



# CBD Seed Labs

## INTEGRATED PEST MANAGEMENT

### Key Aspects:

- Scout fields daily for pest damage and outbreaks
- Identify pest or pathogen
- Treat immediately and accordingly, try to keep colonies small and contained
- Isolate or remove contaminated areas
- Be sure to remove all pests/pathogens before harvesting crop

### **CANNABIS APHIDS**



#### Description

- Small insect but still visible by eye, with piercing-sucking mouths
- Cream colored or light green
- Can be winged or non-winged

#### Damage

- Sucks out plant sap, leading to discolored foliage and suppressed growth
- Secreted sap results in sooty mold

#### Management

- Remove infestation carefully by hand and place in bucket (try not to spread to other plants)
- Colonies can be found on the undersides of leaves
- Look for glossy shine on top of leaves, this is their secreted sap and indicates an infestation
- Be on lookout for ants, as they are attracted to the sugary secretion



### **CATERPILLARS**

#### Description

- Green, brown, or red caterpillars with black lines on backside
- Are seasonal migrants, from June - August

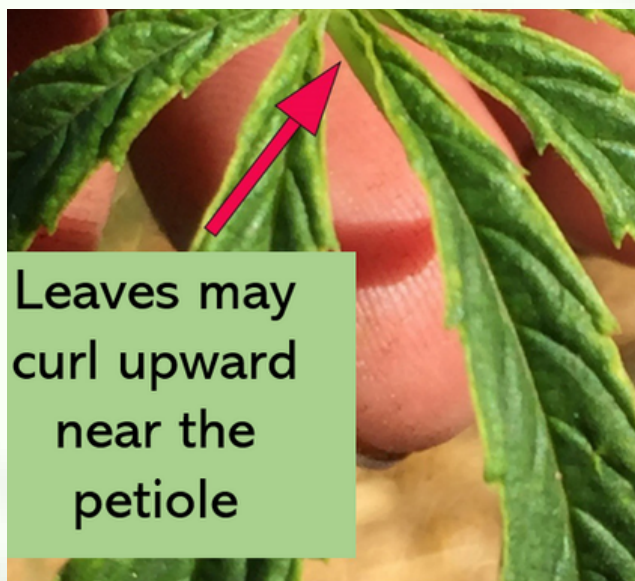
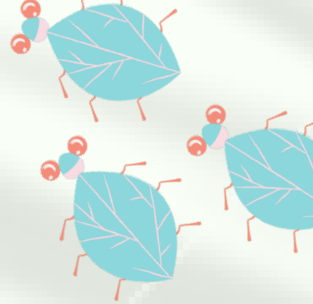
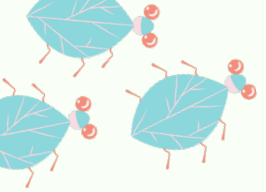
#### Damage

- Larvae are implanted deep within the flower
- Once hatched the earworm will feed on the bud and leave droppings
- These droppings will rot the bud and spread botrytis
- Botrytis will further damage your crop and create another problem

#### Management

- Remove rotted buds and try to locate the worm
- Trace droppings to source and eliminate the worm
- If infestation is mass spread, consider using an insecticide caterpillar killer
- Reapply as needed





Leaves may curl upward near the petiole



## MITES

### Description

- Hemp Russet Mites- tiny white elongated bodies, not visible without magnification
- Two-Spotted Spider Mites- slightly larger yellow-green oval bodies with spots

### Damage

- Hemp Russet Mites-
  - Causes leaves to curl, discolor, and become brittle
  - Can reduce flower size
- Two-Spotted Spider Mites-
  - Causes small white specs on leaves, giving a sandpaper appearance
  - Plants can become covered in webbing significantly compromising plant health

### Management

- Mites thrive during drought periods and can be spread easily with heavy winds
- Scout fields thoroughly if crop experiences such conditions
- Infestation usually occurs around field edges
- Remove affected area carefully by hand and place in bucket (try not to spread to other plants)
- Use a safe and organic mitcote (ex. Dr. Zymes) to spray on plants
- Repeat applications as needed until all living mites and its eggs are eliminated

## LEAFHOPPERS

### Description

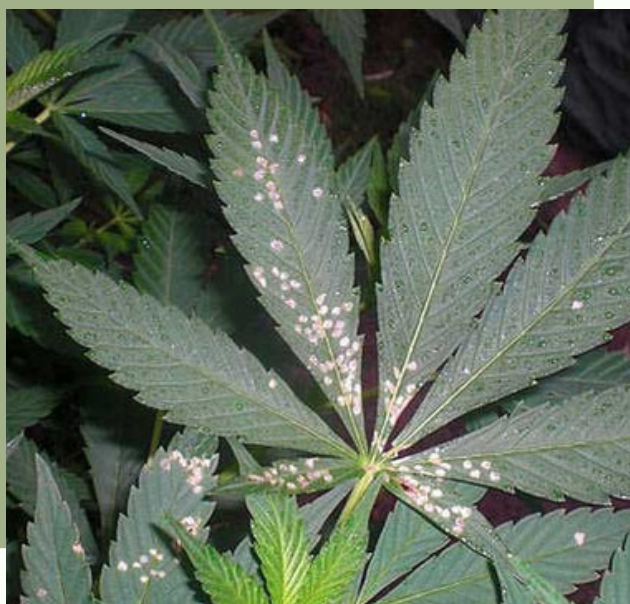
- Wedge like insects around 1/2in
- Can be various colors of green, brown, or gray to multi-colored
- Adults have wings and fly away when disturbed

### Damage

- Sucks out plant sap, leading to discolored foliage with yellow/white speckles
- Suppressed plant growth
- Injects toxic saliva into plant material
- Excretes honeydew which can attract ants and leads to fungal pathogens

### Management

- Catch and remove leafhoppers by hand if possible
- To eliminate larvae, consider using - insecticidal soap, pyrethrum spray, diatomaceous earth, and neem oil



# PATHOGENS

## STEM AND ROOT ROT

### Description

- Typically the lower part of the stem becomes necrotic and brown
- More common during early stages of growth cycle
- Caused by fungal pathogens- Fusarium spp, Pythium spp, and Botrytis
- Occurs during overwatering and non-draining soil

### Damage

- Plant is unhealthy and unable to grow

### Management

- Remove affected plant carefully and avoid spreading pathogens to surrounding plants
- Avoid overwatering, and maintain well draining soil



## BOTRYTIS (GRAY MOLD/ BUD ROT)

### Description

- Found in soil, dead plants, or injured tissue
- Occurs during high humidity and limited air flow

### Damage

- Bud and stem become necrotic and dies
- Spores can easily spread, affecting mass areas

### Management

- Cut out any bud rot and then spray with a fungicide
- Repeat applications as needed
- Spores will tend to pop up and continue spread
- Vigilantly scan crop and address immediately and effectively
- Increase airflow and avoid planting too close together



## POWDERY MILDEW

### Description

- White fungus on top of leaves
- Develops during high humidity and low air circulation

### Damage

- Reduces plant growth and bud quality

### Management

- Remove and destroy affected areas

