Amalkan tanaman bergilir dengan jenis tanaman yang lain.
- Buang dan bakar daun, buah dan ranting yang terkena kesan serangan.
- Gunakan biji benih yang bebas/tahan penyakit.
- Sembur dengan racun penyakit sebaik-baiknya 4 minggu selepas berbunga bagi mencegah serangan penyakit pada tanaman lada.

### Racun-racun yang disyorkan:

Azoxystrobin (Amistar), Azoxystrobin + Difenconazole (Amistartop), Carbendazim (Bandazim, Halex Carbendazim), Chlorothalonil (Daconil, Rovaltac), Mancozeb (Dithane M-45, Disan 45, MZ-45), Maneb (BM Maneb, Trineb), Propineb (Antracol, Catalyst), Zineb (Zinacol), Captan (Captan), Prochloraz manganese chloride (Octave), Difenconazole (Score, Barb), Tebuconazole (Folicur), Trifloxystrobin (Flint), Iprodione (Rovral).



## ANTHRACNOSE DISEASE

Causal organism: *Colletotrichum* sp.

Crop: Chilli

### Symptoms:

Rotting of the fruits (concentric rings) and eventually fruits drop.

### Method of Spread:

- Rain splash.
- Wind.
- Infected plant residues.

### Control:

- Crop rotation with different plant groups.
- Dispose and burn infected leaves, fruits and twigs.
- Use disease-free/resistant seeds.
- Spray with recommended fungicides at least 4 weeks after flowering as a prevention method.

### Recommended Fungicides:

Azoxystrobin (Amistar), Azoxystrobin + Difenconazole (Amistartop), Carbendazim (Bandazim, Halex Carbendazim), Chlorothalonil (Daconil, Rovaltac), Mancozeb (Dithane M-45, Disan 45, MZ-45), Maneb (BM Maneb, Trineb), Propineb (Antracol, Catalyst), Zineb (Zinacol), Captan (Captan), Prochloraz manganese chloride (Octave), Difenconazole (Score, Barb), Tebuconazole (Folicur), Trifloxystrobin (Flint), Iprodione (Rovral).





## PENYAKIT LEPUH PUTIH

Patogen penyebab: *Albugo ipomoeae-panduratae* (Kangkong)  
*Albugo bliti* (Bayam)

Tanaman: Kangkong dan Bayam

### Tanda-tanda penyakit:

Bintil-bintil kecil berwarna kuning pada permukaan daun. Apabila patogen semakin membiak, bintil berwarna putih akan kelihatan pada bahagian bawah daun.

### Cara merebak:

- Air
- Angin

### Kawalan:

- Memantau kesan serangan pada peringkat awal tanaman, jika ada kesan serangan disyorkan dibuang dan bakar.
- Sembur tanaman dengan racun penyakit yang disyorkan pada peringkat awal.
- Petik hasil tanaman 19 – 21 hari selepas bertanam bagi mengelak kesan serangan yang teruk.
- Amalkan tanaman bergilir.

### Racun-racun yang disyorkan:

Azoxystrobin (Amistar), Chlorothalonil (Daconil, Rovaltac), Copper oxychloride (Cupravit, Copper Super, Coprantol, Pipertox), Mancozeb (Dithane M-45, Disan 45, MZ-45)





## WHITE BLISTER DISEASE

Causal Organism: *Albugo Ipomoeae-panduratae* (Water convolvulus)  
*Albugo bliti* (Spinach)

Crop: Water Convolvulus and Spinach

### Symptoms:

Yellow blisters on leaf surfaces that turns white as the pathogen matures which shows on the underside of the leaves.

### Method of Spread:

- Water.
- Wind.

### Control:

- Early stage monitoring, once symptoms are detected dispose and burn infected leaves.
- Spray with recommended fungicides at early stage.
- Harvest crops 19 – 21 days after transplanting to avoid higher levels of infection.
- Crop rotation.

### Recommended Fungicides:

Azoxystrobin (Amistar), Chlorothalonil (Daconil, Rovaltac), Copper oxychloride (Cupravit, Copper Super, Coprantol, Pipertox), Mancozeb (Dithane M-45, Disan 45, MZ-45)





## PENYAKIT BURUK/REPUT DAUN

Patogen penyebab: *Rhizoctonia solani*

Tanaman: Jenis Brassica seperti Sawi

### Tanda-tanda penyakit:

Kesan buruk pada daun.

### Cara merebak:

- Air Hujan.
- Peralatan ladang dan sistem pengairan yang membawa tanah yang telah dicemari.
- Sisa-sisa tanaman yang berpenyakit.

### Kawalan:

- Buang dan bakar daun-daun yang terkena kesan serangan.
- Buang dan bakar pohon-pohon yang sudah teruk terkena serangan.
- Amalkan tanaman bergilir.
- Sembur dengan racun penyakit yang disyorkan pada peringkat awal sebaik-baiknya sebelum adanya kesan serangan.

### Racun-racun yang disyorkan:

Azoxystrobin (Amistar), Benomyl (Benex, CH Benomyl), Carbendazim (Bandazim, Halex Carbendazim), Chlorothalonil (Daconil, Rovaltac), Mancozeb (Disan 45, Dithane M-45, MZ-45), Maneb (Trineb, BM Maneb), Propineb (Antracol, Catalyst), Zineb (Zinacol), Captan (Captan), Pencycuron (Monceren, Beacon), Iprodione (Rovral), Trifloxystrobin (Flint).



## LEAF ROT DISEASE

Causal Organism: *Rhizoctonia solani*

Crop: *Brassica* sp.

### Symptoms:

Rotting symptom on leaves.

### Method of Spread:

- Rain splash.
- Water system and farming tools that carry along infected soil.
- Infected crop residues.

### Control:

- Dispose and burn infected leaves.
- Dispose and burn badly infected plants.
- Practice crop rotation.
- Spray with recommended fungicides before symptoms appear.

### Recommended Fungicides:

Azoxystrobin (Amistar), Benomyl (Benex, CH Benomyl), Carbendazim (Bandazim, Halex Carbendazim), Chlorothalonil (Daconil, Rovaltac), Mancozeb (Disan 45, Dithane M-45, MZ-45), Maneb (Trineb, BM Maneb), Propineb (Antracol, Catalyst), Zineb (Zinacol), Captan (Captan), Pencycuron (Monceren, Beacon), Iprodione (Rovral), Trifloxystrobin (Flint).





## PENYAKIT KULAPUK DAUN

Patogen penyebab: *Pseudocercospora fuligena*

Tanaman: Tomato

### Tanda-tanda penyakit:

Bintik berwarna kuning pucat pada permukaan atas daun dan berdebu kehitaman pada permukaan bawah daun.

### Cara merebak:

- Angin.
- Sisa-sisa tanaman yang berpenyakit.

### Kawalan:

- Pangkas, buang dan bakar daun-daun yang terkena kesan serangan.
- Amalkan tanaman bergilir.
- Jika tahap serangan teruk, sembur seluruh pokok dengan racun penyakit bagi tanaman yang belum berbuah atau berbuah pada peringkat awal.

### Racun-racun yang disyorkan:

Benomyl ( CH Benomyl, Benex), Chlorothalonil (Daconil, Rovaltac), Mancozeb (Disan 45, Dithane M-45, MZ-45), Maneb (BM Maneb, Trineb), Propineb (Antracol, Catalyst), Trifloxystrobin (Flint).



## LEAF MOLD DISEASE

Causal Organism: *Pseudocercospora fuligena*

Crop: Tomato

### Symptoms:

Pale yellow lesions or spots on the upper leaf surface. The lesions or spots on the lower leaf surface have fungal growth that turns from grey to black.

### Method of Spread:

- Wind.
- Infected plant residues.

### Control:

- Dispose and burn infected leaves.
- Practice crop rotation with different plant groups.
- If the infection is severe, spray the whole plant (before fruiting and during early fruiting stage) with the recommended fungicide.

### Recommended Fungicides:

Benomyl ( CH Benomyl, Benex), Chlorothalonil (Daconil, Rovaltac), Mancozeb (Disan 45, Dithane M-45, MZ-45), Maneb (BM Maneb, Trineb), Propineb (Antracol, Catalyst), Trifloxystrobin (Flint).







## PENYAKIT MILDEW KEKAPAS

Patogen penyebab: *Pseudoperonospora cubensis*

Tanaman: Tanaman jenis Cucurbit seperti timun, labu, batat dan peria

### Tanda-tanda penyakit:

- Tompok-tompok berwarna hijau pucat akan kelihatan pada permukaan daun.
- Warna hijau pucat akan bertukar menjadi bintik-bintik kuning bersegi-segi diantara urat-urat daun.
- Bintik-bintik bersegi atau bulat berwarna kelabu atau perang.
- Jika serangan bertambah teruk, penyakit ini boleh mengakibatkan keseluruhan daun menjadi kering, bergulung atau mati.
- Pada permulaan serang, tanda penyakit akan kelihatan pada daun-daun tua, kemudian akan merebak ke daun-daun muda sehingga sebahagian besar pohon dijangkiti.

### Cara merebak:

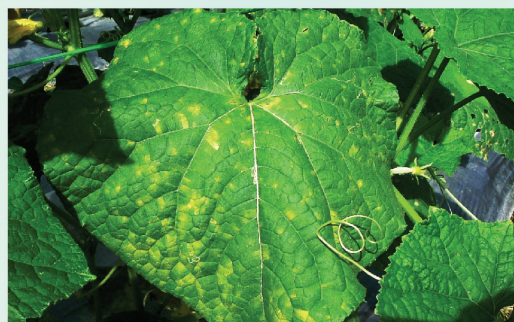
- Spora yang ditiup angin.
- Tanah dan sisa-sisa tanaman yang pernah dijangkiti.
- Pengumpulan air dari hujan, embun, kabus dan pengairan pancutan.

### Kawalan:

- Amalkan jarak tanaman yang sesuai untuk menggalakkan pengudaraan.
- Pangkas daun-daun di bahagian bawah yang dijangkiti bagi mengurangkan tahap jangkitan.
- Buang dan bakar sisa-sisa tanaman selepas menuai bagi mengelakkan sebaran penyakit.
- Amalkan pergiliran tanaman dengan menanam tanaman jenis lain, seperti kacang panjang atau jagung manis.
- Pengairan pancutan mestilah dielakkan kerana ini akan menggalakkan pembiakan penyakit.

### Racun-racun yang disyorkan:

Azoxystrobin (Amistar), Azoxystrobin + Difenconazole (Amistartop), Benomyl (Benex, CH Benomyl), Carbendazim (Bandazim, Halex Carbendazim), Chlorothalonil (Daconil, Rovaltac), Mancozeb (Dithane M-45, Disan 45, MZ-45), Maneb (BM Maneb, Trineb), Propineb (Antracol, Catalyst), Zineb (Zinacol), Captan (Captan), Propamocarb hydrochloride (Previcur-N), Copper hydroxide (Blue Pro, Commande, Kocide), Copper oxychloride (Cupravit, Copper Super, Coprantol, Pipertox), Tribasic copper sulphate (Cuproxtat), Trifloxystrobin (Flint).



## DOWNY MILDEW DISEASE

Causal Organism: *Pseudoperonospora cubensis*

Crop: Cucurbit crops, such as cucumber, pumpkin, honeydew melon and bitter gourd

### Symptoms:

- Appearance of pale green areas on upper surface of leaves.
- Pale green areas change to yellow spots which remain angular bounded by veins.
- Grey to brown angular or circular spots.
- Spots turn grey, dry and papery as it becomes severe.
- Heavy infection causes the whole leaves to dry up and curl followed by death.
- Symptoms will first appear on lower leaves, then progressively appear on younger leaves until most leaves are affected

### Method of Spread:

- Spores blown by the wind.
- Soil dan residues from previously-infected plants.
- Accumulation of water via rain, dew, fog and sprinkler irrigation.

### Control:

- Wide spacing between plants to allow free air movement.
- Pruning of infected bottom leaves to reduce the level of infection.
- Remove and destroy all crop residues after harvest to prevent carry-over of the fungal pathogen from infested residues.
- Rotate cucurbits with other crops such as long bean or sweet corn.
- Overhead or sprinkler irrigation should be avoided as this will encourage the development of disease.

### Recommended Fungicides:

Azoxystrobin (Amistar), Azoxystrobin + Difenconazole (Amistartop), Benomyl (Benex, CH Benomyl), Carbendazim (Bandazim, Halex Carbendazim), Chlorothalonil (Daconil, Rovaltac), Mancozeb (Dithane M-45, Disan 45, MZ-45), Maneb (BM Maneb, Trineb), Propineb (Antracol, Catalyst), Zineb (Zinacol), Captan (Captan), Propamocarb hydrochloride (Previcur-N), Copper hydroxide (Blue Pro, Commande, Kocide), Copper oxychloride (Cupravit, Copper Super, Coprantol, Pipertox), Tribasic copper sulphate (Cuproxtat), Trifloxystrobin (Flint).

