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The Winter *Indoor* Grow Playbook

Dry furnace air, cold basements, and stubborn humidity — the six winter problems that wreck indoor runs, and exactly how to beat them.



Jeff Bugay, "Dr. Green"
175+ indoor runs · hgvtpro.com

START HERE

Your tent doesn't know it's January. *Your air does.*

Winter is the best season of the year to grow indoors. Bugs are slower, outdoor mold spores are dormant, and your lights double as a heater. But winter also brings a set of problems summer growers never see — and almost all of them come back to air: too dry, too cold, or swinging too hard between lights-on and lights-off.

This playbook is the short version of what I walk people through every winter. Six problems, six fixes, and a one-page checklist at the end you can tape to the side of your tent.

What's inside

1. Dry furnace air & VPD
2. Heating a cold-basement grow
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5. Watering & feeding in a cold room
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> **Jeff's rule for winter:** Put a digital thermometer/hygrometer *at canopy height* and another near the floor, and log them for three days before you change anything. Most winter problems are obvious once you see the numbers — and invisible until you do.

The tools that matter this season

- **Two hygrometers** (canopy and floor) — the cheapest insurance you'll ever buy.
- **A humidifier on a humidistat** — so it adds moisture only when needed.
- **A thermostat controller** (Inkbird-style) for any heater, heat mat, or reservoir heater.
- **Rigid foam board** to get pots and tents off a cold concrete floor.
- **A pH pen and PPM/EC meter** — cold changes how your plants drink.

Educational content only. Grow only where it's legal, and follow your state and local laws.

PROBLEM 1

Fixing dry furnace air *& VPD*

Forced-air heat and wood stoves can drop indoor humidity into the teens. Plants respond by closing their stomata to save water — and growth stalls even when everything else looks right.

Low humidity doesn't just slow growth. Dry air causes **calcium, magnesium, and boron uptake problems** that look exactly like a feeding issue — so growers add nutrients, burn their plants, and never fix the real cause. Before you change your feed in winter, check your humidity.

Stage	Humidity target	Notes
Clones & seedlings	65–75% RH	Use a dome or small tent; vent once a day
Vegetative	50–70% RH	Run a humidifier in veg — winter almost always needs one
Flower	40–50% RH	Lower than most guides suggest — New England mold pressure is real
Late flower (last 2–3 weeks)	40–45% RH	Dense colas + cold nights = bud rot risk

Reading VPD (vapor pressure deficit)

VPD combines temperature and humidity into one number that tells you how hard the air is "pulling" water from your leaves. Find your air temp and humidity below (leaf temp assumed 2°F under air, typical with LED):

Air temp	40% RH	45% RH	50% RH	55% RH	60% RH	65% RH	70% RH
68°F	1.25	1.13	1.01	0.90	0.78	0.66	0.55
70°F	1.34	1.21	1.09	0.96	0.84	0.71	0.59
72°F	1.43	1.30	1.16	1.03	0.90	0.76	0.63
74°F	1.53	1.39	1.25	1.10	0.96	0.82	0.67
76°F	1.64	1.49	1.33	1.18	1.03	0.87	0.72
78°F	1.75	1.59	1.43	1.26	1.10	0.94	0.77
80°F	1.88	1.70	1.53	1.35	1.18	1.00	0.83
82°F	2.00	1.82	1.63	1.44	1.26	1.07	0.88

Too wet (<0.6) Clones/seedlings (0.6–0.8) Veg (0.8–1.2) Flower (1.2–1.5) Too dry (>1.5)

Humidifier tip: Ultrasonic humidifiers fed with hard tap water leave white mineral dust on leaves and buds. Use distilled or RO water, or switch to an evaporative unit. Place it where the tent pulls its intake air — not blowing straight onto the canopy.

PROBLEM 2

Heating a *cold-basement* grow

Basements and garages are where most winter grows live — and where cold roots quietly cap your yield. The air at the canopy can read 76°F while the pots sitting on concrete are at 58°F.

Zone	Target	Why it matters
Air, lights on	75–82°F	Full photosynthesis and transpiration
Air, lights off	Within 10°F of lights-on	Bigger swings cause stress and condensation
Root zone	65°F minimum	Below this, phosphorus uptake slows
Hydro reservoir	65–68°F	Warm enough for growth, cool enough for oxygen

The fixes, cheapest first

- **Get off the floor.** 1–2" rigid foam board under the tent, or pots on stands. Concrete pulls heat out of roots all night.
- **Run lights at night.** Schedule lights-on for the coldest hours so your lights heat the room when it needs it most.
- **Pull warmer intake air.** Draw intake from a heated room instead of the basement floor.
- **Heat the roots, not the room.** Heat mats under clones and seedlings, and a reservoir heater for hydro — always on a thermostat controller.
- **Add a small heater last.** An oil-filled radiator on a thermostat is the safest option for lights-off.

> **Jeff's cold-room trick:** In a cold basement or garage, an HPS light's radiant heat can be a benefit, not a problem. A 600W HPS in a cold space can outperform a similar LED because it helps hold root-zone temperature. If you run LED in a cold room, plan on supplemental heat.

> **Safety first:** Keep heaters well clear of tent fabric, never daisy-chain power strips or extension cords, and put a smoke detector in your grow space. Heat plus humidity plus electricity deserves respect.

Watch for condensation

When lights go off in a cold room, warm humid air hits cold tent walls and turns to water. That's how powdery mildew and bud rot start. Keep the lights-off temperature drop under 10°F, and run a small dehumidifier on a humidistat during lights-off in flower.

PROBLEM 3

Light schedules that *save power*

Lights are the biggest line on your electric bill. In winter you can make that power work twice: once for the plants, once as heat.

Plant type	Stage	Schedule
Photoperiod	Vegetative	18 on / 6 off (most common)
Photoperiod	Flower	12 on / 12 off — uninterrupted darkness
Autoflower	Whole life	18/6 or 20/4 — not 24/0; plants need some darkness

Three ways to cut the bill

- **Flip your schedule to the night.** Lights on overnight heats the room when it's coldest. If your utility offers time-of-use rates, overnight power may also be cheaper — check your plan.
- **Dim in early veg.** Seedlings and young plants don't need full power. Most modern LEDs dim; run 40–60% until the canopy fills in.
- **Seal the space.** Reflective walls, a closed tent, and no light leaks mean every watt reaches a leaf.

Do the math on your own setup
Watts × hours per day × 30 ÷ 1,000 = kWh per month. Multiply by your rate.
Example: a 480W LED in flower: 480 × 12 × 30 ÷ 1,000 = 172.8 kWh. At $0.20/kWh, that's about $35 a month.

Light-leak warning: In flower, the 12-hour dark period must be completely dark. Never open the tent during lights-off, and check for leaks from zippers, vents, and status LEDs on equipment. Even brief light during the dark period can trigger re-vegging or hermaphrodites.

LED vs. HPS in winter

LEDs give more light per watt and run cooler — great in summer, and in a heated room. HPS turns more of its power into heat, which a cold basement can actually use. Neither is "right"; match the light to the room.

PROBLEM 4

Pest-proofing *before it starts*

Outdoor pests don't disappear in winter — they move inside. They ride in on clothes, pets, houseplants, and new clones, then explode in the warm, dry air of a winter tent.

Prevention protocol

- **Quarantine everything new** for 10–14 days in a separate space — clones, houseplants, all of it.
- **Never go from outdoor plants or a garden straight into your tent.** Grow room first, garden last — or change clothes.
- **Yellow sticky boards** at canopy and soil level. They're your early warning system.
- **Scout the undersides of leaves** with a loupe twice a week.
- **Keep the floor clean** — no dead leaves or standing water.

Jeff's whole arsenal — and it's a short list

🧴 **Green Cleaner** (Central Coast Garden Products)
The only spray Jeff recommends. Handles powdery mildew, spider mites, aphids, and other soft-bodied pests. Spray thoroughly — leaf undersides too.

🐞 **Live ladybugs**
The terminators of the garden. Release them for spider mites, aphids, and any slow-moving insect — they hunt around the clock and don't stop until the job's done.

🏖 **Beach or play sand + yellow boards** — for fungus gnats. Cover the soil completely with about 1" of sand. Adults can't lay eggs through it, and any larvae already underneath can't get out — but you can still water right through it. Hang yellow sticky boards to catch the adults that are left.

💧 **Hydrogen peroxide** — Jeff's "in a pinch" backup, and the plant dunk he uses at harvest to rinse off pests and spores before drying.

Jeff's bud rot super tip: When you find bud rot (botrytis), don't just cut it out — cutting and pulling shakes millions of spores onto the rest of the plant. Instead, give the infected spot a quick pass with a **butane torch** first. The flame kills the spores on contact, and *then* you remove the dead material without spreading the infection to healthy buds.

⚠️ Fire safety: move the plant out of the tent if you can, keep the flame away from tent fabric, reflective walls, and cords, use short passes only, and keep water or an extinguisher within reach.

The big three winter pests

🕷 **Spider mites** — pale white speckling on leaves, fine webbing. They thrive in hot, dry air — exactly what winter heating creates.
Fix: Release ladybugs, spray Green Cleaner, and raise humidity above 60% for a few days — mites hate it.

🪰 **Fungus gnats** — tiny black flies at the soil surface; larvae damage roots. Cold, slow-drying soil is their favorite home.
Fix: 1" sand layer over the soil, yellow sticky boards, and let the medium dry more between waterings.

🍂 **Powdery mildew** — white dusty coating on leaves. Loves condensation and stagnant air on cold nights.
Fix: Green Cleaner, more airflow, humidity under 50%, and remove heavily infected fan leaves.

How to release ladybugs the right way

- **Buy plenty** — 1,500+ live adults from a garden center or online supplier.
- **Release in the evening** with the lights off or dimmed. Ladybugs don't fly in the dark, so they settle in and start hunting instead of heading for the light.
- **Mist the plants lightly first** — they arrive thirsty.
- **Give them water** — a shallow dish or damp sponge keeps them around.
- **Keep the extras in the fridge** and release a second batch a week or two later.
- **Don't spray** right after release — let the terminators work.

Why Jeff loves them: Ladybugs and their larvae eat spider mites, aphids, and soft, slow-moving pests around the clock — no residue, no spray schedule, and they keep breeding while there's food. They're the closest thing to a self-running pest-control system in a grow.

What Jeff doesn't use: neem oil. He never uses it and never recommends it. Green Cleaner, ladybugs, sand, and peroxide cover everything a home grow runs into.

PROBLEM 5

Watering & feeding *in a cold room*

Cold roots drink slower and cold soil dries slower. Water on a summer schedule in January and you get soggy pots, gnats, and "deficiencies" that are really drowning roots.

- **Water by weight, not by calendar.** Lift the pot. Water when it's light, not because it's Tuesday.
- **Use room-temperature water (65–72°F).** Ice-cold well water straight from the tap shocks roots.
- **Let tap water sit 24 hours** to off-gas chlorine. (If your town uses chloramine, sitting won't remove it — use a carbon filter.)
- **Know your starting PPM.** Test your water source. Some New England water is naturally soft and low in calcium and magnesium.

pH first — always

Medium	pH range	Sweet spot
Soil	6.0–7.0	6.3–6.8
Coco coir	5.5–6.5	5.8–6.3
Hydro (DWC, RDWC, NFT)	5.5–6.5	5.8–6.2

> **Jeff's rule:** If plants are showing symptoms and you're giving good nutrients — it's the pH. Nine times out of ten. Fix pH before you do anything else.

📏 **Measure the pH that actually matters: the root zone.** The pH of the water going in is only half the story. Catch the runoff coming out the bottom of the pot and test it too. Compare runoff pH to input pH — that gap tells you what's really happening at the roots. If runoff is drifting low or high, adjust your input pH to pull the root zone back into range. *Root-zone pH is the most important pH number in your grow.*

Winter "deficiencies" that usually aren't

- **Purple stems in a cold room** are often slowed phosphorus uptake from cold roots. Warm the root zone to 65°F+ before you change your feed.
- **Brown spots on upper leaves** are classic calcium lockout — check pH and humidity, and use Cal-Mag in coco or with RO water.
- **Drooping with firm leaves** means overwatering, not underfeeding. Let it dry out.

PROBLEM 6

Drying & curing *in winter air*

In fall the danger is mold. In winter it flips: furnace-dry air can dry your harvest in three or four days — and a fast dry locks in a harsh, hay-like taste that never cures out.

Factor	Target
Temperature	60–70°F (cooler is better)
Humidity	50–60% RH — the most important number in the room
Light	Total darkness
Airflow	Gentle room circulation — never blowing directly on buds
Time	7–14 days. Small stems snap instead of bend when done.

Slowing down a too-fast winter dry

- **Dry in a closed tent** with a humidifier on a humidistat set to 55–60%.
- **Hang whole branches** instead of trimmed buds — the leaves slow moisture loss.
- **Dry trim instead of wet trim** this time of year; the sugar leaves protect terpenes during the dry.
- **Check twice a day.** Winter dries move fast — don't wait a week to look.

The cure

- Wide-mouth glass jars, filled about 75% full.
- 58–62% RH inside the jar — Jeff uses **Boveda 62** humidity packs to hold it there (coming to the HgvtPro shop).
- Burp once or twice a day for the first two weeks, then every few days.
- Two to four weeks minimum. Four to eight is premium. Patience pays.

> **Ammonia smell when you open a jar = trouble.** Spread the buds out immediately to re-dry before mold sets in.

TAPE THIS TO YOUR TENT

The winter *checklist*

Every day

- ☐ Read canopy and floor hygrometers
- ☐ Lights-off temp within 10°F of lights-on
- ☐ Humidity on target for the stage
- ☐ Quick look at new growth and leaf color

Every watering

- ☐ Lift the pot — water by weight
- ☐ Water at room temperature (65–72°F)
- ☐ Check pH and PPM going in — and pH of the runoff
- ☐ Hydro: reservoir at 65–68°F

Every week

- ☐ Scout leaf undersides with a loupe
- ☐ Check and replace sticky traps
- ☐ Clean humidifier and refill with distilled/RO
- ☐ Look for light leaks during lights-off

Before flower

- ☐ Humidity plan for 40–50% RH
- ☐ Dehumidifier on a humidistat for lights-off
- ☐ Green Cleaner on hand; ladybugs released if needed
- ☐ Dry space ready: dark, 60–70°F, 50–60% RH

New plants & clones

- ☐ Quarantine 10–14 days
- ☐ Inspect leaves and soil before they go in

Safety

- ☐ Heaters clear of fabric, on thermostats
- ☐ No daisy-chained cords; smoke detector in place

WHAT'S NEXT

Keep learning with *Dr. Green*

Jeff Bugay has run 175+ indoor cycles and 30+ outdoor seasons. A Navy electronics technician and former executive chef, he started growing his own clean, organic medicine in 2012 — and has been teaching growers ever since.

🌿 The terpene library

Eleven free deep dives on the compounds behind smell, taste, and effect — with real COA data.
hgvtpro.com/terpenes

🛒 The HgvtPro shop

RDWC systems and aeroponic cloners Jeff designs and builds, plus supplies he's grown with — launching this winter. You're on the list.

🌱 Need clones?

Frost Hollow Genetix, our clone nursery partner: live, vegetative, non-flowering, Farm Bill–compliant clones.
frosthollowgenetix.com

💬 Talk to Jeff

Residential and commercial grow help.
Call or text (802) 882-7077
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