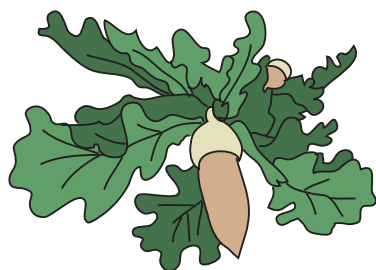


*February*  
*2014*



# Wild

## Edible NoteBook

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Hi and thanks so much for checking out the *Wild Edible Notebook*, a monthly collection of stories about foraging and using edible wild foods.

This issue is all about conifers.

First we head deep into a snowy, windblown landscape to collect winter needles dropped by tall pines, spruces, and firs, afterwards exploring what to do with them in the kitchen. Then we take a look

at another conifer—the low-lying common juniper and its cousins—and use the flavorful, ripe “berries” to season various dishes. There is a review of Jennifer Hahn’s *Pacific Feast*, which centers on foraging the coast and forests of the Pacific Northwest, and this edition concludes with a handful of fun recipes using conifer needles by yours truly and Wendy Petty from *Hunger & Thirst*.

**2022 Update:**

Begun as a free publication in 2011, the *Wild Edible Notebook* was available by subscription from 2014-2015. It went on hiatus after that so I could undertake other pursuits, chief among them a book I am writing.

This year, I decided to start reissuing the *Notebooks*, a process that involves reading through and correcting any glaring errors. I will admit that my thinking has evolved on some topics since then, but for the most part I have not rewritten any stories.

For current writing, please visit my blog at [wildfoodgirl.com](https://www.wildfoodgirl.com), or social media at Facebook ([wildfoodgirl](https://www.facebook.com/wildfoodgirl)) and Instagram ([wild.food.girl](https://www.instagram.com/wild.food.girl)), where I post regularly.

Sincerely,  
—WFG



*Eating wild snow. Photo by Gregg Davis.*

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*Nature puts Fibonacci spirals  
in all sorts of places.*

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## Foraging Conifers in the Winter Snow *By WFG*

This is the winter of avalanches in the Colorado high country—so much snow, as was to be expected after our better-than-normal mushroom season last fall, but a ton of wind too. As a result, normally stable slopes are sliding, stepping down into older snow to produce avalanches where the crowns exceed 10 feet in height and there's debris the size of Volkswagens even in-bounds at the ski area where I live and work.

The inclement weather does not bother me. I like to stand on the mountain and let the strong winds buffet me, especially when the visibility approaches zero and the slopes empty of those unwilling to bear nature's brute force.

These are the days I lose myself deep in the forest, under the protection of the conifers where the



*Majestic conifers bestow gifts of needles in the heart of winter. Photo by Gregg Davis.*

world is soft and silent, to appreciate rare moments of solitude.

But the winds have done something else, too—and that is to knock boughs of spruce, pine, and fir to the forest floor. Everywhere I venture now, it seems, there are felled green needles for the taking. This coincides perfectly with what is now a several-months-dormant obsession with wild food foraging—so this season I’ve made it my mission to gather any severed branches I come upon, and recycle them into wild food experiments.

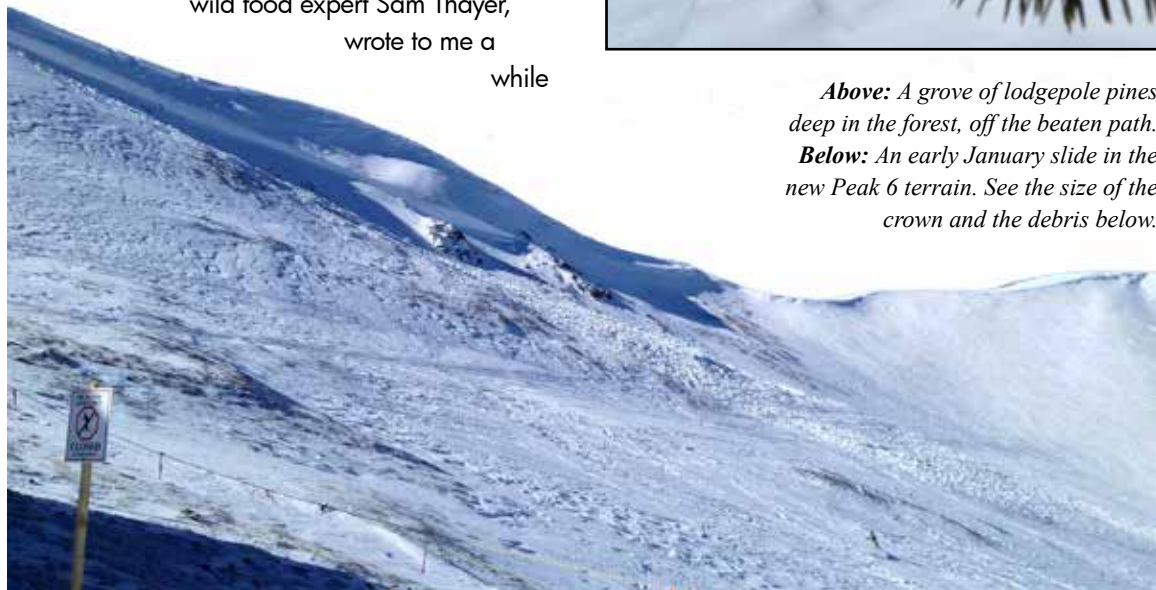
I realize the dead of winter is not the best time to gather conifer needles. Spring and early summer, when the fast-growing tips are new and young, is preferable. Nonetheless, the needles of edible conifers can be used year-round for a tea rich in Vitamin C, and teas can be used for a variety of culinary purposes too, like stocks and broths for soups and gravies. So, I figured I’d give conifer needles a go.

“Trees are the alphabet,” my friend,  
wild food expert Sam Thayer,  
wrote to me a  
while



***Above:** A grove of lodgepole pines deep in the forest, off the beaten path.*

***Below:** An early January slide in the new Peak 6 terrain. See the size of the crown and the debris below.*







*Above: Chopped lodgepole pine needles.*

*Below: Lodgepole pine needles come sheathed together in groups of two, wrapped at the base with a thin membrane.*

back. “Learn conifers first.” Funny how long it has taken me to do so, especially when you consider that certain mushrooms I adore cohabitate with certain species of trees.

But now, deep in this snowy wonderland in the heart of winter, I find myself stopping and removing my gloves to roll needles between my fingers in the frigid air, and digging deep holes in the snow in search of cones to help positively ID the conifers on my mind.

## Pines

The pines are easiest, as the needles come sheathed together in groups of two or more, wrapped at the base with a thin membrane.

The straight-trunked, two-needle lodgepole pines (*Pinus contorta*) are common here in high

country Colorado, as are limber pines (*P. flexilis*) and ancient bristlecone pines (*P. aristata*), both of which bear needles in groups of five. Pinyon pines (*P. edulis*), famous for their edible seeds or pine nuts, have two-



needle clusters and are found at slightly lower elevations, and ponderosa pines (*P. ponderosa*), whose bark smells like vanilla to some and orange Creamsicles to others, bear long needles in groups of two or three.

Pine needles are rich in Vitamin C, and pine needle tea is a well-known winter food use—as are teas made from the leaves of other Pine family members like spruces (*Picea spp.*), firs (*Abies spp.*), hemlock (*Tsuga spp.*) and Douglas fir (*Pseudotsuga menziesii*). Native groups have used the needles of various conifers to make tea, both for hot drinks and remedies.

“The needles may be used in tea as a beverage, or medicinally for a diuretic,” Thomas J. Elpel explains of the Pine family in *Botany in a Day* (2012 ed.). He also notes that because the Pine family is resinous—and therefore useful for its expectorant properties—overconsumption may lead to kidney complications. Thus “caution is advised,” he writes. I took this to mean they’re probably not teas to be drunk every day, or brewed in an extra high concentration. Also, due to the



**Above:** Gregg perches on a chunk of avalanche debris. **Below:** More slides on Peak 6. Note the fractures where the slides let loose in Temptation Bowl, a permanent terrain closure, at top left.





diuretic effect, some folks report increased thirst and having to pee a lot.

Among the conifers, pines come with the most warnings—the most oft-cited of which is that consumption of ponderosa pine needles (*P. ponderosa*) has caused cattle to abort unborn fetuses (Stegelmeier, 1996). A 1998 study by four of the five authors who conducted the 1996 study found that pregnant cattle aborted their fetuses after being fed daily doses of lodgepole pine (*P. contorta*) needles too. For this reason, many authors recommend against taking conifer needles—particularly pine needles—internally during pregnancy.

However, since I am not with child and I found several references to teas made with

lodgepole pine needles—and pinyon pine needles—in Daniel Moerman’s online database of ethnobotanical resources ([naeb.brit.org](http://naeb.brit.org)), I decided to give the lodgepoles a try.

## Better Than Melted Snow

Aside from the fact that the pockets of my snow pants are now sticky after stuffing so many resinous needle-bearing branches into them, the tea was a mild success. I made it by chopping a handful of rescued lodgepole pine needles, pouring hot water overtop and covering them to steep a while. Though the flavor came out mellow, I decided not to boil it so as not to drive

*I was a little taken aback by the hydrophobic resins floating at the top of my lodgepole pine tea.*



off the heat-sensitive Vitamin C. Also, the online ethnobotanies contain accounts of strong pine needle decoctions being used by some groups—for example the Navajo with pinyon pine needles (Vestal, 1952)—as “a ceremonial emetic,” in other words, as a vomit-inducer, an effect I did not seek to replicate.

I served a cup to Gregg and he said it tasted fine, “like winter,” which is better than some of the accounts I’ve read.

“With a squeeze of lemon and a little sugar it was almost enjoyable, and it gives a great feeling of virtue to know that as you drink it you are fortifying your body with two essential vitamins in which most modern diets are deficient,” Euell Gibbons writes of a cup of Eastern white pine needle tea in *Stalking the Healthful Herbs* (1970), touting both the Vitamin C and Vitamin A content with his less-than-convincing flavor account.

“I do make a tea from white pine or hemlock needles in the winter,” Thayer wrote me. “Usually just when I’m camping, so I haven’t in a few years. It does taste better than melted

*Iced lodgepole pine  
tea with a squeeze of  
lemon, anyone?*



snow or lake water.”

Personally, I was a little taken aback by the hydrophobic resins floating at the top of my tea. Elpel (2012) explains that plant resins are “sticky, gummy substances like pine pitch” that are formed from oxidized volatile oils, often with expectorant, diaphoretic, and diuretic properties. “Drink a warm tea of a resinous plant and your throat becomes coated with the sticky substance,” he writes. “It protects tissues from irritation when coughing. Moreover, the stickiness seems to slick up the passageways in the body, so phlegm can be more readily coughed up.”

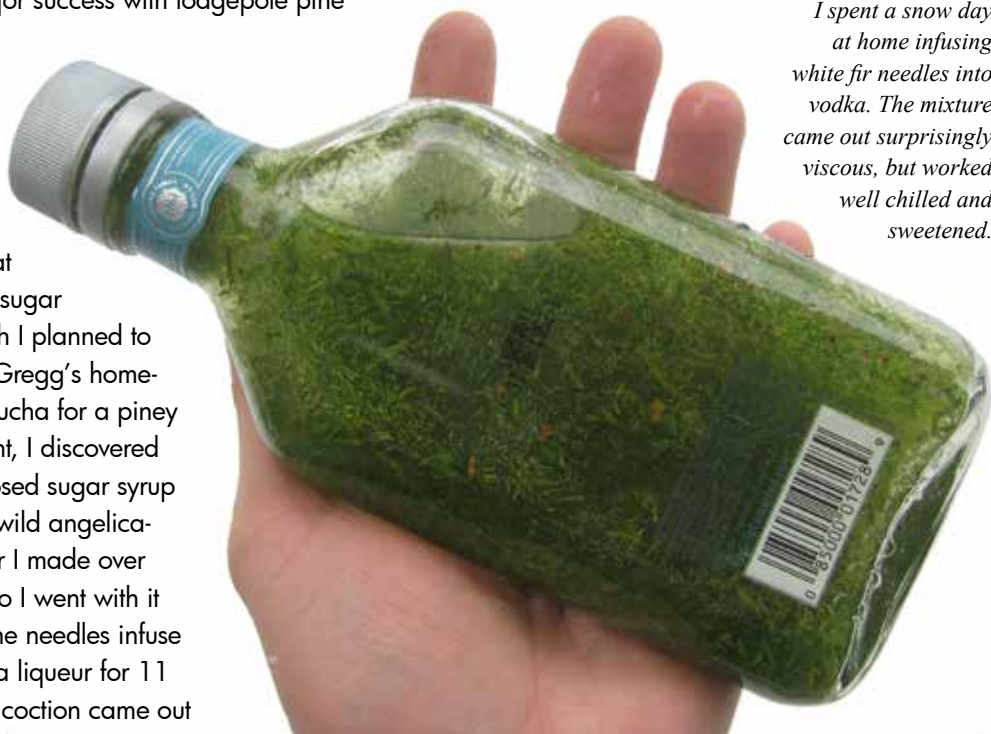
Fortunately, Gregg had managed to give me his cold by the time I began the conifer needle tea experiments, so even as my ability to taste flavors declined, I could at least practice expectorating.

My one major success with lodgepole pine needles was accidental—after chopping them fine and dousing them with what I thought was sugar syrup, to which I planned to add some of Gregg’s home-brewed kombucha for a piney second ferment, I discovered that the supposed sugar syrup was in fact a wild angelica-infused liqueur I made over a year ago. So I went with it and let the pine needles infuse in the angelica liqueur for 11 days. This concoction came out

surprisingly good—delicious, in fact—which surprised me after reading a comment by Toddy at the BushcraftUK forum ([www.bushcraftuk.com](http://www.bushcraftuk.com)), who thought his attempt at pine needle vodka not only unpleasant but “decidedly turpentine-ish.” (He ended up using it to clean grease off pine shelving.) Combined with the spicy, sweet angelica liqueur, however, the lodgepole needles toned down the sweetness with a note of pine that fit the liqueur perfectly—noticeable in a good way, and not overbearing in the least.

“It’s hillbilly retsina,” my friend Aaron from Australia wrote me about one of my conifer-needle vodka infusions. Retsina, which he’d earlier described as a “phytochemical adventure,” is a unique Greek wine fermented with Aleppo pine resin (*Pinus halepensis*). The

*I spent a snow day at home infusing white fir needles into vodka. The mixture came out surprisingly viscous, but worked well chilled and sweetened.*





American Society of Pharmacognosy describes it in their Fall 2007 newsletter as “wine that has been poisoned with pine resin.” I guess I wouldn’t recommend that—not pine nor wine—for pregnant women either.

## Firs

My second attempt at conifer needle tea, made from the needles of white fir (*Abies concolor*)—was a breath of fresh, well—Christmas tree. That’s because firs are among the conifers sold as Christmas trees, though it is important to note that a commercially grown tree is a risky choice for tea-making unless you know that the farm it came from did not use pesticides.

I found the tree in the middle of a snowy forest on a steep, north-facing hillside—a young specimen, surrounded by tall Engelmann spruce. The flat needles were soft and pliable in comparison to the spruce, and the tips were still a lighter shade of green than the rest of the tree despite the fact that it was the middle of January.

Not to be confused with Douglas fir (*Pseudotsuga menziesii*), which is in a different genus and has distinctive cones with three-pointed bracts that extend beyond the cone scales, true firs



**Top:** *A subalpine fir with breakaway cones. Every time I tried to pick a full cone, the scales fell away, leaving these upright cores. Right:* White fir needle tea is my favorite local conifer tea to date.





(*Abies* spp.) bear upright cones whose scales fall away, leaving an upright central core. Both white fir, which has longer needles, and subalpine fir (*Abies bifolia*), which is sometimes lumped with *A. lasiocarpa* of the Pacific Northwest, occur in the forests near me at 10,000 feet. The needles of both are flat and sessile—meaning they attach directly to the branch—and do not narrow much at their bases if at all.

I enjoyed the fir tea a great deal, as did Gregg, so I decided to infuse vodka with its winter



*Top: More lovely fir needles, combined with dried rosehips and mint for a wintertime tea blend (right).*



**Top:** Vinegar and vodka experiments with spruce and pine. **Bottom:** A mix of fragrant sumac powder, white fir needles, and salt makes a perfect seasoning for squash seeds. Photo by Gregg Davis.

needles too, following the method described by Connie Green and Sarah Scott in *The Wild Table* (2010) for Douglas fir or spruce. The recipe calls for blending a cup of needles, stripped from their

branches, with a splash of vodka, then combining that with the rest of a 750-milliliter bottle of vodka and infusing the mixture in the refrigerator for a week before straining out the needles. The green elixir can then be stored in the freezer and served straight up in a martini glass.

My infusion came out so strong after one day, however, and so viscous, that I strained







the bits out then and there. Though the thick, syrupy texture is a little off-putting, the flavor is good. I disguised the viscosity with plentiful sugar syrup and served it as a Christmassy liqueur over crushed ice in tiny glasses alongside an hors d'oeuvre of juniper-accented antelope liver pâté and crackers.

Of all my experiments with local firs, my favorite by far was a spice mix made with fresh, winter-foraged white fir needles, tart fragrant sumac (*Rhus aromatica*) berries, and sea salt, ground and sprinkled over trout and then oven-baked (see page 39 for details). The spice mix was equally good atop baked squash seeds. Gregg devoured both, and reminisced about the fish dish for days afterward.

*Spruce needles narrow into woody pegs that attach to the branches.*

## Spruces

I also experimented with Engelmann spruce (*Picea engelmannii*) needles, as the trees are common up here in the subalpine zone. Spruces are characterized by four-sided needles, or, as some authors write, needles that roll easily between the fingertips—whereas those of flat-needled firs do not. The leaves are borne singly on stout wooden pegs where they attach to the branches, and the light brown female seed cones hang down from the tree tops in clusters and have thin, flexible scales.

I tried infusing vodka with mature needles of

Engelmann spruce the same way I did with the fir. After one short day of infusing, however, I found the flavor so revolting that I spit it out in the sink. Maybe there are better spruces for the purpose, or perhaps the flavor would have improved had I infused it longer? In any case, I abandoned that project.

More successful were two infused apple cider vinegars—an idea I got from an interview by Lynne Rossetto Kasper with forager Nova Kim for *The Splendid Table* ([www.splendidtable.org](http://www.splendidtable.org)). I made both with Engelmann spruce needles, the first coarsely chopped and the second ground fine in a spice grinder, and then let both sit in covered jars in the closet for a week. Both came out good, but the latter took on the spruce flavor

better. Unlike the vodka, the apple cider vinegar did well to tone the harsh flavor of the spruce for a palatable vinegar, so I used that to make some tasty conifer-kissed salt and vinegar potato chips.

We also have Colorado blue spruce (*Picea pungens*) up here. These are generally found in the company of other species in moist locations below the Engelmann spruce of the subalpine zone. The sharp, bluish-gray, four-sided needles seem at first to be a giveaway for identification, though S. K. Weir (2011) indicates the two spruces may hybridize, and that Engelmann spruce can sometimes take on a bluish cast.

Colorado blue spruce is a favorite of my foraging friend, Butter, who goes mad for the

*Me and an Engelmann spruce in the high country.*







fresh, soft new tips that grow from the branch ends each spring. For her Spruce Cornmeal Cake with Tangerine Goat Cheese Frosting, Spruce Tip Salt, and other recipes, check out [hungerandthirstforlife.blogspot.com](http://hungerandthirstforlife.blogspot.com).

## Spring Conifer Tips

I chose to write about the conifer needles I have access to right now in the Colorado high country, but there are other species with edible needles that can be used for similar purposes. I also wrote about winter needles, but tips of the branches in spring and early summer—while they are still young, soft, and light green or blue—are more popular for culinary uses. Collectors recommend taking the new tips from branches low-down on the tree, spreading out the harvest to multiple trees, and never taking the middle apical tips so as to avoid stunting a branch's growth. Taste-testing is also recommended, to ensure you've found a tree whose flavor appeals to you.

*More spruce, and more slides above it. I love how low and scraggly these guys get at treeline.*

In terms of flavors to expect from spring tips, Nova Kim said in the interview: "Spruce is frequently compared to rosemary. Balsam has a tendency to pair better with sweets; it's not as strong and as intense as the spruce. The white pine is the mildest. Then of course there's my favorite, which is the concolor, which is a cross between a lemon and an orange fresh zest."

In *Pacific Feast* (2010), Jennifer Hahn writes of using the new spring tips of Sitka spruce (*Picea sitchensis*) and Grand fir (*Abies grandis*) in various recipes, including a spruce syrup to be drizzled "over lamb, wild game, roasted root vegetables, baklava, cheesecake, fresh berries, and sourdough pancakes."

Other popular uses of spruce tips are spruce beer and spruce jelly, though it merits mention that one of my FB friends experienced an allergic, hay-fever-style reaction to a batch of spruce tip



jelly she made. For beer brewers who don't want to do the wild food foraging themselves, Spruce on Tap ([www.spruceontap.com](http://www.spruceontap.com)) sells spruce tips, yarrow, juniper "berries," and other wild-harvested natural ingredients. I've also read great reviews of the Alaska-based Simple Pleasures' spruce tip jelly ([www.simplepleasuresak.com](http://www.simplepleasuresak.com)). There is an intriguing recipe for Conifer Sugar at [www.kinfolk.com](http://www.kinfolk.com) that involves combining equal parts needles with sugar, chopping in the food processor, and sprinkling the flavored sugar on

*Tasty, soft, spruce tips foraged in the Keystone area last summer. I used them to make a creamy spruce and dill yogurt sauce.*

buttered toast or using it in place of sugar in shortbread or other cookies. And last summer I made a yummy, pale green spruce and dill sauce to serve atop both salmon and asparagus by whizzing up fresh spruce tips in a food processor with yogurt and dill.

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## Wandering Winter, Pining for Spring

The winter needles certainly do well to satisfy a craving, but now that I have made better friends with our local conifers, I am looking even more forward to spring, when the old denizens of the forest burst forth with their soft, light green bundles of flavorful new needles. In the meantime, however, I'll continue to meander through the winter snows, tasting trees and dreaming of spring as I learn the forest's winter landscape from a forager's perspective.



*Surprise! Light green tips in the middle of winter.*



# Needles Yew Don't Want to Eat

By WFG

Make sure to distinguish Pine family members from yews (*Taxus spp.*), which are toxic lookalikes. Though yews have needles too, they are NOT edible. Almost every part—including the bark, leaves, and seeds—is poisonous.

Yew needles are softer, thicker, and wider than other evergreens, similar to hemlock needles in shape but without the silvery lines underneath. They can be difficult to distinguish from balsam.

Imported varieties, like the Japanese yew (*T. cuspidata*), are widely used in landscaping. The bushes are often trimmed into shapes, and the fruits are fleshy red cups.



These fleshy red cups are, in fact, edible if you spit out the poisonous seeds, but I have not tried them yet.

There are also native yews in the wild, including the American yew (*T. canadensis*) in the northeastern quarter of the U.S., Florida yew (*T. floridana*), and Western yew (*T. brevifolia*) on the West Coast, so if *Taxus* species occur in your

region, it is a good idea to learn them before embarking on a culinary adventure with needle-bearing trees and shrubs.

**Above:** The fleshy red berries are the only edible parts of yews, but you have to spit out the toxic seeds. Photo by Muffet, licensed for reuse under Creative Commons.

**Below:** A yew in the landscaping in Pennsylvania.





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# Juniperus Deliciousness

By WFG

Colorado's high country forests are beautiful, deep and dark and old, and we have the conifer trees to thank for that—the plentiful pines, somber spruces, and furry firs. But there is another needle-bearing conifer that makes its home on the forest floor beneath the trees—their creeping cousin, common juniper (*Juniperus communis*).

The conifers are a fascinating group. They are often called “living fossils,” Euell Gibbons explains in *Stalking the Faraway Places* (1973), because they appeared on earth millions of years before the first flowering plants, or angiosperms. Conifers are gymnosperms, which means “naked seed.” The female cones' egg cells are exposed to the air to be fertilized when pollen released by the smaller, male cones finds its way—via aerodynamically



*Common juniper cones look like blue berries. These make a good spice for game and sauerkraut, among other dishes.*



*A Fibonacci spiral of scales make up this large cone.*

matched, species specific, cone-generated air currents—to its mark (Elpel, 2013 ed.). After fertilization, the female cones grow scales to cover the ovules as the seeds mature.

Pine family members like spruce, pine, and fir

produce the cones we all know and love, their layered scales radiating out from a central core in a whorled Fibonacci sequence common in so many of nature's creations. But junipers, which are members of the Cypress family, make cones of another sort. Whether spreading, spiny shrub like the common juniper where I live, or tree with scaly foliage, junipers produce cones with fleshy, merged scales that cause them to look like berries.

## Common Juniper

The “berries” of common juniper (*J. communis*) are used to flavor gin, hence the gin-like aroma when you crush them between your fingertips. They are used in various European cuisines as spices—to flavor meat dishes, game, and sauerkraut, for example—and can be purchased at the grocery store for the same purpose. But they can also be collected in the wild.

Common juniper is found throughout the temperate zone of the Northern Hemisphere,

*These cones, from common juniper, are very different than those produced by Pine family members.*







including Europe, Canada, and much of the United States, with the exception of Texas and surrounding southern states.

Our Colorado subspecies is *J. communis* L. *subsp. alpina* (Weber & Wittmann, 2012), a sprawling shrub that thrives in open spots in the forest understory or on rocky, exposed hillsides. The needle-leaves are white above, green below, and sharp enough to give your hands a good poke. The berries are blue to purple with a powdery whitish coat when ripe, or light green with a powdery coat when under-ripe.

For years I have been using what I call

*Juniper tickling works, but you might be better off shaking the bush. Photo by Gregg Davis.*

“the tickle method” to collect the ripe berries, which involves rolling the clusters lightly between the fingers of one hand while catching them in the other, although I think Connie Green and Sarah Scott have me beat with their suggestion to spread a tarp out in autumn and simply shake the bush (*The Wild Table*, 2010). I have been using *J. communis* berries because this species is abundant where I live. However, it is not the only juniper with edible berries.

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## Which Junipers Can I Use?

In addition to needle-bearing junipers, there are also junipers with scaly, triangular leaves pressed together onto the branches, some of which bear edible berries. Weber and Wittmann (2012) divide these cedar-like junipers into a different genus, *Sabina*, while other botanists include them in *Juniperus*.

Here in Colorado, our tall, scaly junipers include Utah juniper (*S. osteosperma* syn. *S. utahensis*), which has dry, mealy berries and is found throughout the Southwest to California and north to the Canadian border. We also have oneseed juniper (*S. monosperma*),

which has liquid resin inside its berries, and the high-elevation-loving Rocky Mountain juniper (*S. scopulorum*) with small cones not exceeding 7 millimeters in diameter.

Though I have not yet had occasion to cook with these species, Green Deane ([www.eattheweeds.com](http://www.eattheweeds.com)) writes that the Acoma people have been known to mix the berries of *J. monosperma* with chopped meat and then roast it all in a clean deer stomach; the Mescalero to roast them and add water to make a gravy; and the Apache to boil the berries of *J. osteosperma* and eat them plain.

*A scaly-leaved, cedar-like juniper photographed in the dry foothills near Rifle Gap State Park last summer.*





Moving east, Tama Matsuoka Wong ([www.seriousseats.com](http://www.seriousseats.com)) writes that the eastern red cedar (*Juniperus virginiana*), common to the wilds of central and eastern North America, has berries that are “sweeter and less harsh” than *J. communis*, and “without those ‘turpentine’ gin notes.” These have been used by the Comanche and Lakota in soups, meats, and stews, she explains, and the trees are often found pioneering in old hedgerows and fields.

Green Deane lists numerous junipers used by native groups, including *J. californica*, *J. communis*, *J. deppeana* syn. *J. pachyphlaea*, *J. horizontalis*, *J. monosperma*, *J. occidentalis*, *J. oosterasperma* syn. *J. utahensis*, *J. scopulorum*, *J. tetragona*, *J. virginiana* and *J. silicicola*. Elsewhere, he writes, the berries of these junipers have been used: *J. tetragoan* (Mexico) *J. bermudiana* (Bermuda), *J. drupacea* (Europe and the Middle East), *J. chinensis*, *J. conferta*, *J. recurva*, and *J. rigida* in Asia.

However, he cautions that not all junipers bear edible berries,



*Common juniper covers the ground in Fairplay, Colorado. Photographed in September; when the berries were ripe for the picking.*

## Threatened & Endangered Junipers

Although no junipers are listed as protected by the federal government, some are listed as threatened, endangered, or otherwise protected on a state-by-state basis. Common juniper is listed as rare, threatened, or endangered in Illinois, Indiana, Maryland, Ohio, and Kentucky. *J. horizontalis* is protected in Illinois, Iowa, New Hampshire, New York, and Vermont. In Nevada, all junipers appear to be “protected as a cactus, yucca, or Christmas tree.” For more state-by-state information on protected species, including the coniferous trees described in the first piece, see [plants.usda.gov](http://plants.usda.gov).



advising specifically against using *J. sabina* and *J. oxycedrus*, both from southern Europe. The former is often planted as an ornamental in the United States, he explains, so careful identification is advised when harvesting from landscaping plants. That said, Green and Scott write that some junipers used in landscaping—including the common juniper *J. communis* and also *J. chinensis*, have flavorful, edible berries.

Deane points out too that while the foliage of some junipers, like *J. communis*, can be used, the foliage of *J. virginiana*, *J. silicicola*, *J. sabina*, and *J. oxycedrus* should not be consumed. Elpel (2013) also writes of the

*Dried common juniper berries grind down into a sweet, mustard-colored spice. How many tablespoons is too many, do you think?*

toxicity of *J. sabina*, concluding: “As a rule, if it tastes like food it probably is. If it tastes like turpentine, limit your consumption.”

## **Eat Spices & Self-Medicate in Moderation**

Even junipers with “edible” berries come with warnings, however. Kershaw (2000) cautions ominously that large and/or frequent doses of juniper can result in convulsions,



kidney failure, and an irritated digestive tract. "People with kidney problems and pregnant women should never take any part of juniper internally," she concludes, as do many authors.

The same volatile oil that that irritates the kidneys in large doses can be used medicinally to stimulate kidney filtration and output, however, which is why juniper berries have been used as a diuretic to increase urine output and relieve symptoms of gout and kidney stones, as explained in a Forestry Department paper by the Food and Agriculture Organization of the United Nations (FAOUN, 1998).

The volatile oils can also kill germs, Elpel adds (2012), citing Bigfoot. "You may be able to decrease the risk of catching a virus by keeping juniper berries in the mouth while around others who are infected. Similarly, try chewing the berries while drinking unclean water," he writes.

"As with many herbs used medicinally or as a spice, juniper berries should be used sparingly," Green Deane concludes. "Think flavoring, not food."

*I served Gregg these lovingly prepared crackers with juniper-spiced antelope liver pâté, hard-boiled egg slices, and tomato. He pretended to like them. Personally, I couldn't get enough.*







## Flavoring Food

I probably should have taken Deane's advice to heart recently when I overspiced a batch of antelope liver pâté. Not that I experienced any ill effects—but two tablespoons of dried, ground common juniper berries was one tablespoon too many for the pâté—which I made with 2.5 cups of caramelized onions, an 8-ounce package of cream cheese, and 6.25 ounces of kefir-soaked, oiled, salted, peppered, and pan-seared antelope liver, combined in the food processor. The idea was to tone down the strong, gamey flavor of the antelope liver. Instead I got juniper grit, and too much of the sweet juniper flavor for my liking.

Gregg, on the other hand, liked the juniper-

*What about this, Gregg? Will you eat this piece of antelope liver if I spice it with juniper and garnish it with fir needles? No? Well, it was worth a try.*

spiced pâté much better than the juniper-free batch I served alongside it. Or so he said—but then the next evening when I offered him some he answered a little too quickly and a little too emphatically: "I don't want that. I had that yesterday. It's very strong."

I got the idea to flavor the antelope liver pâté with juniper berries from Green Deane's account of the Paiute, who would mix the berries of *J. occidentalis* with mashed deer liver for food. I've also used juniper berries to flavor home-fermented sauerkraut, as well as several batches

of corned beef and cabbage. The ground spice makes a good rub for wild game too.

A few years ago I went through a gin-making phase, infusing vodka with the ripe, blue berries, coriander, and wild angelica leaves and stems to make a homemade, but not home-distilled “bathtub gin.” Later I come to find out that gin is made with fully grown but unripe juniper berries (FAOUN, 1998).

It had not occurred to me to use the green berries—in fact I’m kicking myself now because I had a bag full of them, collected from a cedar-like juniper near Rifle Gap State Park last summer, that I must have tossed because I cannot find them anywhere—but Swedish chef Magnus Nilsson uses unripe juniper berries and juniper needles to make a bright green oil that he combines with lightly jellied alcohol vinegar to accompany cod, monkfish, and quail (Faviken, 2012).

Nonetheless there are plenty of options for ripe juniper berries. At [www.seriousseats.com](http://www.seriousseats.com), Wong writes of a family favorite—wintertime cauliflower soup seasoned with wild juniper. “The pepperiness of the juniper balances the creaminess of the cauliflower exquisitely,” she explains. She also recommends juniper sugar for blueberry scones, or chocolate sables with



*The “berries” take two years to mature, and a single plant can host both mature and immature cones.*

juniper sugar “for a treat that’s not too sweet and more on the order of a European-style biscuit cookie.”

Green and Scott (2010) write that juicy fresh or thawed frozen juniper berries are good in marinades partnered with wine, cider, cloves, allspice, and citrus, and their cookbook includes recipes for Juniper and Maple Glazed Duck and Juniper-Rubbed Pork Loin with Prunes

and Savoy Cabbage. Kershaw (2000) notes that nonalcoholic Tricky Marys can be made by soaking juniper berries in tomato juice for a few days, then following a recipe for Bloody Marys but omitting the gin. And in Deane's piece I read that a dark syrup is made from juniper berries and eaten in the southern Alps as a dessert with cream or hot milk.

I've made juniper berry syrup many times too, by simmering down the fresh or dried berries in water; crushing, straining, and reserving the liquid; then mixing in copious amounts of sugar and cooking that down into a syrup. Each time, however, I mixed it with seltzer for virgin gin and tonics—juniper berry sodas,

if you will—but never before thought to use the syrup any other way.

The idea of using juniper syrup for a dessert intrigued me, however, and eventually spawned a last minute decision to drizzle it atop a creamed butternut squash and porcini soup that somehow wasn't turning out as flavorful as the last time I made it. Credit for the butternut squash and porcini combo goes to my friend

*I collected juniper berries in September on the same day I found these hail-damaged porcini mushrooms (*Boletus rubriceps*) and peppergrass mustard (*Lepidium ramosissimum*). One of these days I'll have to come up with a recipe that combines these seasonal ingredients. In any case, juniper berries can be easily dried and stored.*







Butter—but serving it with juniper syrup on top was my idea, and it was absolutely divine.

A few days later, I sat at the counter forcing the writing out while Gregg puttered around the kitchen, cleaning this, organizing that, critiquing my kitchen work, asking me to “smell the salad,” and so forth while he put together a dinner of leftover squash soup and sundries. It was all I could do to focus on the juniper story with his background chatter when, from the kitchen, I hear: “Where’s the juniper syrup?”

Finally, a vote of confidence for my wild juniper cookery.

*A stroke of genius: Butternut squash and porcini soup drizzled with juniper syrup. Photo by Gregg Davis.*

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# **Books in the Spotlight**



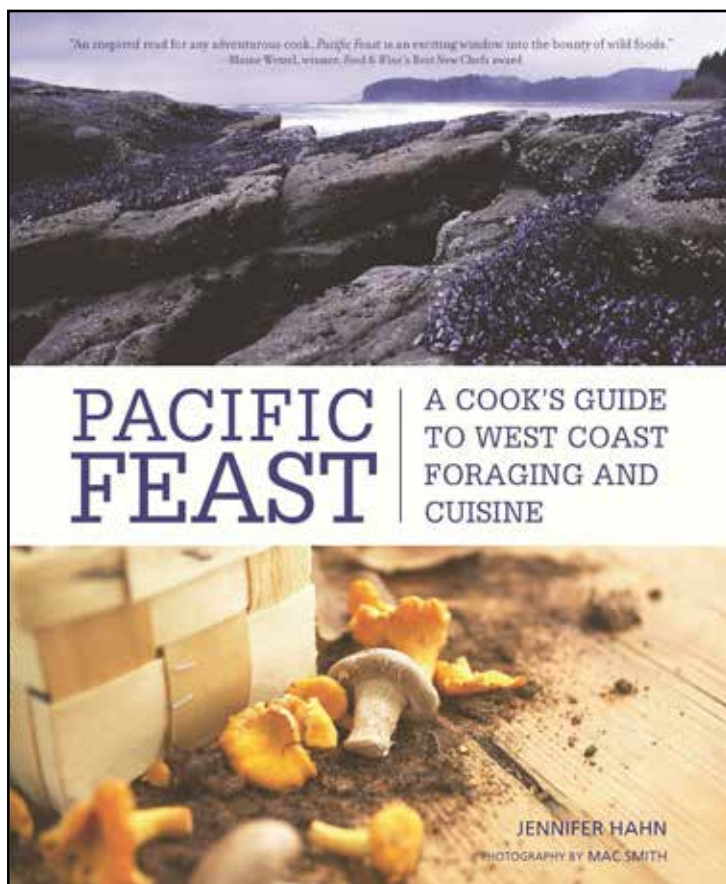
# Wild Edibles from Coast to Forest

## Jennifer Hahn's *Pacific Feast* By WFG

At last, my search for wild cheese puffs is over. Now if a landlocked Coloradan can just get her hands on some bladderwrack—that olive-green seaweed (*Fucus spp.*) that covers beach rocks at the tideline and pops underfoot if you step on the tips of its fronds—she'll be a happy camper indeed.

That's because one need only to clean and oven-puff the gel-filled tips of bladderwrack, then sprinkle them with powdered cheese to make Cheesy Sea Puffs, one of many exciting recipes in Jennifer Hahn's book, *Pacific Feast: A Cook's Guide to West Coast Foraging and Cuisine* (Skipstone, 2010). This particular recipe is by her foraging buddy, the ethnobotanist Mac Smith, who took the photos for the book.

*Pacific Feast* consists of short essays on 50 species of plants and seafood found along the West Coast of the United States, though many are found elsewhere too. Each is followed by field notes, a harvest calendar, a list of culinary uses, and recipes. In total there are 65 recipes, all of which had to pass muster with a team of recipe testers. Some are by the author, and the majority are compiled from well-known coastal chefs.



The book's presentation is simple but modern—it is black-and-white save for a few color photographs in an insert at its center—and there are informative “how-to’s” and other information boxes sprinkled throughout.

But a few things really strike me about this book—the interesting stories, the quality of the writing, the responsibility with which the author



approached which species to feature, the information on native food use by coastal First Nations people, and the breadth of interesting recipes, both simple and complex, that are geared towards “cooks” and not just “chefs.” This really is one of my favorite wild edible books.

Keep in mind that *Pacific Feast* is not an identification guide; it will not give you everything you need to know to find and identify a species. What it is likely to do, however, is spark daydreams about edible species you might not yet know well, while providing interesting insights about those you do.

Because of this book I now long to spear sea urchins by kayak along the base of surf-bashed cliffs when the ocean’s tide is lowest, to scoop out the five golden roe packets contained within their spiny shells so that I, too, can savor that “briny delicacy ... reminiscent of sweet cream and oysters.” And I, too, want to ski to Hahn’s “secret tree” in the North Cascades, a 150-foot western red cedar hidden at the center of an ancient grove, and duck into the dark fissure between the roots to spend the night hibernating inside its hollow, 10-foot-wide trunk.

The author’s use of language is no less enchanting. As she unrolls her sleeping bag under an enormous Sitka spruce in the rain forests of Haida Gwaii (Queen Charlotte Islands), Hahn reflects on how in Alaska, when Dena’ina hunters are caught out in bad weather without gear, they sleep under a giant spruce,



*Jennifer Hahn, author of Pacific Feast.*

mounding needles over themselves for warmth. “I lay back on a pillow of fragrant spruce needles and bark chips,” she writes. “I sent a little gratitude to the giant spruce for helping another coastal traveler with a bow compassed on the wanderlust horizon.”

But as far as the wild food is concerned, Hahn divides her book into chapters on Wild and Weedy Greens, Berries and Roses, Trees and Ferns, Mushrooms, Sea Vegetables, and Shellfish.

Wild and Weedy Greens centers on nettles, dandelions, chickweed, purslane, wild fennel, miner’s lettuce, watercress, and wood sorrel. Among the recipes that intrigued me in this chapter were Nettle-Hazelnut Pesto by Greg Higgins from Higgins Restaurant in Portland, Oregon; the Spotted Owl, a nettle martini by The Willows Inn in Washington; and Roasted Dandelion Ice Cream by Ron Zimmerman from The Herbfarm, also in Washington.

The Berries chapter covers “blue” ones like

blueberries, huckleberries, and salal; Oregon grapes; and brambleberries including salmonberries, thimbleberries, wild raspberries, native trailing blackberries, and Himalayan blackberries; followed by an essay on wild rose. I wish I could sink my teeth into Tanner Exposito's Blueberry Halibut at Seven Glaciers in Alaska right now, followed by a dessert of Huckleberry and Port Wine Sorbet by Lynn Berman from Pastazza in Washington.

In the Berries chapter, the author recounts a 1980's trip in which she and Smith came upon a "wild garden" on Hotspring Island (Gandla'kin) on Haida Gwaii, where they encountered a "parklike landscape" of Pacific crab apple trees, thimbleberry, salal, salmonberry, and strawberry plants. The richness of the landscape was not coincidental.

"Cultivating the wilderness was the Pacific Coast norm, not the exception, during pre-European contact," Hahn explains. "First Nations people enhanced their wild berry patches by pruning and weeding. They were 'hunters and gardeners,' working the wild land using accepted farming techniques."

Accounts of First Nations wild food use, traditions, and lore permeate the book. I was intrigued to read how coastal people have dug,



*I learned from Jennifer Hahn's book that Oregon grape leaves (Mahonia sp.) can be eaten while they're still young, shiny, and tender. I'm looking forward to trying that this season.*

steamed, shucked, roasted, and dried clams for winter feasts, for example, and enjoyed yarrow-skewered, smoked clams as a delicacy.

Next comes a chapter on Trees and Ferns that delves into bigleaf maple—from syrup to fried blossoms—along with paper birch, conifers, and fiddleheads; and a chapter on Mushrooms that includes oyster mushrooms, morels, chanterelles, and porcini.

"The enormous cap looked like a well-risen baker's bun," Hahn writes of a Cascade king

or porcini, transporting me to the hunt. Among the images conjured is a European mushroom hunter of yesteryear, carrying mushrooms in a woven willow basket so the spores could fall through and reseed the forest. And we learn that there is actually a term for a big, past-its-prime porcini—a “flag”—which, while no longer edible, is a sign or “flag” that small, firm buttons may be hiding nearby.

It is from Hahn I got the idea to pulverize my dried porcini into powder for a “magic dust” to use in gravies and soups, or to sprinkle on hash-browns or oil-brushed fish, steak, lamb, or scallops before searing for “an unbelievably flavorful crust.”

Concluding the book are chapters on Sea Vegetables—including sea beans, kelp, sea lettuce, fucus, and red seaweeds like nori, rainbow leaf, Turkish washcloth, and Turkish towel; and Shellfish—sea urchins, Dungeness crabs, razor clams, mussels, and hard-shell clams like Japanese littlenecks, Pacific littlenecks, butter clams, and horse clams.

All I can say is this: Can somebody please get me one of Jennifer Hahn’s Horn Tootin’ Bull Kelp Pickles, made with bull kelp stipes, immediately?!

## Foraging sustainably

The 50 wild foods featured in *Pacific Feast* were sustainable at the time of printing, Hahn writes, based on guidelines from conservation-oriented advisers including Monterey Bay Aquarium’s Seafood Watch Program and the David Suzuki Foundation, among others. “Still, sustainable is a slippery term to define,” she notes. “What is sustainable today may not be

tomorrow, and vice versa.”

She expresses concern not only with what wild food is harvested, but how. “Hook and line, small hand net, picked by hand”—these methods are different than if we pay others to harvest wild food for us without third-party certification, she explains, because then it becomes difficult to know what is really going on. She cites a figure from TRAFFIC: The Wildlife Trade Monitoring Network, and the Medicinal Plant Specialist Group, that 15,000 species of medicinal plants are globally threatened by loss of habitat, overexploitation, invasive species, pollution, and other threats ([www.traffic.org](http://www.traffic.org)).

“Today our love affair with all things wild is a good change of heart—and appetite,” she offers, while pointing out that it is incumbent upon the forager “to keep up to date on when, how, and what species to harvest.”

Her Guidelines for Sustainable Wild Foraging are among the better ones I’ve read. They encourage a caretaker attitude, an appreciation for and stewardship of the land long practiced by First Nations groups. “Pause and offer your gratitude before you pick,” she concludes. “Consider your intention and offer a few words of thanks for this wild food.”





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# **Recipes**



# Spicy Pine Needle Vinaigrette

By WFG

Gregg spooned a taste of pine needle vinegar into his mouth and exclaimed, "Wow, that's so good, we should make salad dressing with it." I don't take a vote of confidence like that lightly. This is the dressing we made:

## Ingredients:

Apple cider vinegar  
Lodgepole pine needles  
Fresh, pressed garlic  
Hot pepper flakes  
Salt  
Olive oil

## Instructions:

1. Chop or grind lodgepole pine (or other edible pine) needles. Place in glass jar and cover with apple cider vinegar at a 1:4 ratio of needles to vinegar. Cover and let sit for a week in the closet to infuse, then strain the needles out of the vinegar through a coffee filter or cloth, reserving the vinegar.

2. Mix vinegar with garlic, salt, and hot pepper flakes. Let the mixture sit 10 minutes and taste, adjusting ingredients as needed.
3. Add a splash of olive oil and serve on salad. We enjoyed it with spinach, kale, carrots, avocados, and bacon crumbles.



# White Fir & Sumac

## Spiced Trout By WFG

I have been long enamored of edible *Rhus* species—staghorn and smooth sumac as well as the fragrant sumac (*Rhus aromatica*) that grows near me at slightly lower elevations. Their strong, tart flavor is one not found in many wild plants. I often pair sumac with fish for this reason. In this yummy spice mix, however, the fir needles give the fish a lovely seasonal touch. This combo comes highly recommended from my better half.

### Ingredients:

Dried sumac (*Rhus aromatica*) or other edible *Rhus* berries  
White fir (*Abies concolor*) needles  
Sea salt  
Trout

### Instructions:

1. Grind sumac berries in a spice grinder, then sift the red powder through a fine screen, discarding hard bits.

2. Grind a handful of white fir needles and mix with sumac and sea salt to taste.
3. Sprinkle spice mix on fish, pumpkin seeds, or whatever else suits your fancy, and bake to perfection.

*People who are extremely allergic to cashews, pistachios, or poison ivy are sometimes highly allergic to sumac. Sumac allergies are very rare, however. I myself get a blistering rash from poison ivy, but I can eat sumac without incident.*





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## Spruce & Pink Peppercorn Bon Bons *By Wendy Petty*

All right, you got me. I whine all the time about how I don't have a sweet tooth, and how I tend to crave big bloody piece of meat. And I live in near constant fear that people want to stone me because I don't belong to the chocophilic association. But, as passionate as I am about spruce as an ingredient, I feel it would be a crime for people not to experience its delightfully pungent and citrusy flavor together with desserts. The flavor of spruce pairs so well with sweets that I find it near criminal that it's not as common

as cinnamon in confections.

This recipe calls for new spruce tips. It also calls for a candy mold. If you don't own one, roll the filling into balls, chill, and then dip into melted chocolate.

### Spruce Syrup

A day or two before you plan to make the bon bons, make a spruce tip syrup. Combine 1 cup sugar, 1 cup water, and 4 tablespoons chopped spruce tips in a saucepan. Bring to a



*Photo by Wendy Petty.*  
[hungerandthirstforlife.blogspot.com](http://hungerandthirstforlife.blogspot.com)



*Photo by Wendy Petty.*

boil, reduce heat, and let simmer until big sticky bubbles form on top. Remove from heat and let stand for at least 24 hours. Return to a burner, heat until liquid once again, then strain out spruce through a fine sieve. This should make more than enough spruce syrup to use with this and a few other recipes.

## **Spruce & Pink Peppercorn Bon Bons**

### **Ingredients:**

- 1/2 cup butter (room temperature)
- 1/2 cup spruce syrup
- 2 cups powdered sugar
- 1 tablespoon very finely chopped spruce tips
- 1/2 teaspoon freshly cracked pink peppercorns
- Chocolate chips

### **Instructions:**

1. Cream together butter, spruce syrup, and powdered sugar. Stir in chopped spruce tips and pink peppercorns.
2. Prepare your chocolate molds by brushing them with melted chocolate. I melted chocolate chips using my coffee mug warmer, then used a baby spoon to coat the molds. Place the mold in the freezer for a few minutes to harden the chocolate shells.
3. Spoon the spruce filling into the chocolate molds, not quite to the level of the top. Return the molds to the freezer for twenty minutes.
4. The last step is to finish enclosing the candy filling in the chocolate shell by brushing a final coating of chocolate over the top (which will eventually be the bottom once the candies are un-molded).

# Virgin Spruce Beer

By Wendy Petty

Although spruce beer can be brewed as an alcoholic drink, I made the soda version of spruce beer—sparkling and alcohol-free, much like root beer.

I've made all sorts of fermented beverages before—from my own root beer to lemon balm soda and apple cider. They've all tasted pretty nice, but getting the correct level of carbonation is touchy. The resulting drinks either turn out disappointingly flat, or so effervescent that 3/4 of the beverage erupts upon opening.

Enter the plastic bottle brewing method, described online by biology professor Dr. Fankhauser for homemade root beer or ginger ale.

You brew your drink in a 2-liter bottle, and when it has reached the correct level of carbonation, it becomes hard like a familiar bottle of grocery store soda. Kinda genius. So, I used this method to make my spruce beer using fresh, new spruce tips.



*Photo by Wendy Petty.*

## Ingredients:

- 4 ounces of spruce tips
- 1/2 cup hops
- 2 cups non-chlorinated water
- 3/4 cup sugar
- 1/8 teaspoon powdered baking yeast

## Instructions:

1. First, thoroughly wash and dry a used plastic 2-liter bottle. I used soapy water, then let the bottle sit with a dilute vinegar water in it for a few hours, then let it dry in the sun. Also, sterilize all utensils that you use for this process using boiling water. Try to keep the whole operation nice and clean, like you



- would with canning, so that you don't end up propagating the wrong critters.
2. Use a knife to chop up the spruce tips and place them, along with the hops and non-chlorinated water, into a pan. Bring to a boil; let simmer for two minutes; then turn off heat and let the herbs infuse into the water for a few hours (up to 24).
  3. Return the mixture to heat and let reduce by half.
  4. Strain the mixture through a fine-mesh sieve lined with a few layers of cheese cloth (or a coffee filter), pressing the solids to extract all of the liquid infusion.

*Photo by Wendy Petty.*

[hungerandthirstforlife.blogspot.com](http://hungerandthirstforlife.blogspot.com)



5. Using a sterilized funnel, add sugar to the 2-liter bottle. (I've read that you can go as low as 1/2 cup sugar, if you want a really dry drink, but I found that 3/4 cup sugar resulted in a drink that tasted lightly sweet without being syrupy. Also, you can use molasses to make spruce beer, but I didn't want the molasses flavor to mask the spruce.)
6. Next add a scant 1/8 teaspoon of regular powdered baking yeast. Swirl to combine. Now add your spruce/hops infusion (I ended up with about 2/3 cup after spilling some of it when I got impatient with how slowly it was filtering \*blush\*), and again swirl the mixture.
7. Fill the bottle halfway with cold, non-chlorinated water and again swirl the bottle to help dissolve the sugar.
8. Finally, fill the bottle to the bottom of the neck with water and cap tightly. Shake the bottle until the sugar is thoroughly dissolved.
9. Let the spruce beer sit on your counter at room temperature until it becomes hard like a bottle of commercial soda (so that you can't indent the bottle with your thumb). This only took 24 hours for my spruce beer. As soon as the bottle becomes hard, place the spruce beer in a refrigerator (otherwise you risk the bottle exploding).
10. Once the spruce beer has become thoroughly chilled, it's ready to enjoy. Apparently, the taste of spruce beer can vary widely, depending on the variety and age of the spruce used. My own spruce beer has swirling flavors of grapefruit and orange, with the fruity bitterness of hops in the background. And the level of fizz was just perfect. In other words, it was delicious!

