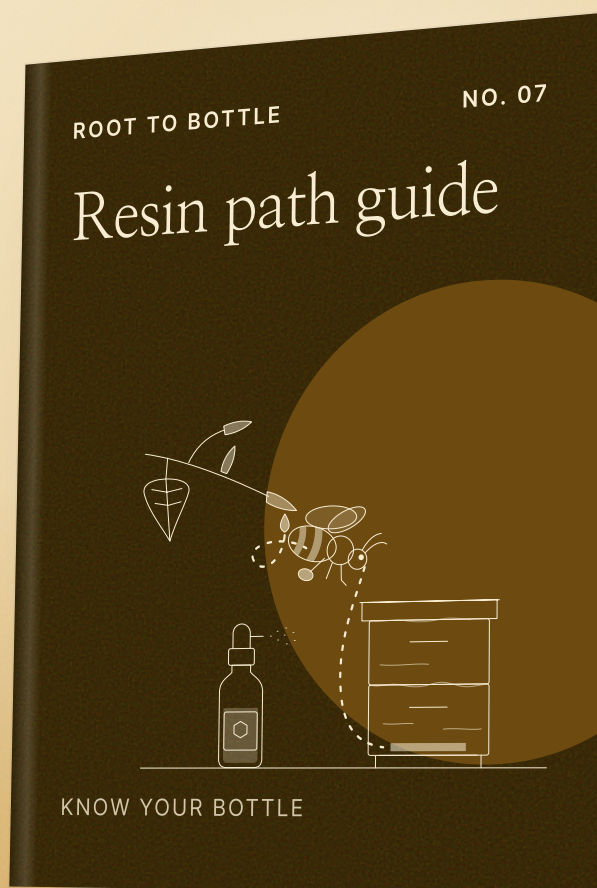




REMEDY GUIDE · HERBS

Pick a propolis spray when every hive differs

Many shoppers compare propolis sprays by flavor or flavonoid number alone. This guide traces the resin from poplar and birch stands through harvest and extraction, so you can judge origin, solvent and lab paperwork with steadier eyes.



Seasonal harvest

One hive gives 50 to 100 grams a season, and strength shifts.



Extraction base

Grain alcohol draws more resin than glycerin and stores longer.



Test meaning

Phenolic totals describe chemistry, not human outcomes.

By Kathryn Foster · Updated Aug 11, 2026 · 9 min read

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A frequent mistake is treating every propolis spray as interchangeable and shopping by strength claims on the front. That resin in the bottle might reflect poplar buds gathered one summer and birch another, collected from frames or from traps, then steeped in grain alcohol or in glycerin. When those stages become visible, choosing becomes calmer because every label detail has a context.

01

Begin with place and season behind the resin

Propolis and honey shift with botanical species, time of year, climate, surrounding environment and inherited traits. The bee species plus geographic and plant origin drive differences in propolis, so two honestly produced jars from separate districts may differ in appearance and scent. Across central and eastern Europe including Poland, black poplar or birch supply most propolis, and source shapes both hue and chemical makeup.

Royal jelly observes a separate timetable within the colony. Glandular activity in the hypopharyngeal glands of worker bees reaches its height between day 6 and day 12 following emergence, and production of royal jelly rests on pollen consumption for gland growth. Staff scientist Emily O’Neil at The Best Bees Company frames the field sign directly: You can often tell if a colony holds enough pollen or bee bread by looking closely at the larvae in a hive. If the larvae are floating in pools of royal jelly, it shows there is enough pollen for nurse bees to eat to make royal jelly.

Broad regional figures supply background without settling quality. Taiwan lists around 160,000 colonies and royal jelly production as one illustration of how much managed apiculture can stand behind familiar goods. For a household buyer, the practical action stays narrower. Inquire about apiary locations, the forage plants visited by the bees, and the season tied to the lot. A maker that identifies growers, sites and harvest dates offers something traceable.

02

How harvesters gather the resin

Typically, 50 to 100 grams of propolis may be taken per hive per season. Output differs among hives, since some colonies deposit little while others cement sections so firmly the box resists opening. Such range is ordinary and useful to recall when one bottling tastes bolder or appears darker than another.

Two collection approaches prevail. Scraping removes propolis directly from frames and boxes using a hive tool. It works quickly and calls for no added gear, yet scraping propolis from painted wood or treated colonies risks carrying paint and varroa treatment chemicals into the substance. Flakes of paint and residues from mite controls may accompany the scrapings into the container.

A propolis trap follows another route. The tool is a queen excluder like sheet with smaller holes, sold for around \$10, set above the top box with the outer cover wedged open to let in light. Workers dislike the brightness and air movement through the tiny openings and close them with resin. Loaded traps are cooled in a fridge or freezer to firm the propolis, then collected by flexing, scraping or tapping while still in a bag. Chilling turns the resin fragile, so it breaks away instead of smearing.

FROM THE EDITORS

Collecting by hand costs less and calls for no added tools, while propolis traps limit contact with paint and hive surfaces. Either route can yield sound material when tools are clean and mite treatments are recorded, so ask how the lot was collected and what surrounded it.

03

Cleaning the harvest gently

Newly gathered propolis holds wax, wood fragments, bee parts and dust. Cleaning involves hardened propolis divided into small pieces, stirred in cold water where propolis sinks and dirt floats for skimming, then dried cool on parchment out of direct sun. Low temperature matters because warm water softens the resin and holds debris instead of freeing it. Careful drying safeguards scent and keeps the fragments free flowing.

Washed propolis rests in the fridge or freezer until use. Chilled storage slows shifts in aroma and texture during the interval before extraction. Modest apiaries commonly hold cleaned batches in marked bags showing harvest site and date, which later forms the lot identity on a certificate of analysis.

Warmth demands attention at each subsequent phase. Oil propolis preparations are warmed gently and kept under 122 degrees F, and wax propolis creams under 130 degrees F, since heat lessens helpful properties. The same restraint governs drying and melting around honey mixtures. A producer who records temperatures and drying terms demonstrates process control rather than habit alone.

04

Grain alcohol compared with glycerin

Ethanol and glycerin draw separate portions from identical resin. Alcohol tinctures employ 40 to 70 percent ethanol, extract alkaloids, resins, glycosides, terpenes and essential oils, with 60 to 70 percent ethanol needed for resinous material. Ethanol pulls a wider range of compounds than glycerin, and weaker ethanol gathers more water soluble compounds while stronger ethanol gathers oil soluble resins, essential oils and some alkaloids.

A household scale formula illustrates the proportion reasoning applied at larger volume. A 10 percent tincture uses 1 part propolis by weight to 9 parts grain alcohol of 75 proof or higher, like vodka or Everclear, and rubbing alcohol must never be used. The jar is kept dark and shaken 2 to 3 times per day for up to 3 weeks, then strained and kept dark. Agitation keeps fresh solvent touching the resin, and dark storage curbs light exposure during the soak.

The glycerin route without alcohol

Glycerites employ 55 to 70 percent vegetable glycerin and capture about 60 to 70 percent of active compounds versus alcohol baseline, so 1 mL tincture roughly equals 2 to 3 mL glycerite. Finished glycerin extracts must stay at least 55 percent glycerin for sound preservation. That limit clarifies why glycerin percentage on the label deserves review rather than presuming any sweet extract will keep.

Keeping time tracks the solvent. Alcohol tinctures keep 3 to 5 years, glycerites keep 14 to 24 months, and vinegar oxymels keep 6 to 12 months. A briefer date on a glycerin spray does not signal weak craftsmanship. It reflects keeping chemistry, storage and how often it is opened.

FEATURE	ALCOHOL EXTRACT	GLYCERIN EXTRACT
Solvent range	40 to 70 percent ethanol, with 60 to 70 percent for resinous types	55 to 70 percent vegetable glycerin, with minimum 55 percent to preserve
What it captures	Wider spectrum with resins, essential oils and some oil soluble parts	Tighter spectrum, around 60 to 70 percent of actives compared with alcohol
Dose comparison	Reference point at 1 mL tincture	About 2 to 3 mL glycerite for comparable material input
Shelf life unopened	3 to 5 years kept dark	14 to 24 months kept cool and dark

05

What flavonoid numbers show and miss

Producers frequently cite total phenolics or flavonoids. Folin Ciocalteu and aluminum chloride assays estimate total phenolic and flavonoid content, while DPPH and ABTS measure radical scavenging, but they give overall rather than compound specific insight. Simply put, they gauge families of compounds and bench activity, not the precise blend inside the bottle.

Honey enrichment work reveals why specificity counts. Tracing the batch back to hive and forest shows honey enriched with propolis extract gained polyphenols including flavonoids and phenolic acids, with chrysin, pinocembrin, p coumaric acid and ferulic acid reaching the highest levels. Enrichment lifted lab tested antioxidant, antiradical and reducing activity as propolis addition rose, but it harmed color, smell, texture and taste. Such bench findings portray chemistry in glassware, not outcomes in people.

Spectrophotometric total phenolic and flavonoid tests and DPPH and ABTS give overall estimates only, and require LC MS for compound detail. Liquid chromatography linked with mass spectrometry can divide and identify single compounds, which aids comparison of lots between seasons. Major royal jelly protein 1 and 10-hydroxy-2-decenoic acid are the most abundant protein and fatty acid in royal jelly and serve as critical quality markers, a reminder that bee goods commonly require their own indicator rather than one common figure.

Propolis makeup is highly variable by plant, geography, bee species and processing, which limits direct comparison across studies. Clinical evidence for medicinal uses is described as limited, so tinctures should not take the place of professional treatment. As Dr. Ryszard Maleszka of the Australian National University notes, “With our current knowledge we only

scratch the surface of biological systems, and honey bee biology is no exception." A flavonoid value may support identity and batch comparison when procedures remain steady, yet it cannot establish what a spray will do for the reader.

FROM THE EDITORS

Ask what solvent the sample came from, what test was used, and whether the lab ran LC MS with the global assays. A number with no method, solvent and date is hard to compare across brands or seasons.

06

Variation, checks and smart questions

Inclusion of propolis alters honey chemistry in foreseeable respects. Propolis addition had no clear effect on HMF, sugar content or specific conductivity, but it clearly raised free acidity and water insoluble substances. Free acidity and water insoluble matter thus assist in following how much resin entered a mixture, while sugars and conductivity may remain level. On the palate the compromise appears. Adding propolis to honey raises phenolics and in vitro antioxidant activity but worsens sensory properties, so recipe design balances measured chemistry against color, smell, texture and taste.

Purity screening stands alongside composition assays. Exact pesticide and heavy metal levels in any bottle cannot be known without a batch specific lab report. Buyers may fairly request recent third party results linked to a lot or batch number, plus remarks on apiary treatments and harvest tools. The physical label seldom accommodates such depth, which explains why a linked certificate of analysis carries more weight than front label phrasing.

Lot to lot difference stays expected for hive goods because flora, weather, bee genetics and cleaning practices all move the starting blend. The best dose or length of use for sprays is not settled, as recipes share preparation ratios rather than clinical dosing. How storage time and temperature shift propolis spray strength after opening also stays unclear. Hold bottles dark, cool and closed, mark the opening date, and consult a qualified professional about use, especially for children, pregnancy or allergy history.

Practical purchase questions fit on an index card. Where the apiaries were located and when the harvest occurred. Whether the propolis was scraped or trap collected and how mite treatments were managed. Which solvent and ratio were chosen and what the glycerin percentage is when relevant. Which lab ran the testing and methods used and whether the report matches the lot in hand. Makers that reply with places, dates and documents merit return visits. Where those replies remain hazy, consider that stage still opaque.

07

The checklist

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- ☐ Record apiary country and region for the lot
 - ☐ Record harvest season and plant source when stated
 - ☐ Inquire scraped or trap collected propolis
 - ☐ Review hive paint and varroa treatment notes
 - ☐ Verify grain alcohol proof or glycerin percentage
 - ☐ Align solvent ratio with label directions
 - ☐ Seek third party lot specific lab report
 - ☐ Contrast total phenolic method across batches
 - ☐ Follow free acidity and water insoluble matter
 - ☐ Anticipate sensory shifts with higher propolis share
 - ☐ Log open date and store dark and cool
 - ☐ Consult a professional about household use
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08

Sources and further reading

- Mechanistic exploration of royal jelly production in caged honey bees (*Apis mellifera*) · [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)
- Thriving Hives: Propolis - Harvest and Usage · extension.usu.edu
- The Effect of Enriching Honey with Propolis on the Antioxidant Activity, Sensory Characteristics, and Quality Parameters · [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)
- Phenolic content, flavonoid distribution, and radical-scavenging activity of honey, propolized honey, and propolis extracts from Cauca, Colo · link.springer.com
- Phytochemical profiling and characterization of flavonoid derivatives from propolis sample and investigation of cytotoxic and antiprotozoal · nature.com

For information only, not medical advice. Herbs and supplements can interact with medicines and are not right for everyone, especially in pregnancy; check with a doctor or pharmacist before you start one.



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Kathryn runs the news desk and the remedy guides at Root to Bottle. She keeps a shelf of old herbals at her desk and checks every traditional use against what the trials actually found, then writes down both.
