

# HAWAII MEDICAL CANNABIS NEWSLETTER

## The Science

### Know Before You Grow, Part 4: Managing Pests, Deficiencies, and Diseases

Cannabis plants can attract pests, suffer nutrient deficiencies, and get diseases, all of which can harm their growth. Checking your plants regularly, keeping the area clean, and using natural pest control methods can help prevent these problems.

#### Common pests



Aphids

Cannabis aphids are the most common pests. Other pests include spider mites, thrips, mealy bugs, fungus gnats, leaf miners, and white flies. No matter where you grow, you may still face pests at some point. Use organic methods and a schedule that works for your environment to keep your cannabis plants healthy.



Spider mite

#### Outdoor pest management

Outdoor plants face more pests than indoor ones because they are exposed to nature. Soil with compost, organic matter, and worms can make plants stronger. Soil health is a fundamental pillar of ecological pest management. Healthier soils produce plants that are more resistant to pests.

- Grow companion plants like basil, sunflowers, lemon balm, and garlic to help keep pests away and attract helpful insects like ladybugs.
- Prevent pests early in the vegetative stage. Avoid spraying flower buds with pesticides, even organic ones. Residues left behind can be harmful when inhaled. If you do spray, it is crucial to wash your flower buds after harvesting.
- Regularly inspect plants, isolate new plants, and provide optimal growing conditions to help prevent pest issues before they become severe.
- Use natural pest control methods such as neem oil sprays, organic insecticidal soap, organic soil top dressings, and ladybugs, which eat pests.



#### Indoor pest management

Indoor growing gives you more control over the environment, but pests can still get to the plant via clothing, shoes, or tools.

- Keep the grow room or tent sealed and clean. Be mindful of potential pests that could be brought in on clothing or equipment.
- Check new plants and avoid adding new soil during grow cycles, as pests can hide in soil bags.
- Monitor plants regularly and act quickly if pests appear.
- Use natural pest control methods such as neem oil, insecticidal soap, sticky traps, and a clean grow area.



## Why doesn't my cannabis plant look healthy?

Your plant may appear unhealthy due to nutrient deficiency. Addressing it early can help restore the plant to full health.

What to do:

Check the pH levels, cannabis plants like slightly acidic soil or water.

- Soil pH should be between 6.0 and 6.8.
- Hydroponics pH should be between 5.5 and 6.5.
- Use a pH meter to test the water every 2 days, especially during the vegetative stage when plants need more nutrients.

Adjust the pH

- If the pH is too high or too low, adjust it with products like pH Up or pH Down.
- For living or "super" soil, you can use natural pH options like peat moss or kelp.
- Make changes slowly to avoid stressing your plant.

Retest often

- After adjusting, test the pH again to make sure it's just right.



Nitrogen deficiency (N), progression



Phosphorus deficiency (P), progression



Potassium deficiency (K), progression



Sulfur deficiency (S), progression



Magnesium deficiency (Mg), progression



Calcium deficiency (Ca), progression



Iron deficiency (Fe), progression



Manganese deficiency (Mn), progression



Zinc deficiency (Zn), progression

Deficiency	Symptoms	Common Causes
Nitrogen (N)	Yellowing leaves starting at the base and moving upward, slowed growth	Insufficient feeding during the vegetative phase
Phosphorus (P)	Dark green or purplish leaves, slow growth, weak stems, and delayed flowering	Low temperatures or incorrect pH
Potassium (K)	Brown or burnt leaf edges, weak stems, and reduced resistance to disease	Imbalanced nutrient levels or poor soil quality
Sulfur (S)	Yellowing of new growth and stunted growth	Rare but can occur in poorly aerated soil
Magnesium (Mg)	Yellowing between the veins on older leaves, sometimes accompanied by rusty spots	Nutrient lockout or imbalance
Calcium (Ca)	Spotting on leaves, curling edges, and weak stems	pH issues or imbalanced fertilizers
Iron (Fe)	Yellowing of new growth, while older leaves remain green	High pH or waterlogged soil
Manganese (Mn)	Yellowing and brown spots	Incorrect pH levels hindering nutrient uptake
Zinc (Zn)	Yellow or white streaks on leaves, stunted growth	High pH or over watering

## Why doesn't my cannabis plant look healthy? continued...

Cannabis plants, like any other crop, are susceptible to various diseases that can impact growth and yield. These diseases are often caused by fungi, bacteria, or viruses and thrive in suboptimal growing conditions.

Fungal Disease	Symptoms	Common Causes	Prevention
Powdery Mildew	White, powdery substance on leaves, stems, and flowers	High humidity, poor airflow, and overcrowded plants	Maintain proper air circulation, avoid overwatering, and monitor humidity
Botrytis (Bud rot)	Gray or brown mold inside dense buds, often causing them to break apart	High humidity and stagnant air, especially during flowering	Keep humidity low during flowering and ensure good air movement
Pythium (Root Rot)	Brown, mushy roots; yellowing leaves; stunted growth	Overwatering, poor drainage, and contaminated growing media	Use well-draining soil, avoid waterlogged conditions, and sanitize tools
Fusarium Wilt	Yellowing, wilting, and eventual death of the plant	Fungus in the soil that attacks the plant's vascular system	Rotate crops, sterilize soil, and avoid overwatering



Powdery Mildew



Bud Rot



Bacterial Leaf Spot

Bacterial Disease	Symptoms	Common Causes	Prevention
Bacterial Leaf Spot	Small, water-soaked spots on leaves that turn brown or black	High humidity and wet foliage	Avoid overhead watering and remove affected leaves promptly
Crown Gall	Tumor-like growths on stems and roots	Soil-borne bacteria entering through wounds from pruning, transplanting, or insects	Handle plants carefully to avoid injuries and use sterile tools



TMV

Viral Disease	Symptoms	Common Causes	Prevention
Tobacco Mosaic Virus (TMV)	Mottled, yellow, or twisted leaves with reduced growth	Infected seeds, tools, or plants	Use certified disease-free seeds and sanitize equipment

### Tips to prevent cannabis diseases

- Maintain cleanliness, and regularly sanitize tools, pots, and grow spaces.
- Optimize environmental conditions, and monitor temperature, humidity, and airflow to reduce disease risks.
- Inspect plants regularly. Early detection allows for quicker intervention.
- Practice crop rotation. Sterilize your soil or amend it with fresh nutrients to keep it healthy for future planting.
- Choose climatized cannabis strains, ones that are bred for your climate.

# Infusing with Medical Cannabis at Home: A Step-by-Step Guide

Infusion involves combining cannabis with a fat-based carrier like oil or butter to extract its therapeutic compounds, such as THC and CBD. You can make things like brownies, gummies, or even salad dressing, but it's important to understand a few basics. This guide will show you how to prepare your cannabis, make infused oil or butter, determine the potency of your cannabis, and figure out the right dose.

Here are two simple ways to infuse cannabis into oil or butter: using a crockpot or an infusion machine.

## Step 1: Decarboxylation

Decarboxylation means heating cannabis to activate its compounds. This important step converts inactive cannabinoid acids like THCA and CBDA into their active forms, THC and CBD.

- Heat the oven to 240°F.
- Break the flower into small pieces and spread it on a baking sheet with parchment paper.
- Put the sheet in the oven for 30-40 minutes. Stir it a few times so it heats evenly.
- Let the cannabis cool before using it. If you're not using it right away, keep it in a container with a lid.



## Step 2: Making Infused Oil or Butter

- Put 1 cup of oil or butter and 1 cup of cannabis into the crockpot.
- The type of oil used can affect the potency of cannabis infusion.
- Set the temperature on the low setting (about 160-200°F).
- Let it cook for 4-6 hours, stirring sometimes.
- Use a cheesecloth to strain out the plant bits.
- Store the oil or butter in a container in the fridge.



You can use an infusion machine, which provides a more accurate and automated process, making decarboxylation and infusion easier. These machines typically come with specific instructions that guide you through each step, ensuring consistent results. Follow the instructions for your particular machine to achieve the best results.



Infusion machines

## Determining dosage:

- If you are using home grown flower, determining the potency will involve testing. In Hawai'i patients have access to Spectra testing lab, which can provide a comprehensive and accurate potency result. Or you can order an at home cannabis potency test kit, which may provide a less accurate but cost effective option.
- If you bought your cannabis product at a dispensary, the product potency and amount will be available on the label. You will need this information to determine the dosing for your medicine.
- You can use an online cannabis edible calculator to generate the amount of THC in your infused medicine. This calculation helps you properly dose your medicine safely. It requires entering the potency information and the amount of cannabis used to make your medicine.
- If you are unable to determine the potency of your flower and do not know the exact dose of your homemade products, start with a low dose.

## Tips for safe edibles:

- If you're new to edibles or don't know your exact dose, try a small amount and wait 1-2 hours before having more.
- Label and safely store your edibles. Keep them where keiki, kupuna and pets can't reach them.
- Practice makes perfect. Keep trying different recipes and methods to find what works best for you.



## Getting ready for the 2025 Legislative Session

Visit Public Access Room's current Legislature [webpage](#) to see important dates in 2025 and committee members:

- 2025 Session Calendar
- 2025 House Leadership & Committee Membership
- 2025 Senate Leadership & Committee Membership
- The Legislative Directory: Room/Phone/Email list for the 33rd Legislature (2025-2026) and more!

Public Access Room will continue to add updated handouts to the current Legislature webpage as the information becomes available. <https://lrb.hawaii.gov/par/current-legislature/>

Handouts:

- Quickview [Guide](#) to remind you of all the various pieces of information available on the Measure Status Summary page from the Legislature's website.
- <https://lrb.hawaii.gov/par/wp-content/uploads/sites/2/2024/10/Bill-Summary-Page-handout-2024.pdf>
- [2024 One-pager](#) for Legislators. Have an idea you want to share with a Legislator? Think about creating a one-page document summarizing your idea as a leave behind.
- <https://lrb.hawaii.gov/par/wp-content/uploads/sites/2/2024/11/2024-One-pager-for-Legislators.pdf>

**Opening Day of the 2025 Legislative Session is Wednesday, January 15, 2025.**

Sourced from the Public Access Room

## What's new

### Cure Oahu has a new location!

70 Kihapai Street Kailua, HI 96734

808-208-8770

[info@cureoahu.com](mailto:info@cureoahu.com)    <https://cureoahu.com>

Find all other [dispensary locations](#) here:

<https://health.hawaii.gov/medicalcannabisregistry/dispensaries/>



**Happy Holidays!**

**Wishing you a healthy and prosperous 2025.**