



THE
CLINIC™

INTEGRATED PEST
MANAGEMENT

6 PRINCIPLES OF IPM

- Acceptable Pest Level
- Preventative Cultural Practices
- Monitoring
- Mechanical controls
- Biological controls
- Responsible Use

ACCEPTABLE PEST LEVEL

- Goal is to control, not eradicate
- As a company, you need to decide what that level is for each type of pest and site
 - Fungus gnat
 - Limited flight, rarely seen higher than soil level
 - Is there a need to aggressively control?
 - Spider mite
 - Capability of much higher costly loss if population gets too high
 - More time/resources spent controlling population

PREVENTATIVE CULTURAL PRACTICES

- Several easy to implement cultural practices can yield great results
 - Quarantine new plants added to your system
 - Removal of infected plants or plant material
 - Clean/sanitize all cutting equipment, pots, plant conveyance systems
 - Restrict movement throughout facility based on pest populations
 - Work in infested areas last so you don't cross contaminate
 - Clean uniforms daily, as well as ensuring staff is coming to work clean.
 - May need to create rules for home growers

MONITORING

- Most important principle of IPM in my mind
- Inspection and Identification
- Inspection
 - Sticky cards (yellow: fungus gnats, shore flies and female fliers of root aphid; blue: thrips)
 - Scouting Maps
- Identification
 - Know your pest and it's lifecycle

MONITORING CON'T

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VEG
IPM SCOUTING

Door

MECHANICAL CONTROLS

- If pest level gets above identified threshold:
 - Hand removal
 - Water removal
 - Vacuum
 - Removal of entire plant

Biological Controls

- Natural Predators
 - Urban Gro
 - Currently using predatory mites with good success
- Biological insecticides
 - *Bacillus Thuringiensis*– fungus gnats
 - Entomopathogenic fungi – powdery mildew
 - Entomopathogenic nematodes

RESPONSIBLE USE

- CDA list for Pesticides Allowed for Use on Cannabis - <https://www.colorado.gov/pacific/agplants/pesticide-use-cannabis-production-information>
- Read the Labels!
- Use the right equipment for the job
- Do the research to tell you if the label rates and application directions (PHI) is valid for your process.

IN-HOUSE RESEARCH

- We work closely with our processing facility to coordinate new pesticide usage and application timing
- Looking to see if certain products, applied at certain times of the crop, affect final concentrate product
 - Azamax (Azadirachtin), labeled PHI up to and day of harvest – late application can affect color and consistency
 - Trilogy (Neem Oil) no labeled PHI– late application can affect flavor, color and consistency
 - Double Nickel (Bacillus Amyloliquefaciens Strain D747), labeled PHI up to and day of harvest – late application can affect color and consistency
 - Safer Garden Fungicide (Sulfur), labeled PHI noted as either up to and day of harvest (beans) but noted not to spray wine grapes within 21 days from harvest – late applications can severely affect taste and potentially damage processing equipment