

# MAKE LUV NOT DISEASE

PAMPER YOUR PLANT BABIES  
WITHOUT SOILING THEM ROTTEN

Just like humans, plants can contract diseases that hinder their normal growth and development. Diseases are spread through fungi, bacteria or viruses and must have specific environmental conditions in order to flourish. If left untreated, a diseased plant will eventually perish.

The best way to keep your leafy babies disease-free is to give them the optimal environment and care - keeping them healthy, strong, and more resilient. Plants stressed out from drought, waterlogged soil, overly moist air, and extreme temperature fluctuations are much more susceptible to disease. You'll also want to stay vigilant when doing your regular, frequent check-ins with your green offspring - inspecting the leaves, stems and soil in *dirty* detail for any signs of disease.

## The dirty truth about plant diseases

Fungi are the culprit of most plant diseases, as they thrive in overly wet conditions and are easily spread through wind, splashing water (*rain, irrigation, misting*), insects and poor *plantending* practices. Plants that are sick with a fungal disease will often show signs of stress on their leaves, with leaf spot, white powdery mildew, gray mold and rust being the most common.

Bacteria love warm and humid environments and can easily spread through splashing water (*rain, irrigation, misting*), insects and poor *plantending* practices. Bacteria prevent the plant from taking up water and nutrients - causing it to wilt, droop and decline. Leaf spot, cankers, soft rot and galls are the most common symptoms of a bacterial disease.

Unlike fungi and bacteria, viruses cannot spread via wind or water and must physically enter the plant via an open wound. Houseplant pests (*cough cough: aphids, whitefly*) are the most common offenders, transmitting viruses to healthy plants after they've fed on infected plants. Viruses can also be spread through infected seeds, propagations, and poor *plantending* practices. A plant that is sick with a virus is often stunted and misshapen, with crinkled, rolled, swollen or puckered leaves that are either yellow or speckled with mosaic patches of yellow, pale green, and white. Unfortunately, there is no cure for a plant virus. Prevention is critical, as any viral babies will need to be disposed of in order to keep your healthy kiddos safe.

## Grow through what you go through

If you spot any plants that are sick with a disease, take action immediately, isolating them from your healthy ones. Dig in to identify the specific disease in order to determine the optimal treatment. Prune off and destroy any infected plant parts. Treat the remaining plant parts with the appropriate pesticide (*we LUV fungicide*), following the instructions, dosage rates and safety precautions carefully. Since most fungicides are designed to protect against future outbreaks, if you're battling an active outbreak, make sure to choose a systemic fungicide that will be effective against an active disease.

## The antibody to fungal funks, bacterial blues and virus-spreading villains

To protect your green offspring from *fungal funks, bacterial blues* and being attacked by *virus-spreading villains*, provide optimal environments and care conditions, implement a proactive pest prevention ritual and always practice safe and sanitary *plantending pursuits*:

- Avoid getting water directly on a plant's leaves
- Provide good air circulation
- Use the appropriate type of fresh, high quality, pasteurized, well-draining soil
- Monitor the pH level of the soil regularly to keep it in the appropriate range for that specific plant
- Keep soil free of weeds and plant debris
- Use the appropriate type and application of high quality fertilizer
  - Inappropriate applications can cause toxicities and deficiencies that make plants much more susceptible
- Disinfect pots and tools with rubbing alcohol or 10% household bleach
- Remove and destroy infected plant parts
- Always use tools when pruning
  - Ripping / tearing off leaves by hand often creates open wounds where bacteria, fungi and viruses can easily enter
- Avoid plant injuries that can cause open wounds
  - e.g. tying stems too tight to support poles, positioning plants in precarious places where they are likely to get bruised or knocked over
- Only propagate plants that are healthy and disease-free

## PLANT PATHOLOGY: KNOWLEDGE IS POWER (AND LUV)

Our mission is to set you up for wild success so that you hopefully (*fronds crossed*) never have to deal with a disease dilemma. But, just in case you find yourself faced with a disease distressed kiddo, here's the quick and dirty down low on the most common diseases and how to treat them.

### ANTHRACNOSE

**Disease bio:** A fungal disease that typically causes dark lesions on the leaves

**Favorite host plants:** Palms, Ficus

**Most likely to attack:** Warm and very moist conditions found in greenhouses

**Stress signals:** Sunken black spots on foliage. Dark brown streaks may be visible at the leaf tips. In severe cases, sunken lesions and cankers may be visible on stems and twigs.

**Treatment:** Remove and destroy any infected plant parts. Spray plant thoroughly with a systemic fungicide and repeat as necessary. Keep the soil on the dry side for several weeks. Avoid water splashing directly on the leaves. Improve air circulation.

### BOTRYTIS BLIGHT (GRAY MOLD)

**Disease bio:** A fungal disease that affects leaves, stems, crowns, flowers, buds, and any other plant parts except the roots

**Favorite host plants:** Begonia, Saint Paula 'African Violets'

**Most likely to attack:** Cool, humid, overcrowded, poorly-ventilated conditions

**Stress signals:** Fluffy / fuzzy gray mold visible on leaves, stems, buds and flowers. Flowers are stunted with irregular flecks and brown spots and rot quickly. Soft, brown spots that appear water-soaked are visible on leaves, stems and flowers. Infected plant parts become dark and soft before wilting and dying.

**Treatment:** Remove and destroy any infected plant parts. Remove moldy compost and replace with fresh, pasteurized, well-draining soil. Spray plant thoroughly with a systemic fungicide and repeat as necessary. Reduce watering frequency. Avoid water splashing directly on the leaves, buds or flowers. Improve air circulation. Avoid fertilizing with excessive amounts of nitrogen, which can cause an excess of tender growth that is extremely susceptible. Keep soil free of weeds and plant debris.

### CROWN & STEM ROT

**Disease bio:** A soil-borne fungal disease that spreads rapidly, attacking the stems and crowns

**Favorite host plants:** Flowering plants

**Most likely to attack:** Overly wet conditions with poor drainage, highly compacted soils, and poor air circulation

**Stress signals:** Soft, rotten stems and plant tissues at the crown of the plant. Leaves turn yellow, collapse and die. Discolored, water-soaked stem lesions near the soil line. Coarse, cottony webbing visible over the stem base and surrounding soil.

**Treatment:** This fungus is a rapid spreader and vicious killer. If caught early enough, you can attempt to save your baby by removing and destroying any infected plant parts, replacing the infected soil with fresh, pasteurized, well-draining soil, and spraying the plant thoroughly with a systemic fungicide. You'll also want to avoid over-watering and improve air circulation. If the rot is past the point of no return, we recommend safely disposing of the plant, the pot and the compost.

### LEAF SPOT

**Disease bio:** A fungal or bacterial disease that affects the leaves

**Favorite host plants:** Dracaena, Dieffenbachia

**Most likely to attack:** Overly wet, humid conditions

**Stress signals:** Brown, tan or black spots with concentric rings or dark margins. Overtime, the spots may combine or enlarge to form blotches. Leaves may yellow and drop prematurely.

**Treatment:** Remove and destroy any infected plant parts. If the infection is severe, spray the plant thoroughly with a systemic fungicide and repeat as necessary. Keep the soil on the dry side for several weeks. Avoid water splashing directly on the leaves. Improve air circulation.

### ODEMA (CORKY SCAB)

**Disease bio:** A physiological disorder that occurs when roots take up water faster than it can be used by the plant or transpired through the leaves. Water pressure builds up in the internal cells of the leaves, causing them to burst and leave behind dead cells that have a blister-like appearance.

**Favorite host plants:** Begonia, Ficus, Jade, Peperomia, Schefflera and any plants being kept in low light with waterlogged soil

**Most likely to attack:** Cool, cloudy, winter months when the soil is warm and moist and the air is cool and moist

**Stress signals:** Hard, corky growths or scabs on the underside of leaves. Leaves may yellow, droop and fall off, causing the plant to become spindly. In severe cases, blisters will form on the petals, petioles and stems.

**Treatment:** Prune off badly affected leaves as they will not recover. Move the plant to a brighter spot. Reduce watering frequency. Decrease humidity. Improve air circulation.

### POWDERY MILDEW

**Disease bio:** A widespread fungal disease that affects the leaves and is easily recognized. Luckily, unlike Botrytis, powdery mildew is not fatal. It will, however, disfigure the plant and spread to the stems and flowers if left untreated.

**Favorite host plants:** Any plant is susceptible but most are resistant or tolerant

**Most likely to attack:** Damp, shaded areas with poor air circulation

**Stress signals:** Leaves spotted or coated with a white to gray powdery deposit. Leaves may yellow, then brown and die. Infested plant parts may be distorted and misshapen.

**Treatment:** Remove and destroy any infected plant parts. Spray plant thoroughly with a systemic fungicide and repeat as necessary. Improve air circulation. Avoid fertilizing with excessive amounts of nitrogen, which can cause an excess of tender growth that is extremely susceptible.

### ROOT ROT

**Disease bio:** A fungal disease that attacks the roots, causing them to decay and often resulting in plant death if not caught early enough

**Favorite host plants:** Begonia, Cacti, Palms, Succulents, Saintpaula 'African Violets'

**Most likely to attack:** Hot, moist, wet conditions with poorly draining, waterlogged soil

**Stress signals:** Yellowing and wilting of the leaves which is rapidly followed by brown and collapse

**Treatment:** You can only save your plant if you've spotted the trouble in time and there are enough firm, healthy roots left. Success is not guaranteed, but following these steps will give you the best chance of reviving your green offspring:

- Take the plant out of its pot and remove all of the compost.
  - At Leafy Luv, we like to use the *'spirit fingers'* method to gently remove the soil and avoid / minimize root damage and breakage
- Cut off all the brown, mushy roots with a sharp sterilized knife
- Apply a hydrogen peroxide solution (2/3 water, 1/3 hydrogen peroxide) to the remaining healthy roots in order to kill off any bacteria
- Prune off any stems or leaves showing rot
- Remove some healthy top growth to balance the loss of roots
- Re-pot in a sterilized pot with fresh, high quality, pasteurized, well-draining soil
- Put the plant in a reasonably well-lit spot but protected from direct sunlight
- Do not water again until fresh growth appears and be careful to avoid over-watering in the future

### RUST

**Disease bio:** A fungal disease that affects the leaves, stems, and flowers. While this unsightly fungus isn't usually fatal, it can spread quickly, reducing growth and vigor and, in extreme cases, become terminal if not treated.

**Favorite host plants:** Flowering plants

**Most likely to attack:** Mid to late summer and autumn

**Stress signals:** Concentric rings of spores or pustules on the underside of leaves that are usually rust-colored and appear almost as freckles scattered across the foliage. In severe cases, pustules form on stems, petioles and flowers. Leaves turn yellow and fall prematurely. Plant growth is stunted and, in extreme cases, the plant can die.

**Treatment:** Remove and destroy any infected plant parts. Spray plant thoroughly with a systemic fungicide and repeat as necessary. Improve air circulation. Avoid fertilizing with excessive amounts of nitrogen, which can cause an excess of tender growth that is extremely susceptible.

### SOOTY MOLD

**Disease bio:** A fungal disease that grows on the sticky honeydew deposited by aphids, mealybug, soft scale, and whitefly. While this unsightly fungus doesn't directly harm the plant, it will reduce growth and vigor by blocking the leaf pores and shading the leaf surface from sunlight.

**Favorite host plants:** Plants under attack by aphids, mealybug, soft scale, or whitefly

**Most likely to attack:** Sooty covered in sticky honeydew

**Stress signals:** Black, powdery, threadlike growth that resembles a layer of soot on top of honeydew deposits left behind by plant-sucking pests. Stunted growth. Premature leaf drop of severely coated leaves.

**Treatment:** Remove sooty mold with a damp cloth. Rinse leaves with clean warm water. Spray plant thoroughly with a plant-safe insecticidal soap or oil and repeat as necessary. To minimize future outbreaks, implement a proactive pest prevention ritual.

### VIRUS

**Disease bio:** An infection that was brought in by an insect and sadly has no cure

**Favorite host plants:** Any plant that is under attack by a pest

**Most likely to attack:** Plants stressed out from a pest infestation

**Stress signals:** Severely stunted and misshapen growth. Distorted stems. Crinkled, rolled, swollen or puckered leaves that are either yellow or speckled with mosaic patches of yellow, pale green, and white.

**Treatment:** Safely destroy the infected plant. To minimize future outbreaks, implement a proactive pest prevention ritual.

