

AN HERBALIST'S GUIDE TO GROWING & USING GOLDENSEAL

KATHLEEN BROWN





AN HERBALIST'S GUIDE TO GROWING & USING GOLDENSEAL

KATHLEEN BROWN



An Herbalist's Guide to Growing & Using Goldenseal

Kathleen Brown



CONTENTS

An Herb in Danger

A History of Healing

Growing Goldenseal

Harvesting Time

Purchasing Goldenseal

Medicinal Uses for Goldenseal

Making Your Own Herbal Remedies

Goldenseal Recipes for Health and Healing

Herbal Alternatives to Goldenseal

An Herb in Danger

Goldenseal (*Hydrastis canadensis*) has been used for centuries to treat digestive complaints, allergies, eye irritation, and dozens of other common conditions. Along with echinacea, ginseng, and ginkgo, it's among the most versatile and potent of the medicinal herbs. Rosemary Gladstar, a well-known herbalist and founder of United Plant Savers, says goldenseal is "quite possibly one of the most useful and valuable plants of North America."

And demand for goldenseal has never been higher — so much so that the survival of this impressive plant is in serious jeopardy. Goldenseal is being harvested at a rate that exceeds its ability to grow back. It's becoming increasingly rare and expensive. As demand and prices rise, it's often produced in adulterated forms, either by mixing the powder with other herbs or by grinding up the entire plant and selling it as "root." In either case, the lower potency means people have to take more, and this in turn has led to even heavier harvesting. Unless alternatives are found, the demise of this precious herb may be close at hand.

Organizations Working for Preservation

Saving goldenseal has become a priority for United Plant Savers. On the largest scale, this requires protecting natural habitats. The clear-cutting of forests, for example, threatens many plant species, including goldenseal. More directly, the best option for protecting wild goldenseal is to increase cultivation.

As far back as the early 1900s, experts recognized that goldenseal was being overharvested. The U.S. Department of Agriculture even published bulletins showing how to grow it. Fortunately, goldenseal is relatively easy to cultivate, and for commercial growers it provides a great return on investment: There's been a 10-fold increase in prices in just the last decade, and the value will continue to rise.

Today, a number of large herbal-supply companies, such as Frontier Herb Coop, Eclectic, Gaia, Herb Pharm, and Herbs for Kids, are promoting the cultivation of goldenseal. Frontier Herb Coop has purchased a farm in southern Ohio to conduct research and offer educational programs on herbs, and especially endangered herbs, and does quite a bit of work with goldenseal. As more and more people begin growing their own goldenseal, pressures on the wild variety will diminish. With luck, this will eventually remove this healing plant from the “at-risk” list.

Before we discuss how to cultivate and prepare goldenseal, it’s worth taking a look back in time to see just how widely this herb has been used.

A History of Healing

Goldenseal has been called the “poor man’s ginseng” because it’s similar in appearance to ginseng and grows in the same areas and habitats. Like ginseng, goldenseal is used to treat a wide range of conditions, from asthma and emotional stress to food sensitivities. Over the centuries it’s been popular both as medicine and as a dye, going by such names as eyebalm, eyeroot, yellow-eye, ground raspberry, Indian plant, jaundice root, orange- or yellow-root, turmeric root, and yellow Indian paint.

Medicinal Traditions in Early America

Goldenseal was first used by the Cherokees to relieve inflammation and stimulate appetite. They called it yellow puccoon and used the juice of the root to stain their faces and clothing. Iroquois tribes used it as a wash for various eye problems, as well as for whooping cough, liver disorders, fevers, and, when mixed with whiskey, for heart problems. The Micmac Indians used goldenseal for chapped lips, and other Native Americans mixed the powdered root with bear grease and used it as an insect repellent.



In the wild, goldenseal grows in rich, shady woods and damp meadows.

As early as 1650, Jesuit priests used bruised goldenseal leaves to disinfect cuts and wounds and help them heal. Following the example of Native Americans, pioneers in the 1700s chewed goldenseal to relieve mouth sores. They also used it for wounds, rashes, and irritated eyes.

The Stamp of Approval

Goldenseal started making the transition from “native” to “mainstream” medicine in 1798 when Benjamin Smith Barton wrote about its popularity among the Cherokee, who used it, among other things, for treating cancer.

Goldenseal was listed in the U.S. Pharmacopoeia from the mid-1800s until 1926. It was first listed in the National Formulary in 1888 and was included regularly from 1936 to 1955. Commercial tonics containing goldenseal were sold for stomach and menstrual problems. It was also used as a substitute for quinine and was thought to prevent pitting of the skin from smallpox.

Self-taught medicine man Samuel Thomson and his followers spread the word about goldenseal. The Thomsonians, who recommended goldenseal as a “bitter” for easing stomach upset, were responsible for giving goldenseal its common name. The bright yellow root has cup-shaped scars on the upper side. The scars resemble the wax seals once used to close envelopes, so they called the herb “golden seal.” Prior to this, the herb was mainly referred to as yellowroot.

Goldenseal was introduced in England in 1760, and it remains in use there today for treating heavy menstrual bleeding, indigestion, gastritis, and eye problems. However, it never became as popular in Europe as other native American herbs, such as echinacea. In fact, early American settlers tended to use goldenseal primarily as a bright yellow dye. When mixed with indigo, it produces an attractive green color. Goldenseal is still used in some watercolors and oil paints.

Goldenseal Now and in the Future

In the last few decades, however, goldenseal has steadily grown in popularity. In Europe, two of its active ingredients, berberine and hydrastine, are included in a number of commercial eyewashes. Although there has been little research on goldenseal — there are fewer than 20 scientific papers analyzing its constituent parts — it does have a long history of safe and effective use.

In the future, there's sure to be additional research validating what hundreds of years of popular use have confirmed: that gold-enseal is a very helpful addition to the herbal medicine chest — not just for physical problems, but for emotional difficulties as well. Herbalist Michael Tierra, author of *Spirit of Herbs Tarot*, calls gold-enseal the “Herb of Awakening.” He suggests its pungent smell can affect people’s attitudes, helping them deal with “astringent” emotions like fear and “bitter” emotions like grief.

Growing Goldenseal

Goldenseal is a member of the *Hydrastis* genus in the Ranunculaceae, or Buttercup, family. It can be found growing in the wild in rich, shady woods and damp meadows. Its range extends from southern Canada down through Minnesota to Arkansas, across to Georgia, and back up to Quebec. It's a woodland perennial that does well in Zone 4 and possibly warmer parts of Zone 3.

Goldenseal grows to about 12 inches (30.4 cm) in height, with a spread of 6 to 12 inches (15.2–30.4 cm). The rootstock is yellow, from $\frac{1}{2}$ to $\frac{3}{4}$ inch (1.3–1.9 cm) thick, about 2 inches (5.1 cm) long, and covered with skinny fibrous rootlets. From the long, knotty root, or rhizome, sprouts a single, hairy stem. The stem has two to five light green, deeply toothed hairy leaves near the top. In late spring, a small, single flower emerges. The flower is short-lived, lasting only a week or so. The flower is replaced by a soft red berry resembling a raspberry, containing 10 to 30 black seeds.



Growing at a Glance

PLANT CYCLE:

Perennial (Zones 3-9)

LIGHT REQUIREMENTS:

Shade to partial shade

WATER REQUIREMENTS:

Moderate

SOIL REQUIREMENTS:

Adaptable, but prefers rich soil
filled with composting leaves of
hardwood trees

SPACING:

Plant 8 to 10 inches (20-25 cm) apart

Soil Requirements

Goldenseal grows naturally in rich, humus-filled soil that has excellent drainage. You'll want to re-create its natural habitat as best you can.

Drainage seems to be a critical factor; without good drainage, you could lose the whole crop.

When creating the soil, be sure to add lots of organic matter, such as leaf mold, compost, peat moss, sand, bonemeal, and cottonseed meal. You'll want to create a bed of amended soil extending down as much as 10 inches (25 cm). Use granular fertilizers, especially those containing potassium and phosphorus.

The Best Locations

A good location to plant goldenseal rootlets is under young trees or in beds shaded on top and on the sides with arbors of lattice or lath strips. Goldenseal seems to grow best on shady north slopes, where there is lots of humidity.

Propagation by Seed

Goldenseal is very difficult to propagate from seed. It requires a huge investment of time and effort, with a spread of five years from seed to harvest. However, while germination is difficult, it can be done.

Step 1: Harvest the berries. If you're going to attempt it, it's critical that you harvest the seed-bearing berry as soon as it's ripe, then clean to eliminate the juice and separate the seeds.

Step 2: Stratify the seeds. Place the fresh, cleaned seeds in moist sand in small pots or multiflats. Store in a cool, humid location over the summer. In early fall, plant the seeds for overwintering: either set them in their containers in a cold frame, or sow the seeds in flats filled with rich soil, set outside, and cover with loose burlap.

Step 3: Plant the seeds. In the spring, sow the seeds $\frac{1}{2}$ to 1 inch (1.3–2.5 cm) deep in rich soil. If the seeds were already sown and overwintered in flats, simply place the flats in a shady area outdoors. Germination can take up to 6 months.

Step 4: Transplant the rootlings. In the fall, plant the tiny roots outdoors in their permanent, woodland locations.

Propagation by Division

The easiest way to propagate goldenseal is by root divisions. Buds form on the fibrous roots that grow from the main root. These small pieces can be cut from the mother plant and planted separately. One mature plant can produce three to five divisions. While some divisions will not produce any leaf growth the first year, they generally will the second year.

Step 1: Divide the mother plant. Divide the roots in either spring or fall. (Before dividing in the fall, however, wait until the mother plant dies back after a frost.) Uproot the mother plant carefully, removing all dirt clumps. Cut some of the shoots, making sure each root stalk has a bud on it, then replant the mother plant. Rootlets can be over-wintered in damp sawdust or planted immediately.

Step 2: Plant the rootlets. Plant the divisions about $\frac{1}{2}$ inch (1.3 cm) deep at 6-inch (15.2) intervals in rows about 6 to 12 inches (15.2–30.4 cm) apart. You'll want to plant the divisions in a moist, shady location. Goldenseal requires 70 to 75 percent shade (possibly less in northern climates), either natural or artificial.

Seasonal Tasks

In spring or early summer, dress with a complete organic fertilizer, such as kelp, or add compost, then mulch with aged sawdust to hold in moisture. Cut back the aboveground growth in late autumn and mulch

with leaves, hay, or chopped legume vines. This will help protect the plants through the colder months, although goldenseal is very hardy and will tolerate temperatures as low as -20°F (-29°C).

Harvesting Time

For the most part, the medicinal potency of goldenseal resides in the rhizomes. These are harvested in the fall or early spring, either by hand or using a root digger. Since it's critically important to protect wild stands of goldenseal, you should refrain from collecting from the natural habitat, a practice called wildcrafting. Harvest only cultivated plants. You'll get 2 pounds (908 g) of root from approximately 32 plants.

Step 1: Dig up the roots. To harvest goldenseal you must, unfortunately, dig up the entire plant (which is a contributing factor to goldenseal's increasing scarcity). Dig up the roots in the fall just after the tops die back.

Step 2: Wash and dry the roots. Once you've harvested the roots, wash them carefully and set them out in a dry, shady place with plenty of ventilation. Turn them daily for the first few days for even drying. About 70 percent of the root is water, so depending on its size, it will take two to three weeks for each root to dry thoroughly.

Step 3: Store the roots. Once dried, place the roots in an airtight glass container and store in a cool, dry location, where they'll keep for several years.

Storage Tips

After investing so much time in cultivating goldenseal, you'll want to be sure the roots stay fresh and retain their potency. Here are a few things you should consider.

- The roots must be completely dry before putting them into a container. Otherwise they'll mold.
- To preserve the volatile oils, color, texture, and flavor, store the roots immediately after drying.
- Label every container, noting the date so you can monitor freshness.

- Check the containers regularly to make sure there is no condensation. If there is any moisture, remove the roots and check them for signs of mold or any deterioration. If they seem all right, allow them to dry out further and then restore them to a dry, clean, airtight container.

When's the Right Time to Harvest?

When you've grown goldenseal from seed, you'll want to wait at least five years to harvest the roots. Those grown from divisions or rootlets may be harvested sooner, usually after the third or fourth year (most experts believe the medicinal potency is greatest after the fourth year).

Harvesting Leaves

Because the medicinal power of goldenseal lies mainly in the roots, there's only a small market for the leaves. However, the leaves and stems do contain the same alkaloids found in the root, just in smaller amounts, and so they are often used for making infusions. Harvest the leaves in summer. Lay them on screens and let them dry for about seven days, turning them regularly. Once dry, place the leaves in an airtight glass container and store in a cool, dry, dark place, where they'll keep for up to a year.

Purchasing Goldenseal

If you happen to live in an area where goldenseal won't grow, or if you don't have the space or the time to garden, the only way to obtain goldenseal is to buy it. There are three simple tests you can perform to make sure that the goldenseal you're buying is of the highest quality:

- **Color.** Whether you're buying it fresh or dried, look for a vivid yellow color. Products with a greenish tinge may contain the relatively inactive leaf powder.
- **Taste.** Goldenseal should have a distinctively bitter taste.
- **Organic cultivation.** In all cases, check the labels. You want to buy goldenseal that has been cultivated, not wildcrafted, and that has been grown using only organic materials.

Goldenseal is widely available in health food stores, and it comes in a variety of forms. Here's what to look for.

Whole Root

It's always best to buy the whole root or large pieces of root rather than the powdered form. Once goldenseal is powdered, it loses its potency quickly. The roots, however, will retain their medicinal properties for years as long as they've been properly dried. Just be sure you're buying cultivated goldenseal and not wildcrafted herb.

The roots store well, but they'll still lose potency when they're exposed to air, warmth, or moisture, so be sure to put them in airtight bottles and keep them in a dark, cool, dry place.

Capsules and Tablets

Capsules and tablets are probably the least effective way to take goldenseal, for two good reasons:

- Manufacturers often use the dregs, or poorest-quality powder, when putting goldenseal in capsule or tablet form.
- Capsules and tablets have to dissolve before being assimilated into the body. (And when you're ill, the body's ability to absorb the healing compounds may be further impaired.)

Still, capsules and tablets are convenient and cost-effective, as long as the herb used was of good quality. It's best to buy capsules and tablets that are packaged in glass rather than plastic. If they are packed in plastic, they'll be freshest when the plastic is opaque. As with some foods, herb packages often include an expiration date, as well as the date of manufacture. You always want to buy products that were packaged most recently. Properly packaged goldenseal has a shelf life of up to two years.

Some people combine the convenience of capsules with the natural potency of fresh herbs by making their own! Most health food stores (and some mail-order sources) sell encapsulating trays, along with capsules in various sizes. It's easy to fill the capsules with powdered herbs, although the process is a bit time-consuming.

Tinctures

The fastest way to get the benefits of goldenseal is to take it in tincture form. Tinctures, which are concentrated liquids, are absorbed very quickly into the bloodstream. They're a good choice because goldenseal roots are extremely bitter — few people can bring themselves to drink the tea, but a dose of tincture is so small that the bitterness is tolerable. In addition, tinctures are convenient, easy to carry, and relatively inexpensive. And they'll retain their potency for four or five years as long as they're stored in a cool, dark location. Plus, you can make your own tinctures (see page 16), which is less expensive than buying them ready-made.

One drawback of commercial tinctures is that often they aren't standardized. In other words, they may not contain reliable amounts of the medicinal compounds. Also, some herbalists believe that the alcohol used in tinctures makes the medicine less effective because the larger molecules in the herb aren't alcohol-soluble. However, high-quality tinctures do appear

to give adequate medicinal benefits. The shelf life of tinctures is four to five years.

Alcohol-Free Tinctures

If you'd rather not use tinctures that are alcohol-based, you can make your own using glycerin or apple cider vinegar. Or you can pour off 2 tablespoons (30 ml) of tea, add the tincture, and let the tea sit 5 minutes. Most of the alcohol will evaporate in this time. (See page 16 for more information on making tinctures.)

Medicinal Uses for Goldenseal

The herbalist Jethro Kloss has called goldenseal “one of the most wonderful remedies in the entire herb kingdom.” The range of conditions that can be treated with goldenseal is truly impressive. Like echinacea, goldenseal is often used as a natural antibiotic. It’s recommended for colds because herbalists say it helps strengthen mucous membranes and removes excess mucus from the body. As a bitter herb, it enhances digestion. It is also thought to stimulate the organs, especially the liver, kidneys, lungs, and colon.

A Chemical Breakdown

Goldenseal contains the alkaloids berberine and hydrastine as well as other chemicals. Individually and together, these compounds affect many parts of the body. For example, berberine disrupts the enzyme systems in bacteria and some parasites, such as protozoa, and may help prevent bacteria from attaching to the body’s cells. The berberine is what gives goldenseal its bitter flavor and yellow color. It’s thought to be the active ingredient that eases stomach contractions, lowers blood pressure, stimulates bile secretions, and stops excessive bleeding.

Hydrastine comprises approximately 1 to 3 percent of goldenseal. It complements the other active compounds and helps give goldenseal its antibiotic and anti-inflammatory effects.

Also present in goldenseal are:

- albumin
- calcium
- chologenic acid
- copper
- essential fatty acids
- essential oil
- fatty oil

- iron
- manganese
- phosphorus
- potassium
- resin
- sodium
- sugar
- vitamins A, C, B-complex, and E
- zinc

The Antibiotic Debate

Despite its popular use as an antibiotic, you have to be careful when using goldenseal to treat infections. Some experts believe that goldenseal, as with any other antibiotic, will destroy beneficial bacteria in the intestines along with the harmful germs causing the infection. They usually recommend using goldenseal for no more than one month, followed by taking probiotics — capsules that contain cultures of healthful bacteria.

However, many herbalists feel this isn't really an issue. Because goldenseal has milder effects than prescription antibiotics, it's unlikely to disrupt the intestines' normal bacterial balance. After all, some of the active ingredients are found in other plants. It's likely, herbalists say, that the beneficial bacteria in the body have evolved to coexist with these compounds.

Another explanation is that goldenseal is not an internal antibiotic. Instead, it increases the flow of mucus, which is naturally antibiotic, in the gut. This could explain why some studies have shown that while high doses of goldenseal can prevent diarrhea, they do not affect populations of malevolent *E. coli*.

Many Uses, Few Facts

Because so little research has been done on goldenseal, no one can say for sure how wide-ranging its benefits really are. In some cases, its reputation probably owes more to folklore than to actual improvements in health. In other instances, science may eventually show that “old-time” healers knew what they were doing. Either way, it’s interesting to see just how widely goldenseal has been used. Some of the claims include:

- Alleviates eczema
- Relieves liver disorders such as cirrhosis and hepatitis
- Is a remedy for vaginitis and itching
- Acts as a natural antibiotic for urinary tract infections
- Works as an antiseptic mouthwash for gum and mouth problems, such as pyorrhea
- Relieves nasal congestion
- Eases a multitude of skin problems, including sores and ringworm
- Provides antibacterial action in the intestines
- Acts as a general tonic for the female reproductive tract and relieves male discharges
- Stimulates digestion and reduces intestinal inflammation and food sensitivities
- Eases middle ear infections
- Stimulates bile production and secretion

Herbal Cautions

With herbs no less than drugs, there are many potential side effects. Because so little research has been done on goldenseal, it’s difficult to know which side effects are truly cause for concern and which may have been exaggerated. Adding to the confusion is the fact that everyone reacts differently to herbal treatments. People who are sensitive to one or more compounds in a given herb may have a serious reaction, while others can take it without any problems.

Some of these cautions are purely common sense. For example, ingesting very large amounts of goldenseal could be dangerous. Women

who are pregnant and people with medical problems such as high blood pressure or hypoglycemia shouldn't take goldenseal (or any other herbal treatment) without first consulting with their primary healthcare practitioner.

Reported side effects from goldenseal include ulcerations of mucous tissue, respiratory failure, convulsions, nausea, and vomiting. These and other side effects sound scary, but it's important to keep things in perspective. Goldenseal and other medicinal herbs have been used for hundreds, even thousands of years. The only reason they've been used so long is that many people have found them to be effective as well as safe. Still, it's always wise to be cautious. It's a good idea to talk to an experienced herbalist or a physician before treating any condition herbally.

A Caution for Pregnant Women

Goldenseal contains a compound, canadine, that appears to stimulate the muscles of the uterus. For this reason, women should avoid goldenseal during pregnancy.

Using It Safely

Unlike drugs, which are identical from one batch to the next, herbs vary widely. Growing conditions, the times harvested, and the parts of the plants that are used all affect the potency. Over the centuries, however, herbalists have developed a pretty good sense of how much goldenseal to use. Here's what they advise.

For Teas

Decoctions of goldenseal root or infusions of the leaf or powder are most often used as a base for other remedies. However, if taking internally, the dose is 1 to 2 teaspoons (5–10 ml) three to six times a day.

For Capsules

Take one or two “00” capsules up to four times a day. During the acute phase of an illness, you can take up to 25 capsules daily for as long as 10 days.

For Tinctures

If you’re using tinctured goldenseal for a sinus problem, you can take 10 and 25 drops up to five times a day. For other conditions, follow these guidelines:

- *When the tincture is made from fresh leaf*, take 15 to 30 drops up to four times a day.
- *When the tincture is made from dried leaf*, take 30 to 75 drops up to four times a day.
- *When the tincture is made from dried root*, take 20 to 50 drops up to four times a day.

Tinctures for Children

Because children are more sensitive to herbs than are adults, you’ll want to talk to your doctor before using goldenseal at home. As a general rule, here’s what herbalists recommend for children of different ages. Consider the following to be maximum amounts, to be given no more than three times a day.

AGE	DOSE (IN DROPS)
Up to 3 months	2
3 to 6 months	3
6 to 9 months	4
9 to 12 months	5
12 to 18 months	7
18 to 24 months	8
2 to 3 years	10
3 to 4 years	12
4 to 6 years	15
6 to 9 years	24

9 to 12 years	30
13 to 16 years	1 dropperful

Making Your Own Herbal Remedies

Now that you know all about goldenseal, you're probably ready to start making some of your own remedies — not only basic teas but also tinctures, salves, lotions, and potions.

Making a Basic Decoction or Infusion

There are two ways to prepare herbal tea. You can make an infusion, in which the herb is steeped, or you can make a decoction, in which the plant matter is simmered over time.

Infusions. To extract medicinal properties from leaves, flowers, berries, or seeds, you'll want to infuse them. These ingredients easily release their essential oils when they're steeped in hot water — and they easily lose their value when they're simmered. To infuse a cup of tea, pour 1 cup (237 ml) boiling water over 1 to 2 teaspoons (5–10 ml) dried herbs or 2 to 4 teaspoons (10–20 ml) fresh herbs. Cover, let steep 10 to 15 minutes, strain well, and drink.

Decoctions. Decoctions are made by simmering root, bark, and other woody parts of the plant, then drinking the cooled liquid. The simmering is necessary to extract the valuable properties. To decoct a cup of tea, add 2 teaspoons (10 ml) dried root to 1 cup (237 ml) water. Cover, bring to a boil, then simmer 15 to 20 minutes. Strain the herbs (they make a nice addition to your compost pile!) and enjoy.

Combinations. When you're making a tea with both roots and leaves, you'll both infuse and decoct: Simmer the roots 20 minutes, remove the pot from the heat, add the leaves and stir, then cover and steep 10 to 20 minutes.

Making a Tincture

When stored in a dark, cool place, a tincture will keep for four to five years.

Step 1: Process the herbs. When you're using fresh herbs, coarsely chop or mince them. When using dried herbs, powder them in a coffee grinder or with a mortar and pestle. This helps open the plant's cell walls to the alcohol.



When making a tincture from dried herbs, first powder them to release their essential oils.

Step 2: Immerse the herbs in liquid. Put the processed herbs in a widemouthed jar. The herbs should make up about one quarter of the total volume. Then cover with liquid. For fresh herbs, you'll use twice as much liquid as herb; for dried, use three times as much liquid as herb. Use the liquid of your choice: apple cider vinegar, glycerin, or alcohol, such as vodka or brandy. (Many herbalists prefer brandy when making tinctures for throat, lung, and digestive conditions.)

Step 3: Seal the jar. After adding the liquid, stir well, then seal the jar tightly. When you're tincturing with vinegar, be sure to cover the top of the jar with plastic wrap before putting on the lid. Otherwise, fumes from the vinegar will corrode the lid, making it difficult to open. Then set the jar in a dark place and let sit for three to six weeks, shaking daily.

Step 4: Strain and bottle the liquid. Strain the liquid and decant into smaller bottles (glass bottles that have eyedroppers are ideal), preferably using dark glass.



Strain the tincture through a double layer of cheesecloth. The spent plant matter makes wonderful compost material!

Making a Salve

Salves are used for a variety of skin problems, as well as to provide protection against the elements. At room temperature, they'll last for several months; in the refrigerator, they'll keep for up to a year.

Step 1: Cover the herbs with oil. Gather 2 to 3 ounces (56–84 g) of dried or freshly wilted herb and 1 pint (473 ml) of olive oil. Then use one of two methods for infusing the herbs in the oil:

- **Stovetop method.** Combine the herbs and oil in the top part of a double boiler. Heat over boiling water for at least 40 minutes, then remove from heat.
- **The sun method.** Put the herb in a jar and cover with oil, making sure there are 2 to 3 inches (5–8 cm) of oil over the top of the herb. Run a knife around the edge of the jar to release any trapped air bubbles. Set the jar in a warm, dry place, such as a sunny windowsill or on top of a water heater, for 2 to 6 weeks.

Wilting Herbs

Before making an infused oil (and from that a salve) from fresh herbs, you need to wilt the plant material to allow most of its moisture content to evaporate (excess moisture can cause mold or botulism). Simply lay the fresh herbs out on a screen or paper towels in a place with plenty of air circulation and away from direct sunlight. After 24

hours, they should be nicely wilted and most of the moisture they contain should have evaporated.

Step 2: Strain the oil. Press the mixture through cheesecloth to separate the oil from the spent plant matter.

Step 3: Add beeswax. To give the salve the proper consistency, combine the infused oil with $\frac{1}{4}$ cup (59 ml) grated beeswax for each cup of oil in the top of a double boiler. Heat until the beeswax is completely melted and the ingredients are thoroughly combined.



Heat the beeswax in a double boiler, stirring constantly so that it doesn't burn.

Step 4: Test the consistency. You can test the consistency by taking a spoonful of the mixture and putting it in the refrigerator for a minute or two. If it becomes too hard, add more oil. If it doesn't harden, add a bit more beeswax.

Step 5: Bottle. When the consistency of the salve seems right to you, divide the mixture among several glass containers. Allow to cool, then seal them tightly. Store in the refrigerator, where the salve will keep for up to two years.

Making an Ointment

Unlike a salve, ointments aren't absorbed into the skin. Rather, they form a layer over it, protecting it from moisture. Like salves, they'll keep for several months at room temperature, and up to a year in the refrigerator.

Step 1: Melt the base. In the top of a double boiler, melt about 20 ounces (560 g) of either petroleum jelly or paraffin wax for every 2 ounces (56 g) of herb.

Step 2: Add the herb. Stir in the herb and heat about 2 hours.

Step 3: Strain and bottle. Now strain the mix into glass jars. Allow to cool before sealing tight.

Making Poultices and Plasters

Poultices and plasters are applied directly to the skin to relieve inflammation, blood poisoning, venomous bites, and the like. They help cleanse the area and draw out infection, toxins, and foreign bodies. They also relieve pain and muscle spasms.

Poultices. A poultice is a warm, moist mass of powdered or crushed fresh herb. To make a poultice, moisten the herb with hot water, witch hazel, herbal tea, or herbal tincture and apply to the skin. If necessary, reapply after it cools. (In a pinch, you can also make a poultice by chewing the herbs and applying them directly to the skin.)

Plasters. A plaster is just like a poultice except that the herb is placed between two thin pieces of cloth instead of applied directly to the area.



Plasters are wonderful for treating bruises, strains, and sprains.

Goldenseal Recipes for Health and Healing

So far we've discussed how to grow and harvest goldenseal, and how the different forms are made and used. Let's focus now on some recipes for using this powerful healing herb. We'll start with formulas for internal use, including some basic teas and tinctures. Then we'll discuss formulas for making salves, liniment, and poultices.

Note: Unless otherwise indicated, the ingredients are given in "parts." A part can be 1 teaspoon (5 ml) or 1 cup (237 ml), depending on the quantity you wish to make.

Herbal Alternatives to Goldenseal

All of the recipes here call for goldenseal, but if you can't grow your own, can't purchase organically cultivated supplies, or wish not to use it, you can also use the herbal substitutes listed on page 32.

THE BASIC INFUSION

The simplest recipe of all is the basic tea, or infusion. It can be taken internally or used as the base for making washes, douches, and compresses.

1 pint (473 ml) water

1 teaspoon (5 ml) goldenseal root powder

Bring the water to a boil, then remove from the heat and add the herb. Let stand until cold.

If using internally, take 1 cup (237 ml) of tea three times a day.

RESPIRATORY RELIEF TINCTURE

This is recommended for treating acute respiratory infections. Take $\frac{1}{4}$ teaspoon (0.6 ml) every hour. For treating other types of infections, omit the

pleurisy and horseradish roots.

2 parts pleurisy root
1 part goldenseal root
1 part echinacea root
1 part myrrh
 $\frac{1}{2}$ part osha root
 $\frac{1}{4}$ part horseradish root
 $\frac{1}{4}$ part cayenne

See the tincture-making technique on page 16.

COLITE-FUL

This is a tincture formula designed to ease symptoms of colitis.

3 parts wild yam
2 parts bayberry
1 part goldenseal root
1 part agrimony
1 part comfrey root



See the tincture-making technique on page 16.

Caution: Comfrey should not be used for more than 4 to 6 weeks at a time and should be avoided by nursing mothers.

DETOXIFY

This is an especially good formula for supporting and strengthening the body during the detox process. Both burdock and dandelion purify the blood and neutralize toxins. In addition, dandelion has diuretic properties, due to its high levels of potassium. Buckthorn bark has a laxative action. Be sure to use dried buckthorn bark rather than fresh, which could cause cramping.

- 1 part goldenseal root**
- 1 part echinacea root**
- 1 part burdock root**
- 1 part dandelion root or leaf**
- 1 part aniseed**
- $\frac{1}{2}$ part buckthorn bark (dried)**
- 1 part yarrow leaf**

To make a tea, decoct the roots, aniseed, and buckthorn bark following the instructions for making a decoction on page 16. Remove from the heat, add the remaining herbs, and stir well. Cover the pot and steep 10 to 20 minutes.

To make a tincture from this formula, see the instructions given on page 16.

BOIL POWER

This tea, taken internally, is excellent for treating boils and purifying the blood. Or you can apply it directly to a boil, followed by a sprinkle of goldenseal root powder.

- 2 parts yellow dock root**
- 2 parts burdock root**
- 1 part Oregon grape root**
- $\frac{1}{4}$ part echinacea root**
- $\frac{1}{4}$ part goldenseal root**

To make a tea, follow the directions for making a decoction given on page 16.

To make a tincture using this formula, see the tincture-making technique on page 16.

VAGINITIS VANISH

This blend has both antiseptic and antibiotic properties. It's recommended for treating vaginal infections and irritation. It's quite bitter when used as a tea, so you may want to mix it with a little juice or take it as a tincture. You can also use the tea as an effective douche.

- 1 part goldenseal root**
- 1 part echinacea root**
- 1 part osha root**
- 1 part garlic bulb, crushed**
- 1 part peppermint leaf**
- 1 part usnea lichen**

To make the tea, decoct the goldenseal, echinacea, and osha, following the directions for making a decoction on page 16. Remove from the heat, add the garlic, peppermint, and usnea, and stir well. Then cover the pot and steep 10 to 20 minutes.

To make a tincture from this formula, see the tincture-making technique on page 16.

LIVER TONIC

This is an excellent cleanser and tonic for the liver. The tea is bitter, but you don't want to sweeten it: The bitterness is part of the healing process. You can add lemon to soften the bitter taste.

- 1 part goldenseal root**
- 1 part dandelion root**
- 1 part milk thistle seed**
- 1 part dandelion leaves**

Simmer the goldenseal and dandelion roots in 4 cups of water for 20 minutes. Remove from the heat, add the thistle and dandelion leaves, cover,

and steep 15 minutes.



Drink 1 to 2 cups daily for three days. Refrigerate any that's left over for up to three days. If you experience diarrhea, reduce the dose and frequency.

SNIFFLE-BUSTER CAPSULES

Taken at the onset of a cold, these capsules will help speed recovery and make you feel better.

- 1 part goldenseal root powder**
- 1 part echinacea root powder**
- 1 part slippery elm root powder**
- 1 part myrrh powder**
- $\frac{1}{4}$ part cayenne powder**

Mix the ingredients and load the powder into “00” capsules. Take two capsules three times a day, or take two capsules every hour when you first feel a cold coming on.

FOOT POWDERS

Here are two good antifungal powders to keep handy for those irritating outbreaks of athlete's foot. If you're going to put on socks after applying the

powders to your feet, be sure that they're dark colored — goldenseal has a propensity to stain clothing.

Recipe #1

- 1 teaspoon (5 ml) goldenseal root powder**
- 1 tablespoon (15 ml) chaparral powder**
- 1 tablespoon (15 ml) black walnut hulls powder**
- 1 teaspoon tea tree oil**
- 1/4 cup (59 ml) white cosmetic-grade clay or arrowroot powder**

Mix all ingredients and store in a shaker bottle. Apply the mixture to your feet once or twice a day, shaking the bottle before each use.

Recipe #2

- 2 parts clay**
- 1 part black walnut hulls powder**
- 1/4 part goldenseal root powder**
- 1/4 part myrrh powder**
- 1/4 part sandalwood powder**

Mix all ingredients and store in a shaker bottle. Apply the mixture to your feet once or twice a day, shaking the bottle before each use.

EYEWASHES

Goldenseal infusions have traditionally been used as eyewashes. Many experts feel it's best to be safe and use only commercial eye-care preparations. However, if you do decide to make your own eyewash, be sure to strain every bit of plant matter from the liquid before using it.

Recipe #1

- 1 teaspoon (5 ml) goldenseal root powder**
- 1 tablespoon (15 ml) comfrey root powder**
- 1 cup (237 ml) boiling water**

Make an infusion following the instructions on page 15. Strain and cool to room temperature. Wash your eyes with the solution several times a day, using either an eyecup or a dropper. Keep any leftover infusion in the refrigerator, where it will remain potent for two to three weeks.

Recipe #2

- 1 pint (473 ml) water**
- 1 teaspoon (5 ml) goldenseal root powder**
- 1 teaspoon (5 ml) boric acid**

Bring the water to a boil, then add the goldenseal and boric acid. Stir, cover, let cool, and strain. Add 1 teaspoon (5 ml) of this mixture to $\frac{1}{2}$ cup (118 ml) water. Wash your eyes with the solution several times a day, using either an eyecup or a dropper. Keep any leftover infusion in the refrigerator, where it will remain potent for two to three weeks.

Eyewashes without Goldenseal

For an effective eyewash treatment that doesn't use the endangered goldenseal, follow the instructions for Recipe #1 but using equal parts Oregon grape root, usnea, and rose hips instead of goldenseal and comfrey.

CANKER EASE

This formula will give quick relief for those painful canker sores.

- 1 cup (237 ml) water**
- 2 teaspoons (10 ml) goldenseal root powder**

Bring the water to a boil. Pour it over the goldenseal powder. Steep until cool, then use as a mouth rinse.

THE TERRIBLE TOOTH

Anyone who's had a toothache knows how painful it can be, especially when you have to wait a week to see your dentist! Keep these ingredients "at the

ready" for emergency toothache relief.

1 part goldenseal root powder

1 part myrrh powder

1 part turmeric powder

1 drop clove oil



Blend the herbs and make into a paste, using a little water. Add the essential oil, then make a poultice (see page 19) and apply to the affected area.

GUM BALL

This solution is easy to make and is useful for any kind of soreness in the mouth or gums.

½ teaspoon (2.5 ml) or 1 capsule goldenseal root powder

¼ teaspoon (1.3 ml) salt

1 cup (237 ml) warm water

Mix, then use two or three times a day as a disinfectant. The gold-enseal won't dissolve completely, so swish it around in your mouth for about a minute, then spit it out.

TAMPON SOAK

For women who suffer from vaginal itching or yeast infections, this formula can make a big difference.

1 cup (237 ml) water

½ teaspoon (2.5 ml) goldenseal root powder

1 teaspoon (5 ml) calendula flowers

5 drops tea tree essential oil

Combine the water, goldenseal, and calendula in a saucepan. Bring to a boil, then remove from the heat, cover, and let steep for 30 minutes. Strain, then add the essential oil. Soak a tampon in the liquid, then insert. Remove after 30 to 60 minutes. Repeat as necessary.

Note: When soaking the tampon, leave it in its protective cylinder. Otherwise, it will expand too much to use comfortably.

BLADDER-BUSTER CAPSULES

For women who have frequent bladder infections, these capsules can be very helpful.

- 1 part goldenseal root powder**
- 1 part myrrh powder**
- 1 part gingerroot powder**
- 1 part marshmallow root powder**

Mix the ingredients and put the powder into “00” capsules. Take two capsules every 3 hours during the acute phase.

YEAST RELIEF

Here's another formula for relieving yeast infections.

- 1 tablespoon (15 ml) goldenseal root powder**
- 2 tablespoons (30 ml) black walnut hull powder**
- 2 tablespoons (30 ml) myrrh powder**
- 1 cup (237 ml) fine white clay**
- $\frac{1}{2}$ cup (118 ml) cornstarch**
- 1–2 drops tea tree essential oil**

Blend the ingredients with a wire whisk. Put the mix in a jar with a shaker top. Apply externally around the vaginal area. This will help keep the area dry, which will discourage the growth of yeast, fungi, and bacteria. The mixture will last indefinitely as long as it's kept dry.

ANTISEPTIC SPRAYS

These recipes will help prevent minor cuts and sores from getting infected.

Recipe #1

- 1 part goldenseal root**
- 1 part echinacea root**
- 1 part chaparral bark**
- 1 part myrrh**
- 1 part calendula flower**
- 1/4 part cayenne**
- 1–2 drops eucalyptus essential oil**

Decoct the goldenseal, echinacea, and chaparral, following the instructions on page 16. Remove from the heat, add the remaining herbs, and stir well. Cover the pot and steep 10 to 20 minutes. Allow to cool, then strain the herbs, using cheesecloth to squeeze out all the liquid. Put the solution in a mister bottle and use as needed.

Recipe #2

- 1/2 ounce (14 g) goldenseal root powder**
- 1½ ounces (42 g) aloe vera**
- 1/8 teaspoon (0.6 ml) each of lemon and tea tree essential oils**

Combine the ingredients in a jar, then pour into an atomizer or spritzer bottle. Shake well before each use.

HEALING SALVE

This antiseptic salve is good for treating sores and cuts when you're concerned about infection.

- 1 part goldenseal root**
- 1 part echinacea root**
- 1 part eucalyptus leaves**
- 1 part black walnut leaves**
- 1 part calendula flowers**

Olive oil

Beeswax

A few drops of wintergreen essential oil

See the salve-making technique on page 17.

Fast First Aid

You may want to keep goldenseal capsules in your first-aid kit or carry them with you when you go hiking. If you get a small cut, open a capsule and sprinkle the powder directly on the cut. It will help speed healing and prevent infection.

ANTIFUNGAL SALVE

For any fungal infection on the skin, this formula can help.

2 parts chaparral bark
2 part black walnut hulls
1 part goldenseal root
1 part myrrh
1 part echinacea root
1–2 drops tea tree essential oil

See the salve-making technique on page 17.

LINIMENT

Liniments are always good to have on hand. They disinfect, draw out toxins, and help dry the skin. You can use this recipe for treating rashes from poison ivy and poison oak. It's also good for acne, boils, scratches, cuts, and sprains and other muscle aches. And please note that this formula is for external use only!

1 part goldenseal root powder
1 part echinacea root powder

- 1 part myrrh powder**
- $\frac{1}{4}$ part cayenne**
- 1 pint rubbing alcohol**

Combine the herbs and rubbing alcohol in a large glass container. Cover and let it sit in a shaded, warm spot for about two weeks. Strain. When kept in a cool, dry location, this formula will remain potent for up to five years.

To use, apply to the affected area every 2 hours. If applying to broken skin, you may need to dilute the liniment with cold water to keep it from stinging.

ALL-PURPOSE SALVE

This salve is good for treating minor wounds, cuts, burns, and rashes.

- 1 part goldenseal root**
- 1 part echinacea root**
- 1 part myrrh**

See the salve-making technique on page 17.

SORE THROAT SPRAY

Sucking on a lozenge is good for easing a sore throat, but the relief is short-lasting. This formula gives longer-lasting benefits. You can gargle with the formula, use it as a spritz, or drink it as a tea.

- 1 part goldenseal root**
- 1 part echinacea root**
- 1 part licorice root**
- 1 part osha root**
- 1 part myrrh**
- 1 part usnea lichen**
- $\frac{1}{4}$ part cayenne**

Decoct the goldenseal, echinacea, licorice, and osha roots, following the instructions on page 16. Remove from the heat, add the remaining herbs,

and stir well. Cover the pot and steep 10 to 20 minutes. Allow to cool, then strain the herbs, using cheesecloth to squeeze out all the liquid. Pour the solution into an atomizer bottle and store in the refrigerator, where it will keep for up to 10 days. Spritz into the back of the mouth as needed.



PIMPLE SOLUTION

This antibacterial blend helps get rid of pimples fast, and the clay will help draw out infection.

½ teaspoon (2.5 ml) goldenseal root powder
½ teaspoon (2.5 ml) green or bentonite clay
12 drops tea tree essential oil
12 drops grapefruit seed extract

Mix the ingredients to make a paste. If it's too runny, add more clay; if it's too thick, add 1 or 2 drops more of either liquid. Apply to blemishes at night, then rinse off with warm water in the morning.



GREAT GRAINS

This an excellent mixture for use as a daily cleanser and scrub.

- 1 cup (237 ml) oatmeal**
- 1/4 cup (59 ml) ground almonds**
- 2 tablespoons (30 ml) lavender flowers**
- 2 tablespoons (30 ml) chamomile flowers**
- 1/4 cup (59 ml) clay**
- 1 teaspoon (5 ml) goldenseal root powder**
- 1 teaspoon (5 ml) slippery elm powder**

Grind the oatmeal, almonds, and flowers until the mixture is a fine consistency. Add the clay and powders, then store in a jar with a tight-fitting lid. To use, mix a small amount of the blend with either water or yogurt to make a paste. Scrub your face gently with the mixture, then rinse with warm water.

Additional Herbs, Greater Power

Goldenseal is often used in combination with other herbs, depending on the condition being treated. For example:

- Goldenseal combined with powdered chaste tree berry (*Vitex agnus-castus*) may help relieve hot flashes and sweats associated with menopause.
- Goldenseal combined with eyebright (*Euphrasia officinalis*) is thought to be good for lowering fever.

- One part goldenseal mixed with 1/4 part myrrh (*Commiphora* spp.) is reputed to ease stomach ulcers and tonsillitis.
- Combined with skullcap (*Scutellaria* spp.) and hops (*Humulus lupulus*), goldenseal acts as a tonic for the spinal nerves.
- Goldenseal combined with skullcap and cayenne (*Capsicum* spp.) is said to strengthen the heart.
- Goldenseal combined with echinacea (*Echinacea angustifolia* and *E. purpurea*) makes an excellent antihistamine.
- For stomach conditions, goldenseal combines well with meadowsweet (*Filipendula ulmaria*) and chamomile (*Matricaria recutita*).
- For ear pain, combine goldenseal with mullein (*Verbascum thapsus*).
- A combination of goldenseal infusion and witch hazel (*Hamamelis virginiana*) makes a good external wash for irritation and itching.
- For infections, try mixing goldenseal with echinacea, cayenne, and myrrh. Or combine goldenseal and garlic (*Allium sativum*).

Herbal Alternatives to Goldenseal

Because wild goldenseal is in serious decline, herbalists have been looking for ways to get the benefits of the herb without threatening the species.

Some laboratory studies have shown that the aerial parts of the plant, while less potent than the root, may be used interchangeably. This practice is encouraged to protect wild plant populations.

Most experts believe that goldenseal should be used only when other herbs won't work. As it turns out, there are many herbs that provide the same or similar benefits, and they can be substituted for goldenseal in many healing recipes.

HERBAL ACTION

Respiratory antiseptic

Decongestant

Blood purification and liver cleansing

ALTERNATIVE TO GOLDENSEAL

Chaparral (*Larrea* spp.), echinacea (*E. angustifolia* and *E. purpurea*), elecampane (*Inula helenium*), pleurisy (*Asclepius tuberosa*)

Cayenne (*Capsicum annuum*), eucalyptus (*Eucalyptus* spp.), ginger (*Zingiber officinalis*), lobelia (*Lobelia inflata*), yerba mansa (*Anemopsis californica*)

Burdock (*Arctium lappa*), dandelion (*Taraxacum officinalis*), echinacea (*Echinacea angustifolia* and *E. purpurea*), stinging nettle (*Urtica dioica*), plantain (*Plantago* spp.), red

	clover (<i>Trifolium pratense</i>), sassafras (<i>Sassafras albidum</i>), yellow dock (<i>Rumex crispus</i>)
Digestive bitter	Yellow gentian root (<i>Gentiana lutea</i>), horehound (<i>Marrubium vulgare</i>), wormwood (<i>Artemisia absinthium</i>)
Topical infections	Barberry (<i>Berberis</i> spp.), coptis (<i>Coptis</i> spp.), Oregon grape root (<i>Mahonia</i> spp.), usnea lichen (<i>Usnea</i> spp.)

*The mission of Storey Publishing is to serve our customers by
publishing practical information that encourages
personal independence in harmony with the environment.*

Edited by Matthew Hoffman and Nancy Ringer

Cover illustrations by Alison Kolesar and Beverly Duncan

Cover design by Carol J. Jessop (Black Trout Design) and Betty Kodela

Text illustrations by Laura Tedeschi, except page 3 by Beverly Duncan,
pages 16–18 by Randy Mosher, and page 19 by Alison Kolesar

Text production by Betty Kodela

Copyright © 1999 by Storey Publishing, LLC

All rights reserved. No part of this bulletin may be reproduced without written permission from the publisher, except by a reviewer who may quote brief passages or reproduce illustrations in a review with appropriate credits; nor may any part of this bulletin be reproduced, stored in a retrieval system, or transmitted in any form or by any means electronic, mechanical, photocopying, recording, or other without written permission from the publisher.

The information in this bulletin is true and complete to the best of our knowledge. All recommendations are made without guarantee on the part of the author or Storey Publishing. The author and publisher disclaim any liability in connection with the use of this information. For additional information please contact Storey Publishing, 210 MASS MoCA Way, North Adams, MA 01247.

Storey books and bulletins are available for special premium and promotional uses and for customized editions. For further information, please call 1-800-793-9396.

Printed in the United States