Pest Manual

1 - Pests and Plagues

When growing cannabis we try to give the plants the ideal conditions so they'll grow big and strong. But these same conditions are ideal for pests and disease to thrive. So plan ahead and be prepared for infestation,that way it might never happen :)

Among the most persistent problems you'll encounter are insects, diseases, fungi, viruses and bacteria. This manual discusses the most common and how to deal with them.

2 - Spider Mites

Spider mites are perhaps the most common in-door pest to infest grow operations. Out-door grows will tend to be affected more by leaf- eating insects like caterpillars and bud worms. Mites are tiny, white and vicious little insects. They can travel from grow room to grow room on clones, on people's clothes and even in your hair. Mites also commonly live on pets and are probably the most common infection of all in-door grows.

Mite:

Careful examination of leaf surfaces is usually the only way to detect mites. A strong magnifying glass is needed to see them. Look for yellow or white spots on both sides of the leaves. The spots radiate along leaf veins and are evenly spaced. In advanced stages of infestation, mites will produce white webbing that encapsulates parts of the plant.

3 - White Flies

White flies are usually easier to spot than mites because they fly around, especially when plants are shaken by the wind or the gardener. As the name suggest, these flies are pure white and about the size of a pencil lead. White flies drink plant juice and leave residue on plants that can cause fungus to grow.

White Fly:

4 - Fungi and Mould

Roots and leaves often support fungi and bacteria which is beneficial to growing. But they can also promote other forms of fungi and bacteria to grow which will damage the plants. The most common is botrytis, commonly known as grey mould. This fungus is particularly dangerous because it is hard to detect and will rot buds from the inside out. Gray mould thrives when humidity levels stay above 50 percent and in areas of low air circulation.

Downy mould is almost as common but tends to create less damage. It starts as faint whitish or yellowish spots on leaf tops, with corresponding bumps on the undersides. Leaves curl up and mutate as the mildew kills it slowly. Powdery mildew will appear as small bumps on the tops of leaves, soon the leaves will appear to be covered in a dusty grit. This grit can be mistaken for resin glands, so make sure to check under magnification.

Powdery mould:

5 - Viruses and Bacteria

Viruses affect plants as well as animals, and some viruses can be transmitted from human to plant, or from plant to human. The two most common cannabis viruses are "streak" and "mosaic". These both cause swirling white and yellow discolorations on leaves. The discoloration can look artistic but soon it will kill the plant.

Several different types of bacteria can affect cannabis plants. Most of them will manifest as "blight" diseases that cause spots on leaves, wilting, rotting, weak stems and rapid decay of harvest material.

Mosaic virus infection:

6 - Eliminating Insects

The first line of defense is always to guard your plants from outside invaders. Your grow areas should be cleaned thoroughly before any planting begins. You yourself need to be clean when working with the plants. Your hair, your skin and your clothes can all harbour infections. In-door growers have less problems with pests if they follow sensible precautions.

Air in-lets should be filtered to stop pests getting in. All plants should be examined regularly (even daily!) with a magnifying glass for any signs of distress. Remove all plant debris from your grow area, included cuttings and dropped leaves. Sterilize equipment before you use it and wear latex gloves to minimize risk of transfer.

Some insects like spider mites can be essentially impossible to remove once they've taken hold, unless you're willing to dismantle everything and clean your entire grow space. Beneficial predatory mites can be introduced early so that they stop spider mites from gaining a foot-hold. Spraying infected plants with organic soap- garlic-cinnamide sprays will kill the spider mites. The use of toxic pesticides on your plants at any stage is strongly discouraged, you will only end up consuming the pesticides later.

Parasitic wasps can prevent white flies from infecting your grow space. Sprays containing pyrethrum and organic gardening soap will kill most whiteflies, especially when they are airborne. Whenever using sprays, always spray the underside of the leaves as this is where parasites tend to live.

Fungus gnats thrive on over fertilized and over watered mediums. Diluted neem oil can be very effective in stopping fungus gnats but once they have started to lay eggs, they are effectively impossible to remove.

Out-door grows will suffer from bud worms and caterpillars. These are large enough that they can be dislodged by shaking your plants regularly. Again, preventative sprays containing organic soap, garlic and neem are available to discourage these insects from moving in.

It is always wise to remove any signs of mould as soon as they are detected. Mould will spread from one infected area to another so cut away any mould as soon as you spot it. It is usually better to try remove plant material than to spray with pesticides, especially during the flowering period when you will only end up consuming the pesticide.

7 - Dealing with Viruses and Bacteria

High humidity is an invitation to viruses and bacteria so make sure it is kept under control. The most common source of contamination is yourself so take care to follow strict hygiene routines. Wash your hands thoroughly before handling plants. Wear clean clothes if possible. And spray surface cleaner occasionally to kill any lingering bacteria and viruses.

Grow medium should be sterilized before use. You may want to invest in a pressure cooker for this, but a home stove will work if necessary. Viruses are impossible to kill once they have infected a plant. The best approach to preventative - keep the plants immune system strong with consistent and proper watering and feeding.

If viruses or bacteria takes hold it may be necessary to remove the affected plants immediately to minimize risk to the others. All infected material should be disposed off. Do not consume it under any circumstances as it can be very dangerous to humans. Any tools or materials that came into contact with the infect plant matter should be sterilized immediately afterward.