



— Herbal Support for —

COLD AND FLU SEASON



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INTRODUCTION

Turning to Herbs for Ultimate Support

We all know cold and flu season is coming when we start to hear sniffly noses, scratchy throats, and coughing all around us, and then everyone suddenly seems to be afflicted! Cold and flu season can hit like a tidal wave, affecting significant portions of the community all at once. This time of year tends to be fairly rhythmic and predictable; when one person begins feeling unwell, you know that more cases are likely on the way.

It's easy to feel defenseless against unseen viruses and bacteria, but there is much you can do to prepare for cold and flu season. Giving your body some extra support against illness through the use of gentle and effective herbs is one of the very best ways to prepare yourself for this time. With just a few simple practices and herbal additions to your daily routine, you can ensure you'll feel your best all winter long!

In this ebook, we will go into detail on several herbs that are commonly used to support the body against illness and share some essential herbal recipes to have on hand during cold and flu season. You can use many of these herbs before sickness presents itself or once it has arrived, and each of these herbs can help to ease symptoms and shorten your down-time when an infection has already taken hold. From the herbalist's Fire Cider and time-tested garlic to herbs like thyme (*Thymus vulgaris*) and echinacea (*Echinacea* spp.), we consider these some of the most powerful tools to combat cold and flu season this year.



Keeping Colds and the Flu at Bay

There are many ways you can work to ward off viruses during cold and flu season as we discuss in our blog article, [Tips For Staying Healthy This Cold And Flu Season](#). While some of these practices involve the use of herbs, there are also many lifestyle approaches, such as good hygiene, balanced nutrition, and healthy sleep habits, that can make a big difference in our overall winter wellness.

Good Hygiene:

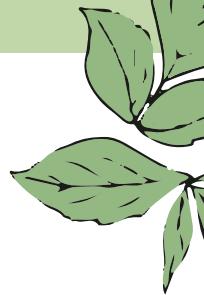
- Regularly wash your hands with soap.
- Avoid crowds, pens and pencils in public places, and shopping carts. (Cold and flu season is a good time to start carrying your own pen.)
- Don't touch your face. Viruses enter the body through mucous membranes, so keep your hands away from your mouth, nose, and eyes. A Berkeley study showed the typical hand-to-face connection is made an average of 16 times per hour (Nicas & Best, 2008)!

Healthy Diet:

- Eliminate sugar. Sugar can suppress your immune system for hours after ingestion.
- Eat fermented foods or take probiotic supplements to support a healthy immune system.
- Eat nutritious, unprocessed foods.

Lifestyle Considerations:

- Exercise regularly.
- Spend time in the sun or invest in a full spectrum light bulb and place it where you usually sit in the house.



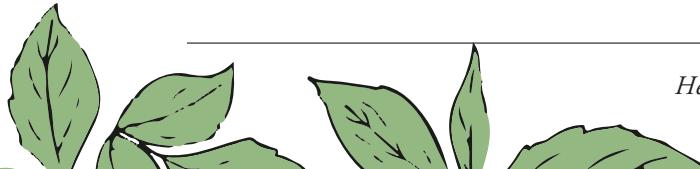
- Get fresh air.
- Stay warm (75-85 degrees F).
- Stay in a good mood and laugh often. It is generally believed that hobbies help reduce stress and thereby help maintain health. It has been suggested that people with strong support systems, hobbies, and things to look forward to don't get sick as often as those who are depressed and stay indoors.
- Reduce your stress. Stress can compromise your immune system. If you find yourself in a stressful situation, breathing exercises and meditation can be helpful tools. If you have trouble with meditation, try a guided meditation (many are available online).
- Get plenty of rest, especially during cold and flu season.
- A salt gargle with 1 teaspoon of salt in some warm water is an antiviral folk remedy.

Supplements:

- It is a good idea to have your vitamin levels checked. Much research on vitamin D is currently underway and shows vitamin D is high on the list for proper immune system functioning (Smith, 2008). Generally, 10 minutes of exposure to a moderate amount of skin to the midday sun will suffice. Those in the northern latitudes know this is nearly impossible during winter, so supplementation may be necessary.
- While you're checking with your healthcare professional about vitamin D, ask them about vitamin C. Vitamin C is important as an immune system builder (Smith, 2008).

Water:

- It's very important to always stay hydrated, but it is especially important during cold and flu season. Drink lots of warm drinks. Nutritious teas are especially helpful during the winter months, as are spicy chai teas.
- Now that we've covered some commonsense tips for cold and flu season, let's dive into some of our favorite herbs to help you stay well during the winter months and support the body when illness comes knocking at your door!







6 MUST-HAVE HERBS FOR COLD AND FLU SEASON

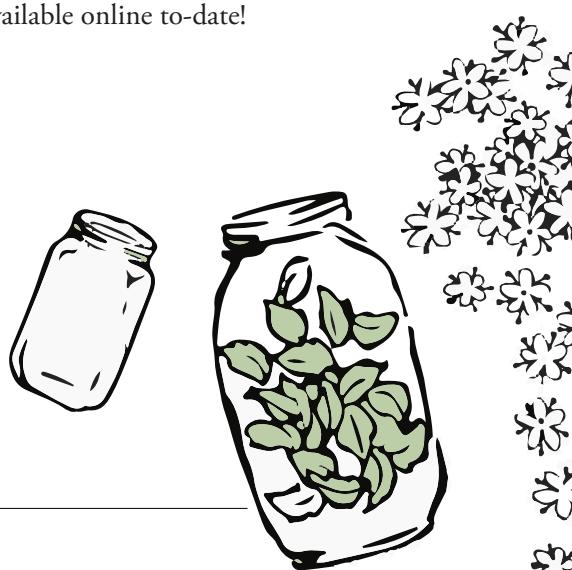


Herbs can help to support the body in a number of ways during cold and flu season.

They can help to strengthen the immune system so it can better defend the body against viruses, either keeping you from becoming infected or overcoming the infection quicker and with fewer symptoms. Our herbal allies can help support the body as it deals with common symptoms, like cough, fever, and congestion, that often accompany a viral infection. Finally, herbs can help build and strengthen the body, assisting in recovery and convalescence after an infection.

Here we have put together our must-have herbs for cold and flu season. Of course, this is just a starter list and there are many other wonderful herbal allies to include in your winter wellness routine.

All herbal monographs to follow are excerpted and adapted from the Herbal Academy's [Intermediate Herbal Course](#) and membership website, [The Herbarium](#). The Herbarium boasts of one of the most complete and in-depth plant monograph databases available online to-date!



ELDER

Sambucus nigra or *S. canadensis* (Viburnaceae)

Berry and flower

The genus name of elder (*Sambucus*) is from the Greek for an ancient instrument made from elder wood (Magee & Ahles, 1999). Instrumental use aside, the flower is considered the most versatile part of the elder tree, even though all parts are used for different reasons (Holmes, 1997). Elderflower clusters can be harvested from the tree as they come into bloom and then garbled from the flower cluster stems. Be sure to only remove a few clusters so that the tree can produce berries later in the year!

There are two forms of elder, those with black berries (*S. nigra* and *S. canadensis*) and those with red berries (*S. racemosa*); the red are smaller and somewhat toxic, while the black berries are slightly larger and edible (Buhner, 2013). Elderberries should be fully ripe before harvesting — do not pick green or unripe berries. Harvest the berry stalk and then separate the berries from the stems.

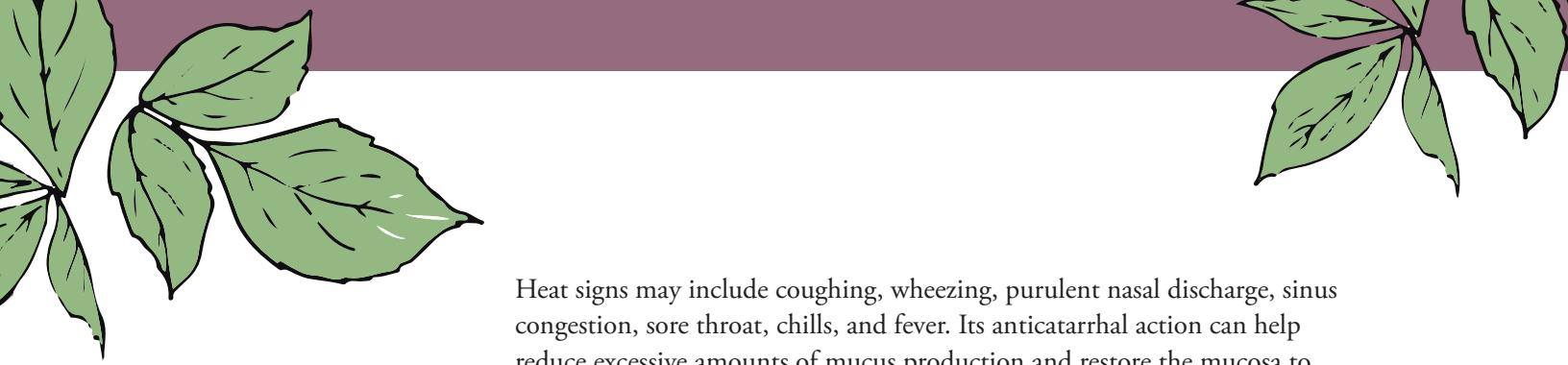
Black elder particularly likes its feet in moist soil so you will often find it growing near a brook, river, or wetlands, but it also grows in forest gaps, fields, roadsides, farmyards, and suburban gardens throughout the world.

Actions Berry: Anti-inflammatory, antioxidant, antiviral, immune stimulant;
Flower: Alterative, anticitarrhal, anti-inflammatory, antispasmodic, diaphoretic, diuretic, nervine

Energetics Cooling

Use Elderflower is commonly used to address colds and influenza with a specific indication for catarrhal inflammation of the upper respiratory tract, including hay fever, sinusitis, and tonsillitis (Hoffmann, 2003). Elderflower has also been used with positive effect for catarrhal deafness and viral infections of the upper respiratory tract. One study observed the antiviral activity of elderflower in a formula with St. John's wort (*Hypericum perforatum*) aerial parts, and soapwort (*Saponaria officinalis*) root against influenza viruses A and B both in vivo and in vitro, and against herpes simplex type I in vitro (Serkedjieva et al., 1990).

An ideal herb to draw from either at the onset of a cold or the flu or after a virus has already taken root, elderflower helps clear signs of heat in the respiratory system and promotes sweating through its diaphoretic action.



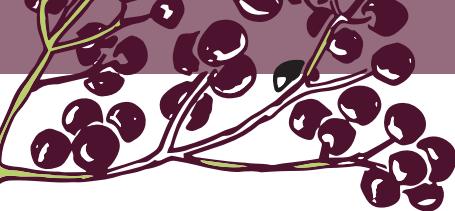
Heat signs may include coughing, wheezing, purulent nasal discharge, sinus congestion, sore throat, chills, and fever. Its anticitarrhal action can help reduce excessive amounts of mucus production and restore the mucosa to moderate levels. This is one of the reasons elderflower is used for both acute and chronic forms of bronchitis (Holmes, 1997).

The flavonoids rutin and quercetin in elderflower are the constituents that lend elderflower its anti-inflammatory action. Rutin and quercetin make elderflower also useful for allergic and inflammatory conditions of the upper respiratory tract including rhinitis, sinusitis, laryngitis, and asthma (Holmes, 1997).

Like elderflower, elderberry is also an exceptional ally during colds, the flu, and respiratory infections due to its immune stimulant and antiviral actions. Elderberry tincture or syrup is a mainstay in many an herbalist's apothecary as the go-to herb at the very initial signs of a cold or the flu. We'll share our favorite immune boosting syrup in this ebook! Taken at onset, elderberry can reduce the duration of colds and the flu because it interferes with virus replication and strengthens cell walls to inhibit viral penetration (Hoffmann, 2003).

Elderberry has been the subject of numerous research studies. In one placebo-controlled, double-blind study, significant improvements in flu symptoms were seen in 93.3% of an elderberry-treated group of individuals





with the flu within 2 days. Only 91.7% of the patients in the control group showed improvement within 6 days (Zakay-Rones et al., 1995).

An in vitro study of elderberry extract and H1N1 flu infection identified the antiviral components of elderberry and established that elderberry flavonoids bind to H1N1 viruses and, when bound, block the ability of the viruses to infect host cells. The researchers concluded that the H1N1 inhibition activities of the elderberry flavonoids compare favorably to Tamiflu and Amantadine (Roschek et al., 2009).

Safety Elder bark, leaves, roots, seeds, and unripe berries are considered toxic (they may cause nausea, diarrhea, and depression of the central nervous system) due to the presence of cyanide-producing glycosides (American Botanical Council, 2004). Fresh elderberries also contain cyanogenic glycosides; however, the ripe fresh berries are considered safe unless consumed in high quantities or by someone sensitive to the compounds in the plant (Buhner, 2013). Cooking or drying elderberries reduces the cyanogenic glycoside content (Gardner & McGuffin, 2013).

Dose Decoction: 1-1.5 g dried berry/day divided into 1-3 doses; Tincture: 4-6 mL (1:2, 25%) 4-6x/day (Kuhn & Winston, 2008).



GARLIC

Allium sativum (Amaryllidaceae)

Bulb

Used for at least 5,000 years as a food and an herb, an ancient Chinese proverb states of this member of the Allium (onion) genus: “Garlic is as good as ten mothers” (Ryther, 2013). Known as “the stinking rose,” garlic’s strong odor and pungency were believed to ward off evil spirits, werewolves, vampires, and hungry tigers, and the bulbs were even used as currency in ancient Egypt (Rupp, 2014). These days, its qualities are undisputed. In fact, thousands of studies have been done on garlic and its primary constituent of scientific interest, allicin, and its effects on the cardiovascular system, infections, the respiratory system, cancer, blood sugar, and more. It is one of the most well-researched herbs to date!

Actions Anti-inflammatory, antimicrobial, cholagogue, diaphoretic, diuretic, expectorant, hypolipidemic, hypotensive, immune stimulant

Energetics Warming

Use Why the reverence for such a stinky, albeit delicious, plant? An immune system stimulant, diaphoretic, expectorant, and antimicrobial, the raw cloves are used to support the body’s response to respiratory conditions in the winter months. Garlic can ease some of the discomforts of a cold through its anti-inflammatory action, as well as shorten its duration by stimulating the immune system, thinning mucus, and throwing off a fever.

Have you ever eaten a whole head of garlic in one sitting? The next morning you wake up and you just reek of garlic, like you are sweating pure garlic. Similarly, if you cut up garlic and place it on the bottom of the feet and wear socks at night, your breath in the morning will smell of garlic. This is a good indication that garlic has a systemic effect on the body, reaching into those nooks and crannies where pathogens might hide.

Now, you can’t just go and swallow a whole garlic clove and expect the plant’s benefits. When garlic is damaged by being cut or chewed on by insects or mammals, the plant interprets this as a predator. The sulfur-rich compounds in the cloves are activated by oxygen and an enzyme that





converts the amino acid alliin to allicin and other isothiocyanates; these protective compounds hold the true power of garlic (Masé, 2013). To harness those protective compounds for yourself, chop or crush garlic and let it sit and oxidize for 3-5 minutes before taking it internally or adding it to a meal. Heat deactivates this process, so allowing the clove to sit for a bit before cooking allows you to get the most beneficial bang for your buck.

Garlic provides excellent support during the first stages of a cold or the flu. Garlic has 18 known antiviral and antibacterial substances (Gladstar, 1993), and displays notable antimicrobial activities throughout the body on viruses, bacteria, protozoa, worms, yeast, and fungi. It has been shown to be effective against gram-positive and gram-negative aerobic (not anaerobic) bacteria and against antibiotic-resistant bacteria (Sivam, 2001). Fire cider is a traditional preparation reintroduced to modern herbalists by Rosemary Gladstar (2001) that includes many antimicrobial herbs, including garlic, and is used as a general immune stimulant and antimicrobial.

The aromatic compounds in garlic work in the body as many aromatics do: by dilating blood vessels, opening and relaxing circulation. Many studies support the use of garlic in reducing blood pressure (Reinhart, 2008) due to its ability to reduce tension in the cardiovascular system. Studies also demonstrate garlic's ability to lower serum cholesterol levels (Budoff, 2006; Hoffmann, 2003; Stevenson et al., 2000) and reduce vascular damage as well as the hardening and narrowing of arteries (Budoff, 2006; Orekhov & Grunwald, 1997).

To retain garlic's beneficial properties, it should not be heated at a high temperature or for too long. Spread on toast or add to tea towards the end of steeping time and add plenty of sweetener and lemon,

Safety Those with gastrointestinal sensitivities or ulcers may find that garlic aggravates their condition. Use only culinary amounts if on blood thinners and during pregnancy, in the postpartum period, and during lactation. Avoid 2 weeks before and after surgical procedures (Mills & Bone, 2005).

Dose A clove of garlic can be eaten daily for general support or 1 clove of garlic can be taken 3x/day during acute infections (Hoffmann, 2003).





GINGER



Zingiber officinale (Zingiberaceae)

Rhizome

Tongue-tingling and pungent, this tropical rhizome's culinary and herbal uses are detailed extensively in early Chinese medicine, ayurvedic medical texts, and ancient Roman, Greek, and Arabic traditions. Ginger's deeply warming zest was also a favorite of Queen Elizabeth I, who is credited with the traditional Christmas gingerbread men (Benzie & Wachtel-Galore, 2010).

Harvest the rhizome about 10 months into growth, or after the leaves have died back. Pieces of the rhizome may be saved and replanted.

Actions Anodyne, antiemetic, anti-inflammatory, antimicrobial, antispasmodic, carminative, circulatory stimulant, choleric, diaphoretic, expectorant, orexigenic

Energetics Warming and drying

Use Widely used for taming nausea and morning sickness, ginger also provides a range of applications for digestion, circulation, the reproductive system, and as a general anti-inflammatory. Herbalists use ginger's antimicrobial activity and ability to thin mucus, as well as its diaphoretic action, to help the body progress through a cold or the flu. Fresh-pressed ginger juice diluted in water or a tea made with fresh ginger is ideal for this use.

Ginger's volatile oils stimulate the immune system to fight both bacterial and viral infections (McIntyre, 1996) and it is an all-around warming immune stimulant that is delicious and useful in cold and flu season beverages. Many herbalists use it at the first signs of viral infection and find that it can abort the onset of upper respiratory infections (Holmes, 1997). Ginger's antiviral actions include stimulating macrophage activity, preventing viruses from attaching to cell walls, and acting as a virucide (Buhner, 2013). Ginger is traditionally used fresh, as the antimicrobial action is most effective in the fresh rhizome. Herbalist Stephen Buhner (2013) states, "If you are using ginger as an antiviral, the fresh juice cannot be surpassed in its effectiveness" (p. 168). Fresh ginger juice can also be applied topically to skin infections.

Ginger also possesses other actions that make it useful as a catalyst in antimicrobial herbal formulas, helping to increase their action by dilating blood vessels and enhancing circulation.



Ginger is a well-known anti-inflammatory and may also work to ease aches and pains of viral infection. Two clinical trials on the effects of ginger for inflammation resulting from osteoarthritis, rheumatoid arthritis, or musculature discomfort indicated 75% of participants saw relief from pain and swelling, with ginger as effective as ibuprofen (Buhner, 2013).

Drinking ginger tea and applying a ginger poultice to the abdominal area may help with menstrual cramps, while enjoying the tea (or a nibble of fresh ginger!) before meals can ease intestinal cramping and other digestive discomforts.

Safety Avoid high doses when combined with anticoagulant medications (Mills & Bone, 2005)

Dose Infusion: 0.75-3 g dried herb/day, 1.5-3 g fresh herb/day divided into 1-4 cups (Mills & Bone, 2005); Tincture: 1.5-5 mL (1:5, 40%) 3x/day (Hoffmann, 2003). Ginger can also be chewed or used topically as an oil, compress, or poultice.

THYME

Thymus vulgaris (Lamiaceae)

Aerial parts

Ginger, echinacea, elder—these herbs are some of the first to pop into our minds for cold and flu season. It might surprise you that an herb tucked away in your kitchen cabinet, thyme, is the quintessential herb for winter!

A Mediterranean member of the mint family, thyme's name indicates that it may have once been used as sacred incense: thyme from Old French thym, from Latin thymum, from Greek thumos, from thuein, which means "to make a burnt offering." Folklore indicates that thyme was associated with courage: Ancient Greeks used thyme incense to invoke bravery and medieval soldiers were gifted sprigs of thyme for courage (Grieve, 1931).

Thyme can be harvested by cutting vibrant stems at any time during the growing season. To dry, hang the sprigs in a dark, well-ventilated area or place them on a tray to dry.

Actions Anti-inflammatory, antimicrobial, antioxidant, antiparasitic, antispasmodic, astringent, carminative, diaphoretic, expectorant

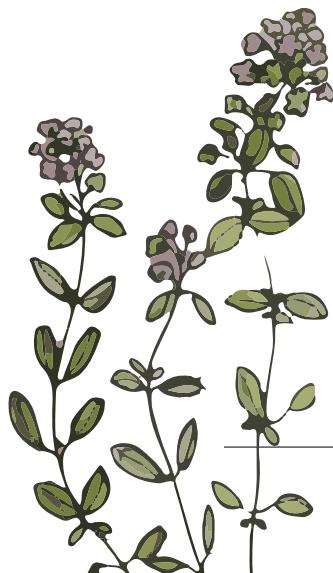
Energetics Warming and drying

Use Thyme possesses a range of applications in Western and Eastern herbal traditions that have either been sustained to the present day or which are now being investigated and largely supported by science. Thyme was and is most frequently connected to the respiratory and digestive systems. This is paralleled in Chinese medicine, wherein thyme is associated with the Lung, Liver, and Stomach. For its connection to the Lung meridian, it is used to warm the Lung in instances of acute and chronic respiratory infections, asthma, and spasmodic coughs as well as for immune support during colds and the flu (Tierra, 1998).



Thyme has long been favored by herbalists as a go-to herb for breathing difficulties and for any kind of imbalance that encroaches upon the respiratory system. Thyme acts as a bronchodilator and as an anti-inflammatory agent and is used to address asthma, bronchitis, whooping cough, pneumonia, and the common cold (Holmes, 2006). In addition, thyme has an opening influence on the sinuses, where its warming and drying nature helps to clear congestion. It is often used as a tea, a gargle, or with honey to expel mucus.

Thyme's volatile oil constituents, especially thymol, are antimicrobial against many different kinds of bacteria including those involved in upper respiratory infections (Nabavi et al., 2015) and also contribute to thyme's expectorant, diaphoretic, and antitussive qualities that are used by herbalists to support resolution of colds, the flu, and other lower and upper respiratory tract infections. Choose thyme for mucusy respiratory conditions with productive coughs (rather than dry coughs), as it is drying.



Thyme's antimicrobial properties also make it useful as a wound wash (use a tea or a tincture for this purpose) and the fresh aerial parts of thyme can be made into a poultice for cuts and wounds. Thyme can also be added to a mouthwash formula to protect the mouth from dental plaque-causing bacteria.

Safety The same volatile oils that contribute to the expectorant, diaphoretic, and antitussive nature of thyme also give the herb a carminative quality. This ability to relax the digestive tract makes it helpful for bloating and gas.

Use only culinary amounts during pregnancy.

Dose Infusion: 3-12 g dried herb/day divided into 1-4 cups (Mills & Bone, 2005); Tincture: 2-4 mL (1:5, 45%) 3x/day (Hoffmann, 2003).





ECHINACEA

Echinacea spp. (Asteraceae)

Root, seed, aerial parts

Several echinacea species are used in herbalism, including *Echinacea angustifolia*, *E. pallida*, and *E. purpurea*. Echinacea is an at-risk plant in the wild, so be sure to purchase organically cultivated echinacea or grow your own. Roots are generally harvested in the fall after the first frost. Leaves and flowers can be harvested in summer when flowers are in full bloom and seed can be harvested after it is mature.

Actions Antimicrobial, alterative, immune stimulant, immunomodulant, lymphatic, sialagogue

Energetics Cooling

Use Echinacea, commonly known as coneflower, is a North American perennial native now cultivated throughout the world. In fact, echinacea is one of the most widely used and researched herbs! Echinacea is primarily an immune stimulant, although many herbalists also consider it an immunomodulant, mainly encouraging non-specific immunity, and it can have some effect on allergies and autoimmune conditions. Echinacea is best used at the onset of infections (e.g., colds, the flu, and sinus, throat, and lung infections), and is a specific for upper respiratory infections with swollen glands.

A German placebo-controlled clinical study of 160 patients with upper respiratory tract infections demonstrated significant improvement in duration of illness after patients were treated with an aqueous-alcoholic *E. pallida* tincture (1:5) at 90 drops per day. The duration of illness decreased from 13 to 9.8 days for bacterial infections. Viral infections saw a decrease in duration from 12.9 to 9.1 days (Bräunig & Knick, 1993).

Herbalist Stephen Buhner suggests taking echinacea with licorice (*Glycyrrhiza glabra*) root and red root (*Ceanothus americanus*) root at the onset of a cold and offers that it can also be used as a mouthwash and topically for bites and stings. The dried root can be powdered, kept in a first-aid kit, and sprinkled over wounds (Buhner, 2012).

If your tongue starts to tingle after taking an echinacea tincture — congratulations! This means your tincture is potent and contains immune-stimulating compounds. If you're troubled by the temporary tingle, try diluting the tincture in water.



When using Echinacea to address a virus, timing and delivery are everything, according to Buhner, who describes echinacea as a definite antiviral (citing its activity against HIV and several flu strains) with the caveat that it must have direct contact with the virus right before or at the moment of infection, which typically presents as a tingling sensation in the throat (Buhner, 2012). Doing so, Buhner says, will allow echinacea to strengthen the cellular bonds in the mucous membranes, preventing the virus from penetrating deeper into the tissues (Buhner, 2012). Direct contact with 30 drops of tincture must be undertaken every hour until symptoms are reduced. This approach is best for colds at first onset as opposed to established infections. Buhner also recommends direct contact at the back of the throat with echinacea for bacterial infections like strep throat and tonsillitis (Buhner, 2012).

According to the World Health Organization's monograph on echinacea, the herb's immune stimulation derives from three mechanisms:

1. Activation of phagocytosis and stimulation of fibroblasts
2. Increasing respiratory activity
3. Increasing mobility of the leukocytes (World Health Organization, 1999)



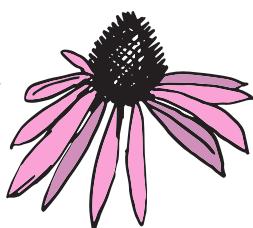
Echinacea has been heavily touted and marketed in the mainstream press as a cold and flu herb, which may be an unfortunate oversimplification and misunderstanding of traditional use (Ferguson, 2012). Results of human studies for this purpose have been mixed, with some showing that echinacea can minimize both the duration and symptoms of a cold, and other studies showing little to no effect. However, along with asking if these studies reflect the traditional use of Echinacea in the first place, one must question what species was used in the study, what part or parts, dosage, frequency of administration, and how it was administered. Analyzing results and drawing firm conclusions about echinacea is certainly a challenge when different species and parts and varying doses and preparations are used throughout the literature.

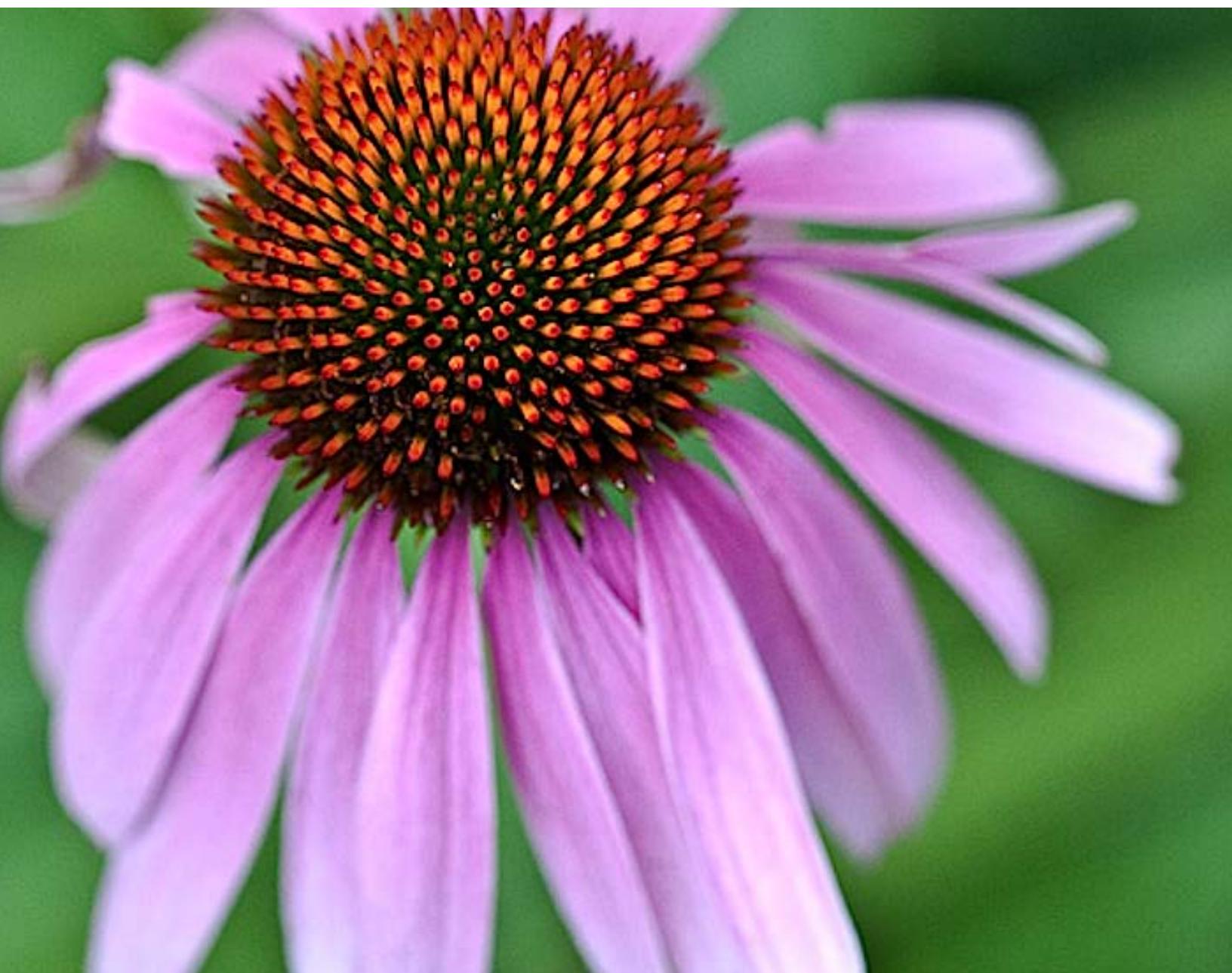
In one study, a group of patients with a cold were compared to a placebo group, and after a week on *Echinacea purpurea* (8 doses of 5 mL on the first day and three doses for 6 days) the echinacea group experienced a modest decrease in symptoms, and there was a significant increase in circulating white blood cells, monocytes, neutrophils and NK cells (Goel et al., 2005).

The immune-modulating effects of echinacea may stem from its polysaccharide content (Wagner, 1988; Fonseca et al., 2014), but an herbalist viewpoint would of course postulate that benefits are derived from a synergistic cocktail of constituents working together in the whole plant.

Safety Individuals with allergic sensitivity to other plants in the Asteraceae (daisy) family may be sensitive to echinacea. There is a theoretic concern with the use of echinacea in systemic diseases such as tuberculosis, HIV, and autoimmune diseases, but definitive data supporting or refuting this theoretic concern is lacking (Gardner & McGuffin, 2013).

Dose Tincture: 1-5 mL (1:5, 50%) 3x/day (Mills & Bone, 2005); for acute situations, 30 drops every hour (Buhner, 2012).







PEPPERMINT

Mentha x piperita (Lamiaceae)

Leaf

Propagated by rhizome, peppermint is easy to grow in the garden—in fact, once it's there, it's hard to get rid of! Peppermint also grows well in a pot, and can be kept on hand year-round for digestive support or simply as a delicious addition to a beverage or salad. Enjoy the leaves either fresh or dried for both infusions and tinctures. Harvest peppermint leaves by pinching off the topmost part of the plant down to one of the lower sets of floral leaves.

Actions Analgesic, anticongestant, antiemetic, anti-inflammatory, antimicrobial, antioxidant, antispasmodic, antitussive, antiviral, aromatic, carminative, diaphoretic, nervine

Energetics Cooling and drying

Use Peppermint is a traditional herb used for fevers, colds, and flus (Hoffmann, 2003) due to its antimicrobial, diaphoretic, and analgesic actions. In addition, peppermint is an anticongestant and antitussive (cough relieving). Inhalation of the volatile oils, including menthol, in peppermint oil or tea helps ease nasal congestion in the most pleasant, aromatic way. As for coughs, based on their review of clinical studies, McKay & Blumberg (2006) concluded that menthol may reduce coughing and act as an effective antitussive agent.

In most cases, peppermint should be combined with warming herbs and/or used as a hot tea when taken during viral infections.

Peppermint is also helpful for nausea due to its antiemetic action. Though peppermint's antiemetic properties have traditionally been delivered via tea, a clinical trial on individuals who experienced nausea after a cesarean section revealed the effectiveness of simply inhaling the aroma of peppermint (Lane et al., 2012).



Peppermint can be employed to ease many other digestive disorders, from gas and bloating to intestinal cramps and diarrhea. Peppermint has a cooling quality (though may be more warming if taken hot, as a tea) so might be best for someone with an excess of heat in the gastrointestinal (GI) tract (as in irritable bowel syndrome (IBS), for example).

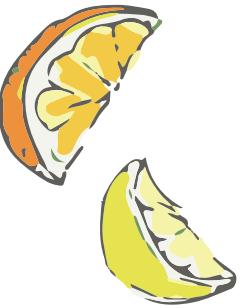
Safety Since peppermint may decrease lower esophageal sphincter pressure, caution should be taken for people with gastroesophageal reflux or hiatal hernia (Gardner & McGuffin, 2013). Use with caution in cases of gastrointestinal ulcers or significant gastrointestinal inflammation (Mills & Bone, 2005).

Dose Infusion: 3-6 g dried leaf/day divided into 2-3 doses; Tincture: 1-2 mL (1:5, 40%) 3x/day (Hoffmann, 2003).





7 ESSENTIAL HERBAL RECIPES EVERYONE NEEDS FOR COLD AND FLU SEASON





Herbalist's Fire Cider

Herbalist's Fire Cider is a must-have oxymel for cold and flu season! This is a base recipe to get you started, but note that you can be really flexible in how you make your own homemade fire cider. Some other great additions to your fire cider recipe include dried elder (*Sambucus nigra* or *S. canadensis*) berries, cinnamon sticks (*Cinnamomum* spp.), echinacea (*Echinacea* spp.) root, seed, or aerial parts, astragalus (*Astragalus membranaceus*) root, and even lavender (*Lavandula* spp.) flower buds.

Ingredients

- 
- 1 large red onion, chopped
 - 3 heads garlic (*Allium sativum*), chopped
 - 1 organic lemon with peel, diced
 - $\frac{1}{2}$ cup fresh ginger (*Zingiber officinale*) root, grated
 - $\frac{1}{2}$ cup fresh turmeric (*Curcuma longa*) root, grated
 - $\frac{1}{4}$ cup fresh horseradish (*Armoracia rusticana*) root, grated
 - $\frac{1}{4}$ cup fresh thyme (*Thymus vulgaris*) aerial parts, chopped
 - 2 teaspoons fresh ground black pepper (*Piper nigrum*)
 - A few fresh cayenne or jalapeño peppers (depending on how spicy you want your fire cider, you might use more peppers, or omit them altogether—it's better to err on the side of caution because you can always make it spicier later!)
 - Honey to taste
 - Raw apple cider vinegar

Directions

- Place all ingredients except honey in a half-gallon glass jar, and cover with raw apple cider vinegar. Be sure to cover the herbs by at least a few inches.
- Cut a square of waxed paper and cover the mouth of the jar before tightly capping it with a lid.
- Store in a dark cupboard for a few weeks, shaking the jar daily.
- After 3 weeks, your fire cider will pack a punch, but you can keep

infusing for much longer if you like—some herbalists let their fire cider sit for months before straining it!

- At this point, you can strain out the herbs from the liquid, but another option is to blend the whole batch in a blender or Vitamix and let it sit for an additional week (without shaking for the last few days to let the ingredients settle) before pouring off the liquid.
- Either way, once you've finished infusing herbs and strained the fire cider, add warmed raw honey to taste (start with about $\frac{1}{3}$ cup), mix thoroughly, and bottle. Because this recipe is made using fresh herbs, we recommend refrigerating the final preparation and using it within 6 months. Don't forget to label!
- To use, take 1 tablespoon once a day as a tonic or up to 3 tablespoons daily during an active infection.



Garlic Honey



Garlic is an antimicrobial used for thousands of years in many cultures to fight infection. In this simple recipe, we will combine garlic with honey, another antimicrobial superfood. Garlic honey and the honey-steeped garlic cloves can be taken on a regular basis as a heart tonic or to stave off infection. They can also be taken at the first sign of illness or to soothe a sore throat, cough, cold, the flu, or sinus infection. Try garlic honey stirred into a hot cup of tea or eaten by the spoonful!

Ingredients



3 garlic (*Allium sativum*) bulbs

Raw honey

Directions

- Peel and separate the cloves and chop or grate.
- Fill a sterilized, dry jar about half full with chopped garlic cloves, then cover with honey.
- Poke through the honey with a sterilized, dry spoon to make sure that all of the garlic is covered.
- Cap and label the jar, and store for up to 3 months.
- To use, take 1 teaspoon once a day as a tonic or 4-6 times a day during an active infection.

Note: Honey and garlic can both harbor spores of *Clostridium botulinum* (the pathogen that causes botulism). The growth of *C. botulinum* spores is more likely to occur in a neutral pH, a moist environment, or an environment without oxygen. *C. botulinum* spores are less likely to reproduce and the risk of botulism is lower in preparations with high acid (pH of below 4.6), high sugar, or high salt content (United States Department of Agriculture Food Safety and Inspection Service, 2010). Honey is approximately 80% sugar, making it high in sugar. Honey is also acidic, with a pH of 3.9 (National Honey Board, n.d.). Though many use this recipe as-is, because the honey is diluted by the garlic thus causing the sugar content to lower, some individuals choose to use a pH meter and add a splash of apple cider vinegar to keep the pH levels below 4.6.



Cough-Ease Cough Drops

Making effective homemade herbal cough drops requires a time commitment, but the reward is worth the effort. These soothing cough drops are great for dry, scratchy throats or spasm-like coughs. Not only will they ease your cough, they'll soothe dry tissue in your throat as well.

Supplies

- Pint-sized glass canning jar
- Fine mesh sieve or cheesecloth
- 2 cup glass measuring cup
- 2 small silicone candy molds (cough drop sized)
- 4-quart stainless steel saucepan
- Large, rimmed, heat-proof baking sheet
- Candy thermometer
- Silicone spatula
- Unbleached parchment or waxed paper

Ingredients

- 5 tsp linden (*Tilia spp.*) aerial parts
- 2 tsp peppermint (*Mentha x piperita*) aerial parts
- 1 tsp plantain (*Plantago spp.*) leaf
- 1 tsp thyme (*Thymus vulgaris*) aerial parts
- 1 tsp marshmallow (*Althaea officinalis*) root
- 1½ cups water
- 1 cup unbleached cane sugar
- ½ cup honey
- Confectioner's sugar (optional)

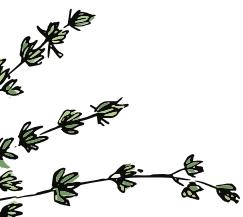


Directions

- To make a strong herbal infusion, place all herbs except marshmallow root, in a glass canning jar. Pour 1½ cups of boiled water over herbs and let steep for 1 hour. After an hour, add marshmallow root and let sit for another hour (marshmallow root's soothing mucilage is best extracted in cool water).
- While herbs are infusing, place both silicone molds on a rimmed, heat-proof baking sheet and set aside.
- Strain herbs by pouring the mixture through a fine mesh sieve or several layers of cheesecloth over a glass measuring cup. Press the plant material (marc) to squeeze out every last drop of infusion. Compost the strained herbs. Reserve 1 cup of herbal infusion.



- In a 4-quart saucepan, clip a candy thermometer to the side of the pan. Combine 1 cup of herbal infusion, cane sugar, and honey in the pan and heat over medium-high heat. Continuously stir the mixture until the sugar is dissolved.
- Once the sugar is dissolved, allow the mixture to come to a boil. Occasionally stir the mixture, being sure to scrape the bottom of the pan well to prevent the sugar from burning. Just be sure to avoid scraping the sides of the pot as you don't want to re-incorporate any crystalized pieces into your mixture as it will make your final product too brittle. Bringing the mixture to temperature can take a while. During this time, the mixture will expand quite a bit and become darker in color. However, once the mixture comes to temperature and gets to the hard crack stage, you have to move quickly, so keep a close eye on your candy thermometer and be sure your measuring cup and silicone molds are close by and ready to go!
- When the mixture reaches 250 degrees F, begin to stir constantly, stirring the bottom and avoiding the sides. When it reaches 302 degrees F, carefully pour the mixture into a glass measuring cup to make pouring easier. Pour the mixture into the silicone molds. Use your silicone spatula to help spread the candy into the molds more easily. This will help save you time as you don't have to pour the cooling mixture into the molds so carefully.
- Once the molds are filled, allow them to cool for several hours or overnight before unmolding. Immediately wash all supplies that have come into contact with the cough drops with hot, soapy water to make cleaning easier. Otherwise, you'll need to soak the supplies for a couple of hours.
- Once the cough drops have cooled, remove them from the molds by pressing on the back of the mold to pop the pieces out. You can toss the cough drops in confectioner's sugar to help keep them from sticking to each other. Store in a single layer in an airtight labeled container, placing parchment or waxed paper between layers, at room temperature for 6 months (or longer when frozen).
- To use, suck on a cough drop anytime you experience a dry, scratchy throat or have a cough that won't go away!







Freshly Squeezed Ginger Juice Tea + / or Fresh Ginger Infusion

Fresh ginger juice is a potent antiviral and is often one of the first herbs we turn to when a viral infection seems imminent. The chopped or grated rhizome can also be used if juicing isn't possible.

Adapted from Stephen Buhner's *Herbal Antivirals* (2013).

Ingredients

1 large ginger (*Zingiber officinale*) rhizome
1½ cups water
1-3 tsp raw honey
¼ tsp cayenne (*Capsicum annuum*) pepper
Squeeze of lime (optional)

Directions

- Select four thumb-sized pieces of ginger rhizome.
- Using a juicer, process the ginger and capture the juice — the goal is to get ¼ cup of juice.
- Save the fibrous ginger material.
- Bring water to a boil.
- To make the ginger tea, combine ¼ ginger juice with just-off-the boil water, then add the honey, lime, and cayenne. Stir thoroughly.
- Drink 4-6 cups per day during acute infection. Store in the refrigerator for up to 24 hours before making a fresh batch.
- If you don't have a juicer, you can chop or grate the ginger finely and infuse in just-off-the-boil water for 2-4 hours, covered, and then proceed to add the rest of the ingredients. You can also use this method to prepare the fibrous ginger material left over from juicing.



Fever-Cooling Tea

When a fever is present, herbs can help the body cool down in a gentle, natural way. This cooling tea recipe is filled with antimicrobial herbs that also stimulate the circulatory system and encourage the body to sweat by moving heat from the center of the body outwards.

Adapted from Rosemary Gladstar's *Herbal Recipes For Vibrant Health* (2001).

Ingredients

- 2 tsp catnip (*Nepeta cataria*) aerial parts
- 2 tsp elder (*Sambucus nigra* or *S. canadensis*) flower
- 1 tsp yarrow (*Achillea millefolium*) aerial parts
- 1 tsp peppermint (*Mentha x piperita*) leaf
- 2 cups water

Directions

- Combine herbs in a glass quart jar (4-cup capacity).
- Pour 2 cups of just-off-the-boil water over the mixture and steep for 1 hour.
- Strain herbs by pouring the mixture through a fine mesh sieve or several layers of cheesecloth over a bowl with a spout. Press the plant material (marc) to squeeze out every last drop of infusion.
- Compost the strained herbs and place the infusion in a labeled wide-mouth glass jar and store in the refrigerator for up to 24 hours before making a fresh batch.
- To use, heat and drink a small amount (approximately $\frac{1}{4}$ cup) of infusion every 30 minutes.





Elderberry Calendula Cold and Flu Elixir Recipe

The formula is based on Kiva Rose Hardin's elderberry elixir and Kami McBride's cold and flu elixir, which use brandy to extract the plant constituents and honey to sweeten it up. The recipe is very versatile in that you can use fresh or dried herbs and make additions or substitutions of herbs based on your own preferences (although be sure to use dried elderberries since it won't be cooked). We like to add a few tablespoons of cinnamon chips and extra ginger and honey.

Ingredients

1 cup fresh (or $\frac{2}{3}$ cup dried) calendula (*Calendula officinalis*) flower
 $\frac{2}{3}$ cup dried elder (*Sambucus nigra* or *S. canadensis*) berry
 $\frac{1}{2}$ cup fresh (or $\frac{1}{3}$ cup dried) elder (*Sambucus nigra* or *S. canadensis*) flower
 $\frac{1}{2}$ cup fresh (or $\frac{1}{3}$ cup dried) rose (*Rosa spp.*) hip
2 tbsp fresh (or 1 tbsp dried) orange (*Citrus sinensis*) peel
1 tbsp fresh (or 1 tsp dried) ginger (*Zingiber officinale*) root, grated
Brandy
Honey

Directions

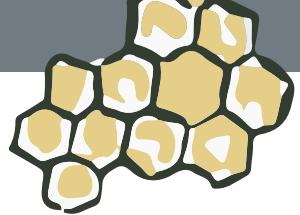
- Fill a glass quart jar (4-cup capacity) with herbs.
- Add brandy, pouring until herbs are covered by 1-2 inches of brandy and jar is approximately $\frac{3}{4}$ full.
- Add honey, leaving 1 inch of space at the top of the jar.
- Poke chopstick into jar to release any trapped air bubbles and ensure brandy and honey are coating herbs.
- Cap jar with a lid and label with ingredients and date.
- Let steep for 4-6 weeks in a dark place, shaking daily.
- Filter elixir by pouring through a fine mesh filter or several layers of



cheesecloth over a bowl or wide-mouth jar. Press the plant material (marc) to squeeze out every last drop of elixir.

- Compost the marc and cap and label the elixir. Store for up to 1 year.
- To use, take 2-3 teaspoons every 2-3 hours at the first sign of an infection. Frequent doses are the key to effective use! Listen to your body to tailor the dosage to your needs.





Quick and Simple Elderberry Cold Syrup

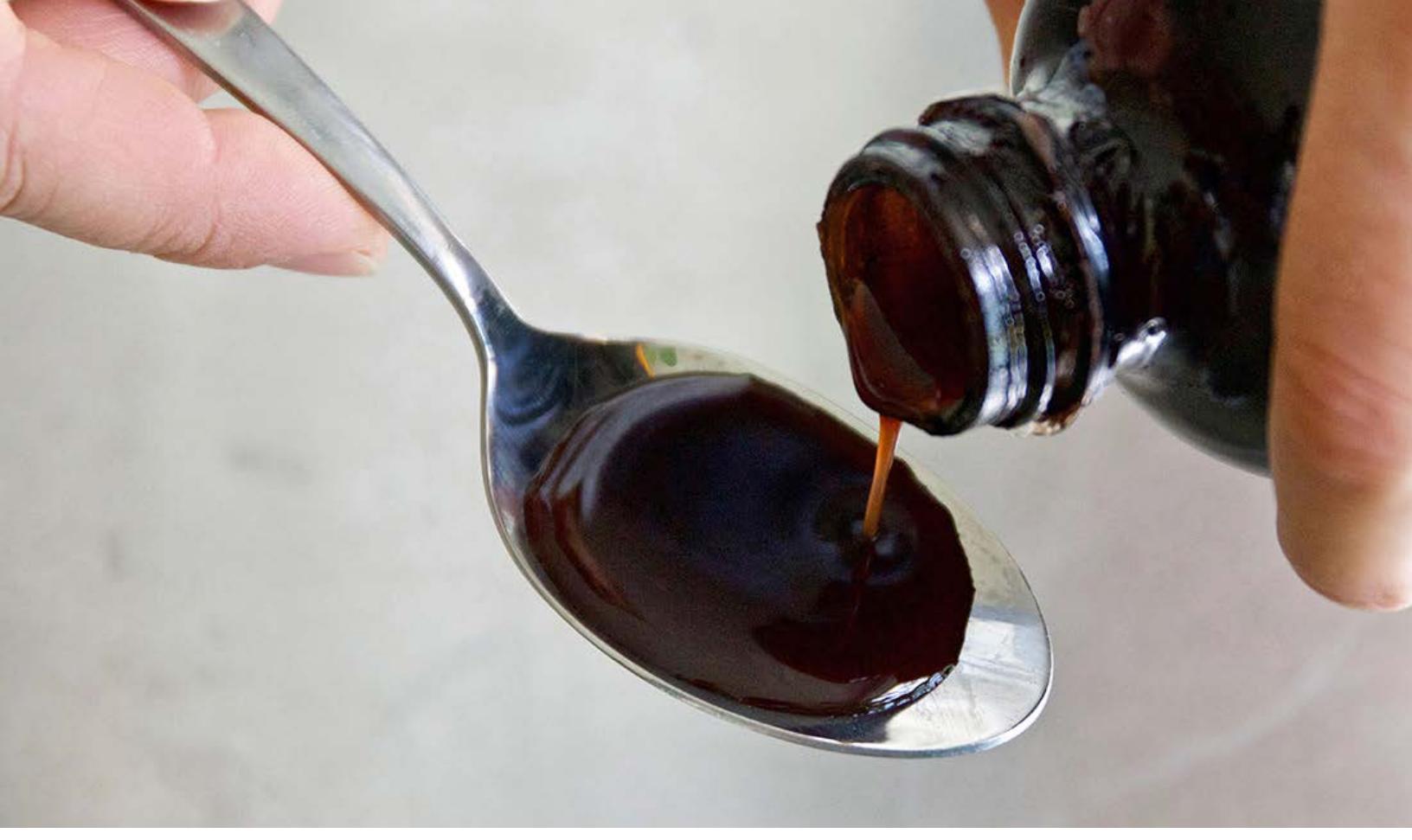
This Quick and Simple Elderberry Cold Syrup, excerpted from the Herbal Academy's [Intermediate Herbal Course](#), is a great immune-stimulating herbal remedy that can be used frequently as soon as a cold strikes. Elderberry is the star of this preparation as it has many beneficial uses for the onset of colds and the flu. This syrup tastes great and can be used for adults and children alike (please use maple syrup instead of honey for children under 1 year of age).

Ingredients

- 1 cup dried elder (*Sambucus nigra* or *S. canadensis*) berry
- 1 tbsp ginger (*Zingiber officinale*) root, grated
- Handful of clove (*Syzygium aromaticum*) flower buds
- 6 cups water
- 1½ cups raw honey

Directions

- Bring herbs and water to a boil and simmer gently for 45-60 minutes, or until 2-3 cups of liquid remains. Keep a close eye on this decoction while it simmers lest it evaporate entirely!
- Remove liquid from the heat and allow to cool to room temperature.
- Strain herbs through a fine mesh filter or several layers of cheesecloth over a bowl or wide-mouth jar. Press the plant material (marc) to squeeze out every last drop of decoction. Compost herbs and reserve liquid in a sterilized, quart-sized glass jar.
- Stir 1½ cups of raw honey into liquid. Mix well.
- Label, refrigerate, and use within 4-6 weeks.
- To use, take 2 teaspoons every 3 hours at the first sign of a viral infection.







PUTTING IT ALL TOGETHER

Herbs can be some of our best defenses and provide welcome symptom support during cold and flu season.

These herbal recipes are absolute staples in our kitchen, and we're confident they will support your body and come to your aid all season long.

Besides becoming familiar with some of the best herbs for cold and flu season, you've also learned how to make several different types of herbal preparations, such as an oxymel, infusion, decoction, syrup, herbal honey, and more! These skills will be very helpful to you as you grow deeper into your herbal practice. Share your knowledge and herbal creations with your family and friends so they can all stay healthy this winter!

The herbal monographs provided in this ebook were excerpted and adapted from our [Intermediate Herbal Course](#) and [The Herbarium](#) monograph database. If you are a student of herbalism, curious to learn about other herbs particularly suited to winter challenges, or simply an interested plant enthusiast wanting to exploring the powerful benefits of herbs, The Herbarium plant database has many extensive profiles for winter favorites like astragalus (*Astragalus membranaceus*), echinacea (*Echinacea spp.*), angelica (*Angelica spp.*), mullein (*Verbascum thapsus*), elecampane (*Inula helenium*), elder (*Sambucus nigra* or *S. canadensis*), marshmallow (*Althaea officinalis*), and so many more.

The Herbarium is a vibrant virtual collection of resources to help you take your herbal studies to the next level! In addition to access to the ever-expanding monograph database, a membership in The Herbarium offers many in-depth articles on herbal topics that you won't find anywhere else, as well as access to wonderful discounts with our herbal partners.

These herbs and recipes are our very favorites for keeping cold and flu season at bay. Use your new knowledge to share the health benefits of herbs with your community and stay vibrant this winter!



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REFERENCES

- American Botanical Council. (2004). The ABC clinical guide to elderberry. Retrieved from <http://cms.herbalgram.org/press/files/elderberry-scr.pdf>
- Benzie, F.F., & Wachtel-Galor, S. (Eds.). (2010). *Herbal medicine: Biomolecular and clinical aspects*. Boca Raton, FL: CRC Press.
- Bräunig, B., & Knick, E. (1993). Therapeutic experience of *Echinacea pallida* for flu-like infections: Results of a placebo-controlled double-blind study. *Naturheilpraxis*, 46, 72-75.
- Budoff, M. (2006). Aged garlic extract retards progression of coronary artery calcification. *The Journal of Nutrition*, 136(3), 741S-744S. <https://doi.org/10.1093/jn/136.3.741S>
- Buhner, S. (2012). *Herbal antibiotics: Natural alternatives for treating drug-resistant bacteria*. North Adams, MA: Storey Publishing.
- Buhner, S. (2013). *Herbal antivirals*. North Adams, MA: Storey Publishing.
- Ferguson, L. (2012). Echinacea and all that. Retrieved from <https://therootcircle.com/blog/2018/4/28/echinacea-and-all-that>
- Fonseca, F.N., Papanicolaou, G., Lin, H., Lau, C.B., Kennelly, E.J., Cassileth, B.R., & Cunningham-Rundles, S. (2014). *Echinacea purpurea* (L.) Moench modulates human T-cell cytokine response. *International Immunopharmacology*, 19(1), 94-102. <http://doi.org/10.1016/j.intimp.2013.12.019>
- Gardner, Z., & McGuffin, M. (2013). *American Herbal Products Association's botanical safety handbook*. Boca Raton, FL: CRC Press.
- Gladstar, R. (1993). *Herbal healing for women*. New York, NY: Simon & Schuster.
- Gladstar, R. (2001). *Herbal recipes for vibrant health*. Adams, MA: Storey Publishing.
- Goel, V., Lovlin, R., Chang, C., Slama, J.V., Barton, R., Gahler, R., ... Basu, T.K. (2005). A proprietary extract from the echinacea plant (*Echinacea purpurea*) enhances systemic immune response during a common cold. *Phytotherapy Research*, 19(8), 689-694. <http://doi.org/10.1002/ptr.1733>
- Grieve, M. (1931). *A modern herbal*. Retrieved from <https://botanical.com/botanical/mgmh/r/rosema17.html>
- Hoffmann, D. (2003). *Medical herbalism*. Rochester, VT: Healing Arts Press.
- Holmes, P. (1997). *The energetics of Western herbs: A materia medica integrating Western & Chinese herbal therapeutics* (Vol. 1). Boulder, CO: Snow Lotus Press.
- Holmes, P. (2006). *The energetics of Western herbs: A materia medica integrating Western & Chinese herbal therapeutics* (Vol. 2). Boulder, CO: Snow Lotus Press.
- Kuhn, M.A., & Winston, D. (2008). *Winston and Kuhn's herbal therapy & supplements*. Philadelphia, PA: Wolters Kluwer.

- Lane, B., Cannella, K., Bowen, C., Copelan, D., Nteff, G., Barnes, K., ... Lawson, J. (2012). Examination of the effectiveness of peppermint aromatherapy on nausea in women post C-section. *Journal of Holistic Nursing*, 30(2), 90-104. <http://doi.org/10.1177/0898010111423419>
- Magee, D.W., & Ahles, H.E. (1999). *Flora of the Northeast*. Amherst, MA: University of Massachusetts Press.
- Masé, G. (2013). *The wild medicine solution: Healing with aromatic, bitter and tonic plants*. Rochester, VT: Healing Arts Press.
- McIntyre, A. (1996). *Flower power*. New York, NY: Henry Holt and Company, Inc.
- McKay, D.L., & Blumberg, J.B. (2006). A review of the bioactivity and potential health benefits of peppermint tea (*Mentha piperita L.*). *Phytotherapy Research*, 20, 619-633. <http://doi.org/10.1002/ptr.1936>
- Mills, S., & Bone, K. (2005). *The essential guide to herbal safety*. St. Louis, MO: Elsevier.
- Nabavi, S.M., Marchese, A., Izadi, M., Curti, V., Daghia, M., & Navavi, S.F. (2015). Plants belonging to the genus Thymus as antibacterial agents: From farm to pharmacy. *Food Chemistry*, 173, 339-347. <http://doi.org/10.1016/j.foodchem.2014.10.042>
- National Honey Board. (n.d.). pH and acids in honeys. Retrieved from https://www.bjcp.org/mead/ph_acid.pdf
- Nicas, M., & Best, D. (2008). A study quantifying the hand-to-face contact rate and its potential application to predicting respiratory tract infection. *Journal of Occupational and Environmental Hygiene*, 5(6), 347-352. <http://doi.org/10.1080/15459620802003896>
- Orekhov, A.N., & Grunwald, J. (1997). Effects of garlic on atherosclerosis. *Nutrition*, 13(7), 656-663.
- Reinhart, K.M. (2008). Effects of garlic on blood pressure in patients with and without systolic hypertension: A meta-analysis. *Annals of Pharmacotherapy*, 42(12), 1766-1771. <http://doi.org/10.1345/aph.1L319>.
- Roschek, B. Jr., Fink R.C., McMichael, M.D., Li D., & Alberte, R.S. (2009). Elderberry flavonoids bind to and prevent H1N1 infection in vitro. *Phytochemistry*, 70(10), 1255-1261. <http://doi.org/10.1016/j.phytochem.2009.06.003>
- Rupp, R. (2014). How garlic may save the world. Retrieved from <https://www.nationalgeographic.com/people-and-culture/food/the-plate/2014/04/24/how-garlic-may-save-the-world/>
- Ryther, M.B. (2013). *Garlic solutions: A guide to choosing, using and growing nature's superfood*. M.B. Ryther.
- Serkedjieva, J., Manolova, N., Zgórniak-Nowosielska, I., Zawilińska, B., & Grzybek, J. (1990). Antiviral activity of the infusion (SHS-174) from flowers of *Sambucus nigra L.*, aerial parts of *Hypericum perforatum L.*, and roots of *Saponaria officinalis L.* against influenza and herpes simplex viruses. *Phytotherapy Research*, 4(3), 97-100. <http://doi.org/10.1002/ptr.2650040305>
- Sivam, G. (2001). Protection against *Helicobacter pylori* and other bacterial infections by garlic. *The Journal of Nutrition*, 131(3), 1106S-1108S. <http://doi.org/10.1093/jn/131.3.1106S>

Smith, P. (2008). *What you must know about vitamins, minerals, herbs & more: Choosing the nutrients that are right for you*. Garden City Park, NY: Square One.

Stevinson, C., Pittler, M.H., & Ernst, E. (2000). Garlic for treating hypercholesterolemia: A meta-analysis of randomized clinical trials. *Annals of Internal Medicine*, 133(6), 420-429. <http://doi.org/10.7326/0003-4819-133-6-200009190-00009>

Tierra, M. (1998). *Planetary herbology*. Santa Fe, NM: Lotus Press.

United States Department of Agriculture Food Safety and Inspection Service. (2010). *Clostridium botulinum*. Retrieved from https://www.fsis.usda.gov/wps/wcm/connect/a70a5447-9490-4855-af0d-e617ea6b5e46/Clostridium_botulinum.pdf?MOD=AJPERES

Wagner H. (1988). Immunologically active polysaccharides of *Echinacea purpurea* cell cultures. *Phytochemistry*, 27, 119-126. [https://doi.org/10.1016/0031-9422\(88\)80601-0](https://doi.org/10.1016/0031-9422(88)80601-0)

World Health Organization. (1999). Radix echinaceae. Retrieved from <https://apps.who.int/medicinedocs/en/d/Js2200e/15.html>

Zakay-Rones, Z., Varsano, N., Zlotnik, M., Manor, O., Regev, L., Schlesinger, M., & Mumcuoglu, M. (1995). Inhibition of several strains of influenza virus in vitro and reduction of symptoms by an elderberry extract (*Sambucus nigra L.*) during an outbreak of influenza B Panama. *Journal of Alternative and Complementary Medicine*, 1(4), 361-369. <http://doi.org/10.1089/acm.1995.1.361>





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