

Nuc owner's guide

A practical walkthrough for people picking up a 5-frame nuc from Arcadia Bees.

This is short on purpose. New keepers don't need three hundred pages to get started; they need an honest checklist, a reasonable plan for the first month, and a clear pointer to where to go when something isn't covered here. The deeper material lives at **scientificbeekeeping.com** — go there when you're ready.

What's in the box

- 5 deep Langstroth frames
- ~3 frames of brood (eggs, larvae, capped)
- 1 frame of honey and pollen
- 1 frame of drawn comb with bees
- A laying queen — locally bred, open-mated, unmarked
- A waxed cardboard transport nuc box with yellow entrance plugs

No feeder, no extra frames, no equipment. Bring those.

Equipment to have ready before pickup

- ☐ Two deep brood boxes per hive (most keepers in this region run two for winter survival; we run single deeps and breed from the survivors, but two is the safer first-year default)
- ☐ Bottom board (solid or screened)
- ☐ Inner cover (we recommend a piece of canvas — see the next section for why)
- ☐ Telescoping (or migratory) outer cover
- ☐ Hive stand — a couple of cinder blocks works
- ☐ 5 frames with foundation (or foundationless) for the empty space in the deep
- ☐ Smoker, hive tool, suit/veil. *Our queens are selected for temperament — we rarely actually light a smoker. Have one anyway.*
- ☐ An entrance reducer for the first few weeks

If you're using new unfinished boxes, paint them and let them cure for two weeks before pickup so the bees aren't moving into wet primer.

Inner covers — we use fabric

A piece of heavy canvas (or similar coarse fabric), laid over the top frames before the outer cover goes on, works better than a standard wooden inner cover. We picked this up from the University of Guelph Honey Bee Research Centre (hbrc.ca) and have used it for years. Two reasons:

1. **It's a better inner cover, mechanically.** Canvas is cheap, light, peels off cleanly at inspection, doesn't get glued down with burr comb, and leaves you with nothing to scrape. The outer cover sits flat on top of it.
2. **The bees propolize it — and that turns out to matter.** Wild colonies in tree cavities coat their rough cavity walls with a continuous "propolis envelope." Research from Marla Spivak's lab at the University of Minnesota and others has shown that envelope produces real, measurable colony-health benefits — better social immunity, beneficial mouth-microbiome bacteria, lower disease load. Smooth wooden box interiors don't trigger this propolizing behavior. Rough surfaces, including fabric, do.

A standard wooden inner cover works fine. A canvas one is, in our experience, a real upgrade — and the bees do the upgrade work for you.

The drive home

Keep the nuc upright. Truck bed, strapped to a passenger seat, or in the bed of an SUV with the entrance facing the back are all fine. Don't tip it on its side. Don't leave it in a hot car at a gas station. The yellow plugs stay in until you get home.

Day of pickup — let them settle

A lot of online advice says to install the nuc into the deep the same day. We do it differently, and recommend you do too. Bees that have just been moved are stressed; opening their box and rearranging frames on top of that is more disruption than they need on day one.

1. Have the deep set up on its hive stand at its permanent spot before you leave to pick up.
2. When you get home, set the cardboard nuc on top of (or right next to) the deep — within a foot of where the front of the deep will be.
3. Pull the yellow entrance plugs and walk away. Don't open the cardboard top, don't peek inside, don't move it again.
4. Leave them alone for one to two days. Foragers will use that time to orient to the new location.

Transfer — day one or two

Pick a calm afternoon, suit up, and light a smoker.

1. Open the deep. Pull out 5 of the 10 empty frames so there's space for the nuc frames.
2. Open the cardboard top. Lift each frame out in order — keeping their order — and set them in the deep in the same order. Keep the queen-side frames near the center. Move slowly: the queen is on one of these frames, and rolling her between frames is the most common way new keepers kill her.
3. Put your 5 empty frames back in around them.
4. Inner cover, outer cover, entrance reducer to its smallest setting. Done.

Don't dig through to find the queen during transfer. She's there. After transfer, leave them alone for another 3–5 days.

Feeding

A new nuc going into a deep with five empty frames has a lot of comb to draw. If you want the colony to build that comb fast and grow into a strong hive by fall, feed them. Standard recipe is 1 part white sugar to 1 part water by volume — give them as much as they'll take. Top feeders, frame feeders, and entrance feeders all work; we don't include one with the nuc.

One rule: **don't feed once honey supers are on**, unless you like funny honey. Sugar syrup gets stored right alongside actual nectar, and you can't legally call that honey. Pull the feeder before you super, and leave it off until the supers come back down.

The first week

- Watch the entrance for orientation flights and pollen coming in. Both are good signs.
- At day 5–7, do your first inspection. Confirm **eggs** on at least two frames — that means the queen has been laying within the last 3 days. That's all you need.
- If you don't see eggs but see capped brood, fine — check again in a week.
- If you see neither eggs nor a queen and no signs of laying for two weeks, call us.

Mite management

Every colony in North America has varroa mites. Left alone, mites and the viruses they spread will kill a colony within a season or two — they're the single biggest reason first-year hives die. Plan on managing them from day one.

What we use: oxalic acid only. Our current product is Varroxxsan, an EPA-registered extended-release oxalic acid strip. No Apivar, amitraz, formic, or thymol. Randy Oliver and his team ran a multi-year series of field trials on extended-release oxalic acid, and the approach has held up: it can bring mite loads down over several weeks without harming brood or the queen.

Check before you treat. The Varroxxsan label says to treat when mites reach a level that threatens the colony, and tells you how to find out: an alcohol wash of about 300 nurse bees, with treatment once the infestation reaches 1–2%. Under federal law the label *is* the instructions — using a product any other way isn't legal.

An alcohol wash takes about five minutes:

1. Find a frame of open brood and make sure the queen isn't on it. Shake the bees into a tub and scoop about half a cup — roughly 300 bees.
2. Pour them into a jar with enough rubbing alcohol to cover them. Lid on, swirl for a minute.
3. Pour through a mesh screen and count the mites that come through.
4. Divide the count by 3 to get a percentage: 3 mites in 300 bees is 1%.

Wash in spring, again mid-summer, and again in late summer. The late-summer check matters most — the bees raised in August and September are the ones that have to live through winter. Randy Oliver's mite wash article covers technique in more depth.

Using the strips: follow the label. The number of strips depends on how many frames of bees you have, they hang in the brood area, and they come out after 42 to 56 days. Honey supers can stay on, but the label requires at least one box between the strips and any honey you plan to extract.

Bring questions to pickup — we're happy to talk through mite management for your first season.

Winter prep — insulate the top

Of all the things a first-year keeper in this region can get wrong, this is the one that gets colonies killed. Inland Northwest winters don't kill bees with cold — they kill bees with **dripping condensation**.

Here's the failure mode: a wooden hive lid has roughly the R-value of a single-pane window. The cluster generates heat and water vapor; that vapor rises, hits the cold inner cover, and condenses on the ceiling. Cold water then drips back down onto the cluster. A wet cluster in January is a dead cluster.

The fix is cheap and simple. Lay a two-inch (or thicker) sheet of EPS foam right on top of the outer cover — not under it, not between the inner and outer covers, just on top of the whole stack. The sheet can be bigger than the hive footprint; that's a feature. The overhang sheds rain and snow away from the box, so the foam acts as an umbrella that also insulates. Weight it down with a rock or a brick. That's the whole setup.

The physics: the foam moves the dewpoint away from the ceiling above the cluster. Water vapor either condenses on the warmer side walls (where it drains harmlessly down) or leaves through the entrance as vapor. The cluster stays dry, and the heat it generates stays inside the box.

We don't wrap the walls. A standard wooden hive body has roughly the insulation value of a thin tree-cavity wall, which is what bees evolved to overwinter in. The flat wooden roof is the part that doesn't match nature — so the roof is the part to fix.

Randy Oliver's analysis of winter hive design (Understanding Colony Buildup and Decline, Part 13c, on scientificbeekeeping.com) walks through the underlying physics if you want the deep version. The short version: top insulation is the difference between a soaking-wet hive in January and a thriving cluster in March. **Don't skip it.**

Other first-year mistakes we see in this region

1. **Running out of room.** An overwintered nuc with a young queen builds fast. Add the second deep when about 7 of the 10 frames are covered in bees — before it feels crowded. Through May and June, check the bottom bars for queen cells. A swarm leaves with about half your bees and your laying queen.
2. **Forgetting about bears.** This is black bear country — we've had one ten feet from our house. Bears come for the brood and can flatten a hive in a night. A solar electric fence, up before the bees arrive, costs less than one lost colony.
3. **Inspecting too often, too cold, too long.** If it's under 60°F or windy, leave them alone. Inspections take 5–10 minutes once you know what you're looking for.
4. **Going into winter light.** Heft the back of the hive in early October. If it lifts easily, they're short on stores — feed 2:1 syrup while the days are still warm enough for them to take it.
5. **Opening the hive in winter to check on them.** Breaking the seal in January costs the colony more than it tells you. Put an ear to the side of the box and listen for the hum, or watch for cleansing flights on warm days.
6. **Buying spring packages instead of overwintered nucs.** Self-serving advice, but it's also true: package bees from a Mediterranean climate tend to underperform locally adapted nucs in their first season.

If something looks wrong

Email us. We'd rather answer a question in May than visit a deadout in November. Photos help.

Arcadia Bees · Deer Park, WA · arcadiabees.com

Locally bred. Overwintered in the Inland Northwest. No synthetic miticides.

Questions about your nuc — before, during, or after pickup — reach us at hello@arcadiabees.com.