

1. Reduce the occurrence of disease
 2. Less harmful to the environment
 3. Environmentally friendly
- and affordable

Management programme:

Benefits of an Integrated Disease

- Practising crop rotation
- Using Neem oil and other horticultural oils to create a chemical barrier between plant surfaces and potential pathogens
- Removing infected plant parts promptly and disposing of them properly in sealed bags away from the garden

This includes:

Avoiding the introduction of diseases into an area

Avoidance Methods

- Methods that can be incorporated into an Integrated Disease Management programme:

About Community In Bloom

Community In Bloom (CIB) is a programme that was launched by the National Parks Board (NParks) in 2005. It aims to nurture a gardening culture among Singaporeans by encouraging and facilitating community gardening efforts. It is also an opportunity to build community bonds and strengthen social resilience.



nparksbuzz
Share your love for nature with us at
#nparksbuzz

For more information, visit our website at www.nparks.gov.sg/cib or email us at CommunityInBloom@nparks.gov.sg

For more information on plants in Singapore, visit NParks Flora & Fauna Web at florafaunaweb.nparks.gov.sg

Know 10 Common Diseases of Edible Plants

This brochure features

10 common plant diseases found in community gardens.

Plant diseases are mostly caused by the following agents: fungi, bacteria and viruses.

We hope that this brochure will encourage you to practise Integrated Disease Management to prevent plant diseases in the garden and promote better plant health.

Bacterial Wilt



Bacterial wilt is caused by a soil bacterium that is spread through root wounds and infected soil.

Vulnerable Plants

Fruiting vegetables such as brinjal, chilli, cucumber, melon and tomato

Symptoms

The leaves start wilting first, followed by the rest of the plant. Affected stems and roots will show bacterial ooze when cut.

Preventive and Control Measures

Use clean and bacteria-free seeds, or bacterial-resistant varieties of seeds. Ensure your cutting tools are well sterilised, particularly after handling unknown or infected plants.

Symptoms

Leaves turn black and begin to rot. Root collars and roots will also rot and collapse.

Preventive and Control Measures

Provide well-drained soil and prevent waterlogging. Remove and dispose of diseased plant parts immediately in a sealed bag or a bin away from the garden to prevent further spread.



Collar Rot

Collar rot is caused by a soil fungus that is spread through infected underground plant parts and infected soil.

Vulnerable Plants

Most leafy and fruiting vegetables

Symptoms

Leaves turn black and begin to rot. Root collars and roots will also rot and collapse.

Preventive and Control Measures

Provide well-drained soil and prevent waterlogging. Remove and dispose of diseased plant parts immediately in a sealed bag or a bin away from the garden to prevent further spread.

Damping-off



Damping-off is a fungal disease primarily caused by waterlogged soil, affecting seeds and new seedlings. Overcrowded seedlings are also vulnerable.

Vulnerable Plants

Most leafy vegetables and fruiting vegetables such as brinjal, chili, melon and tomato

Symptoms

Seedlings typically die in patches, with their root collars rotting and collapsing. Seeds will also have poor and uneven germination rates.

Preventive and Control Measures

Provide well-drained soil and prevent waterlogging. Ensure seeds are planted with adequate space to prevent overcrowding during germination.

Downy Mildew



Downy mildew is an airborne fungus that develops in warm and wet environments. It is typically spread through water and leaf-to-leaf contact.

Vulnerable Plants

Fruiting vegetables such as spinach, cucumber and pumpkin, and leafy vegetables such as spinach

Symptoms

Patches of yellow discolouration can be seen on the upper side of the leaves, with whitish grey fungal growth on the underside of the leaves.

Preventive and Control Measures

Avoid watering the plants directly on the leaves. Regularly prune your plants to improve air circulation. Remove and dispose of diseased plant parts immediately in a sealed bag or a bin away from the garden to prevent further spread.

Fusarium Wilt



Fusarium Wilt is caused by a fungus that is spread through root wounds and infected soil. It typically develops during hot weather.

Vulnerable Plants

Most leafy vegetables

Symptoms

Lower leaves and then younger leaves will turn yellow, and the plant may wilt. The plant's stems will also discolour.

Preventive and Control Measures

Perform crop rotation with non-Brassica plants such as bayam, kang kong and lettuce. Loosen the soil before planting the next cycle of crops to aerate the soil. Remove and dispose of diseased plant parts immediately in a sealed bag or a bin away from the garden to prevent further spread.

Leaf Spots



Leaf spots are caused by airborne fungi that are spread through air and infected seeds.

Vulnerable Plants

Most leafy and fruiting vegetables

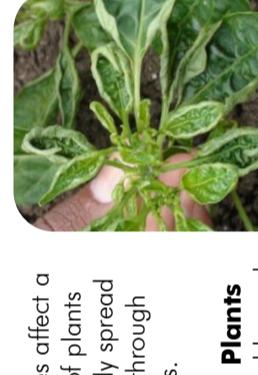
Symptoms

Brown or reddish-purple spots with dark margins can be seen on the leaves.

Preventive and Control Measures

Remove and dispose of diseased plants immediately in a sealed bag or a bin away from the garden to prevent further spread. Plant seeds or seedlings with adequate spacing to minimise contact between leaves.

Mosaic Viruses



Mosaic viruses affect a wide variety of plants and are mostly spread by insects or through infected seeds.

Vulnerable Plants

Fruiting vegetables such as beans, cucumber, papaya and tomato

Symptoms

Green or yellow patches will appear on curling leaves. Flowers, fruits, leaves and stems will also distort, with the plant exhibiting stunted growth.

Preventive and Control Measures

Before planting, ensure that the seeds are disease-free by obtaining them from reputable sources. Remove and dispose of diseased plants immediately in a sealed bag or a bin away from the garden to prevent further spread.

Powdery Mildew



Powdery mildew is caused by a fungus that develops in humid and overcrowded conditions.

Vulnerable Plants

Fruiting vegetables such as bitter gourd, cucumber and pumpkin

Symptoms

Powdery white spots will develop on the upper surface of the leaves. Leaves may also curl and break.

Preventive and Control Measures

Avoid watering the plants directly on the leaves. Remove and dispose of diseased plant parts immediately in a sealed bag or a bin away from the garden to prevent further spread.

White Rust



White rust is caused by a fungus that favours cool and moist environments, and can be spread via wind, water or insects.

Vulnerable Plants

Leafy vegetables such as bayam, Chinese cabbage, kang kong and sweet potato

Symptoms

Yellow discolouration and lesions will form on the upper side of the leaves. White or cream-coloured rust spots with raised centres will be visible on the underside of the leaves.

Preventive and Control Measures

Avoid watering the plants directly on the leaves. Remove and dispose of diseased plant parts immediately in a sealed bag or a bin away from the garden to prevent further spread.