A HOME REFERENCE

THE HOME APOTHECARY

A Plain-English Guide to Healing Herbs and Plants



100 HERBS | PHOTOS | WARNINGS | EVIDENCE RATED

Uses, How They Work, and What the Science Says

ANDREW DOMINGUEZ

TRINFINITY ENTERPRISES

The Home Apothecary

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Published by Trinfinity Enterprises, Dayton, Nevada
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First edition, November 2026. Information current as of November 15, 2026.

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Read This First

This book is for learning. It is not medical advice, and it does not replace a doctor, a pharmacist, or a licensed herbalist who knows your health history.

Herbs are real medicine. That is why they can help, and it is also why they can hurt. A plant that eases one person's stomach can thin another person's blood before surgery, cancel out a birth control pill, or strain a liver that is already working hard. Natural does not mean safe, and it does not mean weak.

Please follow these rules every time you use anything in this book:

- **Tell your doctor and pharmacist** about every herb, tea, tincture, and supplement you take, the same way you would list a prescription. Many herb and drug interactions are only caught because someone asked.
- **Do not stop or replace a prescribed medicine** with an herb unless your doctor agrees.
- **Pregnant or breastfeeding?** Assume an herb is not safe in medicine-sized amounts unless your doctor or midwife says it is. Many herbs in this book carry a pregnancy warning for good reason.
- **Children, older adults, and anyone with liver, kidney, or heart disease** need extra care and smaller amounts, and should check with a doctor first.
- **Never eat a wild plant you cannot identify with 100 percent certainty.** Several deadly plants look like useful ones. Part Three of this book shows the worst of them.
- **Stop using an herb** if you get a rash, swelling, trouble breathing, yellow skin or eyes, dark urine, unusual bleeding, or a racing heart, and get medical care.

In an emergency, call 911. For a possible poisoning, call Poison Help at **1-800-222-1222** (United States). It is free, confidential, and open 24 hours a day.

The information in this book was checked against the sources listed at the end of each entry and in the Sources section, current as of November 2026. Research on herbs changes. A study next year may make an herb look better or worse than it does today.

About This Book

People have treated cuts, coughs, sore stomachs, and sleepless nights with plants for as long as there have been people. Some of those old remedies turned out to be the starting point for modern drugs. Aspirin came from the chemistry of willow bark and meadowsweet. Digoxin, a heart drug, came from foxglove. Other old remedies turned out to do nothing at all, and a few turned out to be dangerous.

This book tries to sort that out in plain English. For each plant I tell you:

- what it looks like, with a photograph, and where it grows
- what people have traditionally used it for
- how it works in the body, as far as science understands it
- what the research actually shows, rated from Strong to Traditional only
- how people prepare and use it at home
- the warnings: who should avoid it, what drugs it can interact with, and what can go wrong

I lean hard on sources you can check yourself. The main ones are the National Center for Complementary and Integrative Health (NCCIH), which is part of the U.S. National Institutes of Health (NIH); MedlinePlus from the National Library of Medicine; the German Commission E monographs; the European Medicines Agency (EMA) herbal monographs; the World Health Organization (WHO) monographs on medicinal plants; and published clinical studies. When a use is based only on tradition, I say so. I would rather tell you "we don't know" than pass along a claim that sounds good and isn't true.

I live in the high desert of northern Nevada, so you will also find several plants of the Great Basin and the American West in these pages: big sagebrush, Mormon tea, juniper, ponderosa pine, prickly pear, and chaparral. Some of them are helpful, and one of them can seriously damage your liver. You will find out which is which.

The book has four parts. Part One covers how to use herbs safely, how to make teas, tinctures, oils, and salves, and how to gather wild plants without hurting yourself or the land. Part Two is the heart of the book: 100 herbs and plants, A to Z. Part Three shows dangerous plants and the look-alikes that fool people every year. Part Four gives quick reference tables, a glossary, the full source list, and photo credits.

A companion book, *Natural Remedies*, turns this around and starts with the problem: a cold, a burn, a bee sting, a sprained ankle. It points to the remedies that make sense for each one and tells you when it's time to stop treating it at home and see a doctor.

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PART ONE

Using Herbs Safely and Well

How to read an entry, stay safe, make remedies, and gather wild plants

How to Read an Entry

Every plant in Part Two follows the same pattern, so you can flip to any page and find what you need fast.

The header gives the common name, the scientific (Latin) name, the plant family, other names you may see on a label, and the parts of the plant that are used. The Latin name matters more than you might think. "Chamomile" on a box can mean two different plants. "Ginseng" can mean three. The Latin name is how you know what you are buying.

The photograph shows the living plant, or the part you would buy, so you can recognize it. Every photo is free to use and is credited by its photographer in the Photo Credits section at the back. A photo in a book is a starting point for identification, never the finish line.

What it looks like and where it grows describes the plant in plain words.

Traditional uses tells you how people around the world have used the plant. Tradition is worth knowing. It is how most of these plants came to be studied in the first place. But a long history of use is not proof that something works.

How it works in the body explains the active compounds and what they do, as far as researchers understand it.

What the research says sums up human studies, with an evidence rating.

How people use it gives common forms and typical home preparations, such as tea strength. For capsules and extracts, follow the product label, because strengths vary a great deal from brand to brand.

Warnings is the box you should never skip. It lists side effects, drug interactions, pregnancy and breastfeeding cautions, and anyone who should avoid the plant.

Sources lists the main references for that entry. Full details are in the Sources section at the back.

The Evidence Ratings

I rate each main use on a four-step scale. These ratings are my plain-English summary of what the cited sources report.

Rating	What it means
Strong	Several good human trials agree, and major reviews or health agencies accept the use.
Moderate	Some good human trials show a benefit, but more or larger studies are needed.
Limited	Small, few, or mixed human studies. It might help, but nobody can say for sure.
Traditional	Long history of use, but little or no testing in people. Treat it as unproven.

You will notice that very few herbs earn "Strong." That is honest, not negative. Herbs are hard to study. They vary by soil, weather, harvest, and processing, and there is little money to pay for large trials on plants that nobody can patent. "Limited" does not mean "useless." It means "we don't know yet."

Safety First

Most of the herbs in this book are mild when used sensibly. A cup of chamomile tea is not going to hurt most people. But herbs are not candy, and the people who get hurt usually fall into a few predictable groups or make a few predictable mistakes.

Who Needs to Be Extra Careful

Pregnant and breastfeeding women. Many herbs have never been tested in pregnancy. Some, such as pennyroyal, mugwort, feverfew, and high doses of sage, can stimulate the uterus or harm a baby. Unless a doctor or midwife says otherwise, keep herbs during pregnancy to normal food amounts, like the ginger or peppermint you would cook with.

Babies and children. Children are not small adults. Their livers and kidneys handle chemicals differently. Never give honey to a baby under 12 months old because of the risk of infant botulism. Never put peppermint or eucalyptus oil on or near a baby's or young child's face, because the menthol and cineole can affect breathing. Keep every essential oil out of reach. A few swallowed teaspoons of some oils can kill a toddler.

People taking prescription drugs. This is the biggest danger in herbal medicine. Herbs can raise or lower the amount of a drug in your blood. St. John's wort is the most famous example. It speeds up the liver enzymes that break down many drugs, including birth control pills, blood thinners, transplant drugs, and HIV medicines, and it can make them fail.

People on blood thinners or heading into surgery. Garlic, ginkgo, ginger in large amounts, feverfew, and several others can increase bleeding. Most surgeons ask you to stop all herbal supplements about two weeks before an operation.

People with liver or kidney disease. Your liver breaks down most herbs. Several, including kava, chaparral, comfrey, and some concentrated green tea and turmeric extracts, have been linked to liver injury.

People with allergies to ragweed or daisies. Chamomile, echinacea, feverfew, calendula, arnica, yarrow, and milk thistle are in the same plant family as ragweed and can cause allergic reactions.

People with autoimmune disease. Herbs promoted to "boost the immune system," such as echinacea, astragalus, and cat's claw, may not be a good idea if your immune system is already attacking your own body.

The Five Common Mistakes

1. **Thinking more is better.** A tea is gentle. A concentrated extract of the same herb can be 50 or 100 times stronger. Start low and follow the label.
2. **Using herbs to avoid a doctor.** A home remedy is fine for a mild cold. It is not fine for chest pain, a high fever in a baby, a deep wound, or signs of infection that keep getting worse.
3. **Taking the wrong plant.** Buying by common name, or picking a wild plant that "looks right," is how people end up poisoned.
4. **Mixing many herbs at once.** Every extra product adds another chance for an interaction, and if you have a reaction you won't know which one caused it.

5. **Taking an herb for months without a break.** Many herbs have only been studied for a few weeks or months. Long-term safety is often unknown.

Buying Good Products

In the United States, herbal supplements are regulated as foods, not drugs. The Food and Drug Administration (FDA) does not test them before they go on the shelf. Studies have found products that contained less of the herb than the label claimed, the wrong herb, or even hidden prescription drugs.

To protect yourself:

- Look for a third-party seal such as **USP Verified** (United States Pharmacopeia) or **NSF Certified**. These groups test that the product contains what the label says and is not contaminated.
- Check that the label gives the **Latin name** and the **part of the plant** used.
- Be wary of any product that promises to cure a disease, melt fat, or work "instantly." Those claims are illegal for supplements and are a red flag.
- Buy dried bulk herbs from a supplier that sells for food or tea use and can tell you where the herb was grown.

If you have a bad reaction to a supplement, tell your doctor and report it to the FDA's MedWatch program at fda.gov/medwatch. Those reports are how dangerous products get caught.

Making Your Own Remedies

You don't need special equipment to make simple herbal remedies. A kettle, some glass jars with lids, a strainer, cheesecloth, and a double boiler will cover almost everything in this chapter. Label everything you make with the plant, the date, and what it's for.

Teas: Infusions and Decoctions

An **infusion** is a tea made by steeping soft parts of a plant, like leaves and flowers, in hot water. Use about 1 to 2 teaspoons of dried herb, or 1 to 2 tablespoons of fresh herb, per cup (8 ounces) of water that has just boiled. Cover the cup so the oils don't escape with the steam, and steep 5 to 10 minutes. Strain and drink. Cover it especially for mint, chamomile, and other herbs whose benefits are in their aromatic oils.

A **decoction** is for hard parts of a plant: roots, bark, seeds, and berries. These need to be simmered to release their compounds. Use about 1 to 2 teaspoons of dried root or bark per cup of cold water, bring it to a boil, then simmer gently, covered, for 15 to 30 minutes. Strain.

A **cold infusion** is used for slippery herbs like marshmallow root, where heat can break down the soothing gel. Soak the herb in room-temperature water for several hours or overnight, then strain.

Make teas fresh each day and keep leftovers in the refrigerator no more than 24 hours.

Tinctures

A **tincture** is an herb soaked in alcohol, which pulls out compounds that water can't and keeps for years. The simple folk method: fill a clean glass jar about halfway with chopped dried herb (or loosely full with fresh herb), cover it completely with 80 to 100 proof vodka, cap it, and shake it every day or two. Keep it in a dark cupboard for 4 to 6 weeks, then strain through cheesecloth and store in dark glass bottles.

Tinctures are strong. A typical dose is measured in drops or a fraction of a teaspoon, not swallows. They contain alcohol, so they are not for children, pregnant women, people in recovery from alcohol use, or anyone taking a drug that doesn't mix with alcohol. A **glycerite**, made the same way with food-grade vegetable glycerin instead of alcohol, is a gentler option, though it is weaker and keeps for about a year.

Infused Oils

An **infused oil** carries an herb's compounds into your skin. Use only **dried** herb, because water from fresh plants can let bacteria grow in the oil. Botulism can grow in oil that contains moisture and no air, so this matters.

Fill a jar about halfway with dried herb and cover it by an inch with olive, sunflower, or almond oil. For the warm method, set the open jar in a pan of water and keep it barely warm, around 100 to 140 degrees Fahrenheit, for 4 to 8 hours. For the slow method, cap it and leave it in a warm spot for 4 to 6 weeks, shaking it often. Strain well and store in a cool, dark place. Throw it out if it smells sour or rancid.

Salves and Balms

A **salve** is infused oil thickened with beeswax so it stays put on the skin. Gently melt about 1 ounce of beeswax into 1 cup of infused oil in a double boiler. Test it by putting a spoonful in the freezer for a minute. Add more wax if it's too soft, more oil if it's too hard. Pour into small tins or jars and let it set. Calendula, plantain, and comfrey (for skin only) are classic salve herbs.

Poultices and Compresses

A **poultice** is mashed fresh herb, or dried herb moistened with hot water, placed directly on the skin and held in place with a clean cloth. The old "spit poultice," chewing a plantain leaf and putting it on a bee sting, is the simplest version. Use only on unbroken skin or minor scrapes, never on deep or dirty wounds.

A **compress** is a clean cloth soaked in a strong tea, wrung out, and laid on the skin. Use it warm for sore muscles and cool for bruises, swelling, or itchy skin.

Steam Inhalation

For a stuffy nose, pour just-boiled water into a large bowl, add a handful of thyme, peppermint, or eucalyptus leaves, or no more than 2 or 3 drops of essential oil, and breathe the steam with a towel over your head for 5 to 10 minutes. Keep your face a safe distance from the water and your eyes closed. Never do this with young children. Scald burns from steam bowls send many children to the emergency room every year.

Syrups

An **herbal syrup** is a strong decoction sweetened with honey, which helps it keep and soothes a sore throat. Simmer 2 ounces of dried herb (elderberries are the classic) in 4 cups of water until the liquid is reduced by half. Strain, let it cool until warm, and stir in 1 cup of honey. Keep it in the refrigerator for up to about 3 months. Remember that honey is never for babies under 12 months.

Essential Oils

Essential oils are not the same as herbs. It takes pounds of plant to make an ounce of oil, so they are extremely concentrated. Never swallow them unless a doctor tells you to. Always dilute them before putting them on skin. A safe general rule for adults is 1 to 2 percent, which is about 6 to 12 drops of essential oil per ounce of carrier oil. Use less for older adults and avoid most oils for young children. Keep the bottles locked up like medicine.

Gathering Wild Plants Responsibly

Picking your own herbs connects you to the land in a way nothing else does. It also carries risks that buying from a store does not. Before you pick anything, make these rules your own.

Be 100 percent sure, or leave it. Use at least two good field guides for your region, learn the plant's family pattern, and check every feature: leaves, stem, flowers, smell, root, and habitat. If an expert has not shown it to you in person, take a photo and ask your local Cooperative Extension office, native plant society, or an experienced forager. The carrot family is where most deadly mistakes happen. Poison hemlock and water hemlock both look like wild carrot and other useful plants. Part Three covers them.

Know where you are picking. Avoid roadsides, railroad tracks, power line corridors, golf courses, lawns, farm field edges, and old industrial or mining ground. Those places are often sprayed with herbicide or have lead and other metals in the soil. Pick away from where dogs and livestock relieve themselves.

Know the law. Collecting plants is not allowed in national parks and many state parks. National forests and Bureau of Land Management (BLM) land often allow small personal-use collecting, but rules differ by area, and some species are protected. Private land needs the owner's permission. Call the local office before you go.

Take only a little. A good rule is to take no more than one plant in twenty from a healthy patch, and none from a small or struggling one. Never dig a root unless the plant is common and plentiful. American ginseng, goldenseal, black cohosh, and some other woodland plants have been overharvested in the wild. Buy them from growers who cultivate them instead.

Handle and dry them right. Shake off insects, rinse only if needed, and dry herbs in a single layer out of direct sun with good air flow, or in a food dehydrator at a low setting. Leaves and flowers are dry when they crumble. Store them in airtight glass jars out of the light, labeled with the name and date. Most dried leaves and flowers keep their strength for about a year, roots and bark for two to three years.

PART TWO

The Herbs, A to Z

100 healing herbs and plants

Aloe Vera

Aloe vera

ALSO CALLED: Burn plant, medicinal aloe, Aloe barbadensis

FAMILY: Asphodelaceae (aloe family)

PARTS USED: Clear inner leaf gel (skin); yellow leaf latex (old laxative, not recommended)

EVIDENCE: Burns and minor skin injuries: Limited. Acne (with other treatment): Limited. Blood sugar (by mouth): Limited.



Aloe Vera. Photo: Forest & Kim Starr, CC BY 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A stemless succulent with thick, gray-green, spear-shaped leaves edged with small soft teeth, growing in a rosette 1 to 2 feet tall. Older plants send up a stalk of tubular yellow flowers. It came from the Arabian Peninsula and is grown worldwide as a houseplant and in warm, dry gardens.

TRADITIONAL USES

Aloe has been a burn and wound plant since ancient Egypt and Greece. People split a leaf and rub the gel on sunburn, kitchen burns, scrapes, rashes, and insect bites. The bitter yellow sap just under the skin of the leaf was used for centuries as a strong laxative.

HOW IT WORKS IN THE BODY

The clear gel is about 99 percent water, plus long sugar chains (polysaccharides such as acemannan), small amounts of plant hormones, and enzymes. It cools and moistens the skin, forms a light protective film, and in lab studies calms inflammation and helps skin cells move in to close a wound. The yellow latex contains anthraquinones (aloin), which irritate the bowel and force it to contract. That is why it works as a laxative and also why it cramps.

WHAT THE RESEARCH SAYS

The NCCIH reports that aloe on the skin may help burns heal and may ease burn pain, and two small studies found it helped acne when used with standard treatment. A small amount of research suggests aloe taken by mouth may lower blood sugar in people with diabetes. There isn't enough reliable evidence for eczema, diabetic foot ulcers, or bowel diseases.

HOW PEOPLE USE IT

For a minor burn, first cool the skin under cool running water for 10 to 20 minutes. Then cut a lower leaf from a plant, slice it open, and spread the clear gel over the area two or three times a day. Store-bought gels work too. Choose one with aloe listed first and without alcohol, which stings.

WARNINGS

The gel on unbroken skin is generally well tolerated, though some people get burning, itching, or a rash. Test a small patch first. Do not put aloe on deep or infected wounds. Do not take aloe latex or whole-leaf aloe by mouth. It can cause cramps and diarrhea, low potassium, and has been linked to cases of hepatitis. In 2002 the FDA removed aloe from over-the-counter laxatives because no one had shown it was safe. Low potassium from aloe can be dangerous with digoxin and water pills. Avoid aloe by mouth if you are pregnant or breastfeeding.

SOURCES: 1, 2, 3 (see Sources at the back of the book)

Arnica

Arnica montana

ALSO CALLED: Leopard's bane, mountain tobacco, wolf's bane (not to be confused with aconite)

FAMILY: Asteraceae (daisy family)

PARTS USED: Flower heads, used only on the skin or in very diluted homeopathic form

EVIDENCE: Bruising and muscle soreness (on the skin): Limited.



Arnica. Photo: GT1976, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A mountain wildflower 1 to 2 feet tall with bright yellow-orange, daisy-like flowers with slightly ragged petals, above a flat rosette of fuzzy, oval leaves. Arnica montana grows in European mountain meadows. Several native arnicas, such as heartleaf arnica (Arnica cordifolia), grow in western U.S. forests.

TRADITIONAL USES

Arnica salves and gels have been rubbed on bruises, sprains, sore muscles, and swelling in Europe for centuries. It is one of the most familiar herbal first aid creams in Germany.

HOW IT WORKS IN THE BODY

Arnica flowers contain sesquiterpene lactones, especially helenalin, which block a key switch (NF-kappa B) that turns on inflammation. That may explain its effect on swelling and soreness. The same compounds are toxic when swallowed.

WHAT THE RESEARCH SAYS

A 2016 review of clinical studies found some evidence that arnica on the skin may reduce pain and bruising after injury or surgery, with results mixed and many studies small. German Commission E approved arnica for external use on bruises, sprains, and inflammation from insect bites. Homeopathic arnica pills are diluted so far that little or no plant is left, and good trials have not shown they work better than a placebo.

HOW PEOPLE USE IT

Use a store-bought arnica gel, cream, or salve on unbroken skin over a bruise or sore muscle two or three times a day for no more than a week or so.

WARNINGS

Never swallow arnica or use it in a tea. It can cause vomiting, a racing or irregular heartbeat, bleeding, and has caused deaths. Do not use it on broken skin, open wounds, or near the eyes. Long use can cause an itchy rash, and people allergic to ragweed, daisies, or marigolds may react. Not for pregnant or breastfeeding women or young children.

SOURCES: 4, 5, 6 (see Sources at the back of the book)

Ashwagandha

Withania somnifera

ALSO CALLED: Indian winter cherry, Withania, "Indian ginseng" (not a true ginseng)

FAMILY: Solanaceae (nightshade family)

PARTS USED: Root, sometimes leaves

EVIDENCE: Stress and sleep: Limited to Moderate. Anxiety: Limited. Male fertility and testosterone: Limited.



Ashwagandha. Photo: SAplants, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A small woody shrub 1 to 4 feet tall with soft, dull-green oval leaves, small greenish-yellow flowers, and bright orange-red berries wrapped in a papery husk, a little like a tiny tomatillo. It grows wild in dry parts of India, the Middle East, and Africa.

TRADITIONAL USES

Ashwagandha is a mainstay of Ayurveda, the traditional medicine of India, where it has been used for more than 3,000 years as a tonic for strength, stamina, sleep, and nerves. The name means roughly "smell of the horse," for the root's odor and its reputation for giving the strength of a horse.

HOW IT WORKS IN THE BODY

The roots contain withanolides, steroid-like compounds that appear to lower the stress hormone cortisol and act on GABA, the brain's calming signal. Herbalists call it an "adaptogen," a plant believed to help the body cope with stress. That idea is popular, but it is not a precise medical term.

WHAT THE RESEARCH SAYS

The NCCIH says some ashwagandha preparations may be effective for stress and insomnia, based on small trials, while evidence for anxiety is unclear. Limited evidence suggests 2 to 4 months of use may raise testosterone and improve sperm quality in some men. There isn't enough evidence for athletic performance, memory, diabetes, or other uses.

HOW PEOPLE USE IT

Most people take capsules of a standardized root extract, following the label. Traditional use is root powder stirred into warm milk with honey at bedtime.

WARNINGS

It may be safe for up to about 3 months, but long-term safety is unknown. Side effects include drowsiness, upset stomach, and diarrhea. Rare cases of liver injury have been linked to ashwagandha products. **Do not use while pregnant or breastfeeding.** Avoid it if you have an autoimmune disease, a thyroid disorder, or hormone-sensitive prostate cancer, and stop it before surgery. It can interact with drugs for diabetes, blood pressure, and thyroid, immune-suppressing drugs, sedatives, and seizure drugs.

SOURCES: 7, 8 (see Sources at the back of the book)

Astragalus

Astragalus mongholicus

ALSO CALLED: Huang qi, milk vetch

FAMILY: Fabaceae (pea family)

PARTS USED: Root, usually sold as dried slices

EVIDENCE: Immune support and colds: Traditional. Blood sugar (added to standard care): Limited. Kidney disease: Limited.



Astragalus. Photo: Averater, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A perennial 1 to 3 feet tall with fern-like leaves made of many small paired leaflets and pale yellow pea-shaped flowers. The dried root looks like a thin, pale yellow tongue depressor. The medicinal species is native to northern China and Mongolia.

TRADITIONAL USES

In traditional Chinese medicine, astragalus has been used for about 2,000 years to "strengthen qi," meaning to build energy and resistance, often in soups and in formulas for frequent colds, fatigue, and slow-healing wounds.

HOW IT WORKS IN THE BODY

The root contains polysaccharides, saponins called astragalosides, and flavonoids. In the lab these stimulate certain immune cells and have antioxidant effects. How much of that happens in the human body is not well known.

WHAT THE RESEARCH SAYS

The NCCIH says there is not enough reliable evidence that astragalus helps any health condition. Some reviews suggest it may add a benefit to metformin in type 2 diabetes and may help some kidney disorders, but most of the studies were small and low in quality.

HOW PEOPLE USE IT

Traditionally, a few dried root slices are simmered in soup or broth for an hour and removed before eating, or made into a decoction. Capsules and extracts are also sold.

WARNINGS

Taken by mouth it appears to be well tolerated in studies, but it has not had a thorough safety review. Avoid it if you have an autoimmune disease or take drugs that suppress the immune system, such as after an organ transplant, since it may work against them. Animal studies suggest possible harm to a developing baby, so avoid it in pregnancy and while breastfeeding. Some wild astragalus species (locoweeds) are toxic, so never gather your own.

SOURCES: 3, 9 (see Sources at the back of the book)

Bilberry

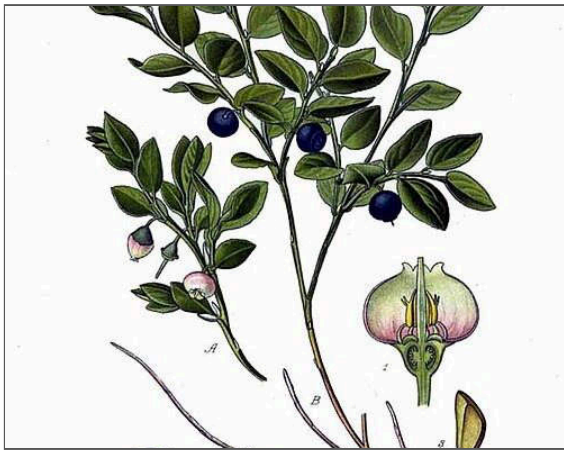
Vaccinium myrtillus

ALSO CALLED: European blueberry, whortleberry, huckleberry

FAMILY: Ericaceae (heath family)

PARTS USED: Ripe berries; leaves (not recommended)

EVIDENCE: Night vision and eye health: Limited (the best study found no benefit). Circulation: Traditional.



Bilberry. Photo: Public domain botanical illustration (see file page), Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, spreading shrub 1 to 2 feet tall with bright green, finely toothed oval leaves, small pink bell-shaped flowers, and dark blue-black berries that are blue-purple all the way through, unlike most cultivated blueberries, which are pale inside. It grows on heaths and in pine and spruce forests of northern Europe.

TRADITIONAL USES

Bilberries are a traditional European food and remedy for diarrhea (dried berries), and later for eyesight and circulation. A popular story says British pilots in World War II ate bilberry jam to see better on night missions, but there is no good record that this was true.

HOW IT WORKS IN THE BODY

Bilberries are rich in anthocyanins, the deep blue pigments that act as antioxidants and may help protect the tiny blood vessels of the eye. Dried berries also contain tannins, which tighten tissue and can ease diarrhea.

WHAT THE RESEARCH SAYS

The NCCIH reports that bilberry has not been clearly shown to help any health condition. Studies on night vision conflict, and the most rigorous ones found no benefit in healthy people. Evidence for other eye and circulation problems is weak.

HOW PEOPLE USE IT

Eat the fresh or frozen berries as food. For mild diarrhea, Commission E approved dried berries: simmer 1 to 2 tablespoons of crushed dried berries in a cup of water for 10 minutes. Extracts are sold as capsules.

WARNINGS

The fruit is safe as food, and extracts up to 160 mg a day for 6 months were well tolerated in studies. Avoid bilberry **leaves** in high doses or for long periods, because they may be unsafe. If you take blood thinners or diabetes drugs, ask your doctor before using concentrated extracts. Not enough is known about medicinal amounts in pregnancy or breastfeeding.

SOURCES: 5, 10 (see Sources at the back of the book)

Black Cohosh

Actaea racemosa

ALSO CALLED: Black snakeroot, bugbane, Cimicifuga racemosa

FAMILY: Ranunculaceae (buttercup family)

PARTS USED: Root and rhizome

EVIDENCE: Menopause hot flashes: Limited to Moderate.



Black Cohosh. Photo: Fritzflohrreynolds, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall woodland perennial of eastern North America, 4 to 8 feet when flowering, with large leaves divided into toothed leaflets and long, wand-like spikes of small white flowers with a strong, unpleasant smell that draws flies.

TRADITIONAL USES

Native American peoples used the root for women's health, rheumatism, and snakebite. In the 1800s it became a main ingredient in Lydia Pinkham's Vegetable Compound, a famous patent medicine for "female complaints." Today it is one of the most popular herbs for menopause.

HOW IT WORKS IN THE BODY

The root contains triterpene glycosides (such as actein) and other compounds. Researchers once thought it acted like estrogen, but newer studies suggest it works more through the brain's serotonin and other signals that control body temperature.

WHAT THE RESEARCH SAYS

The NCCIH reports that a 2023 review of 22 studies found black cohosh may help overall menopause symptoms and improve hot flashes, but not anxiety or depression. It is uncertain whether it helps hot flashes caused by breast cancer treatment.

HOW PEOPLE USE IT

Take a standardized extract in capsules or tablets according to the label. Many studies used products taken for 6 months to a year.

WARNINGS

Generally well tolerated in studies up to a year, with occasional stomach upset or rash. However, rare and sometimes serious cases of **liver damage** have been reported with black cohosh products. Stop it and see a doctor if you notice dark urine, yellow skin or eyes, belly pain, or unusual tiredness. Some products have been found contaminated or mislabeled, so buy a third-party tested brand. **Blue cohosh** is a different plant with serious heart risks. Do not mix them up. Not for pregnancy or breastfeeding, and ask your doctor if you have had a hormone-sensitive cancer.

SOURCES: 8, 11 (see Sources at the back of the book)

Black Seed

Nigella sativa

ALSO CALLED: Black cumin, kalonji, Nigella, fennel flower (not related to fennel)

FAMILY: Ranunculaceae (buttercup family)

PARTS USED: Seeds and the oil pressed from them

EVIDENCE: Cholesterol and blood sugar: Limited. Asthma and allergies: Limited.



Black Seed. Photo: AndreHolz at English Wikipedia, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A delicate annual about 1 foot tall with thread-like, finely cut leaves and pale blue or white flowers that turn into a puffy seed pod. The small black seeds are angular and taste peppery and a little like onion and oregano. It is native to southwestern Asia and the Mediterranean.

TRADITIONAL USES

Black seed has been used across the Middle East, North Africa, and South Asia for at least 2,000 years, for coughs, asthma, headaches, digestion, and skin problems. A well-known saying from Islamic tradition calls it a cure for everything except death. It is also a common spice on breads in the Middle East and India.

HOW IT WORKS IN THE BODY

The main active compound is thymoquinone, which in lab and animal studies has anti-inflammatory, antioxidant, and antihistamine effects.

WHAT THE RESEARCH SAYS

A 2017 review of clinical trials reported that black seed and its oil showed benefits for cholesterol, blood sugar, blood pressure, asthma, and allergic rhinitis in small human studies. Many of the trials were small, short, and done in a few countries, so the evidence is limited.

HOW PEOPLE USE IT

Sprinkle the seeds on bread, rice, or salads, or take the oil or capsules according to the label. Many studies used about 1 to 2 grams of seed a day.

WARNINGS

Food amounts are safe. Larger amounts may lower blood sugar and blood pressure, so watch your numbers if you take medicine for either. Black seed oil on the skin has caused allergic rashes. Large amounts may slow blood clotting and may affect the uterus, so avoid medicinal amounts in pregnancy, before surgery, and with blood thinners. A few kidney problems have been reported with high doses.

SOURCES: 12 (see Sources at the back of the book)

Boswellia (Frankincense)

Boswellia serrata

ALSO CALLED: Indian frankincense, salai guggul, Boswellia serrata

FAMILY: Burseraceae (torchwood family)

PARTS USED: Gum resin from the bark

EVIDENCE: Osteoarthritis pain: Limited to Moderate. Asthma: Limited.



Boswellia (Frankincense). Photo: Dinesh Valke from Thane, India, CC BY-SA 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A medium tree of dry hills in India with papery, peeling bark and feathery leaves. When the bark is cut, it bleeds a milky resin that hardens into the yellowish "tears" of frankincense. Related species in Arabia and Africa give the frankincense burned as incense.

TRADITIONAL USES

Frankincense has been burned in worship for thousands of years and is mentioned in the Bible as one of the gifts brought to the young Jesus. In Ayurvedic medicine the Indian species is used for arthritis, swelling, asthma, and bowel problems.

HOW IT WORKS IN THE BODY

The resin contains boswellic acids, especially one called AKBA, which block 5-lipoxygenase, an enzyme that makes inflammatory chemicals called leukotrienes. That is a different pathway from aspirin and ibuprofen.

WHAT THE RESEARCH SAYS

The NCCIH says several studies suggest boswellia taken by mouth may reduce pain and inflammation in osteoarthritis, though larger studies are needed. Small studies suggest it might reduce asthma symptoms, but the evidence isn't enough to say. There is not enough evidence for frankincense oil on the skin.

HOW PEOPLE USE IT

Take a standardized extract in capsules following the label. Trials have used up to 1,000 mg a day for up to 6 months.

WARNINGS

Boswellia is likely safe by mouth for most adults. Side effects can include stomach upset, heartburn, and diarrhea. If you have asthma, don't change your inhaler or medicine plan on your own. If you have cancer, talk with your doctor first. Medicinal amounts have not been well studied in pregnancy or breastfeeding, so avoid them then.

SOURCES: 13 (see Sources at the back of the book)

Burdock

Arctium lappa

ALSO CALLED: Gobo, beggar's buttons, Arctium

FAMILY: Asteraceae (daisy family)

PARTS USED: Root mainly; also seeds and leaves

EVIDENCE: Skin problems and "blood cleansing": Traditional. As a food fiber: well established.



Burdock. Photo: AnRo0002, CC0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A big, coarse biennial, 3 to 6 feet tall in its second year, with huge heart-shaped leaves that are woolly white underneath and purple thistle-like flowers. The flower heads become round burs with hooked spines that catch on clothing and animal fur. Legend says they inspired Velcro. It grows in disturbed ground across North America.

TRADITIONAL USES

Burdock root is a vegetable in Japan, where it is called gobo. In European and Chinese herbal medicine, the root was used as a "blood purifier" for acne, eczema, boils, and arthritis, and the seeds were used for sore throats and colds.

HOW IT WORKS IN THE BODY

The root is rich in inulin, a fiber that feeds good gut bacteria, and contains polyphenols and other antioxidants. There is no scientific basis for the idea that it "cleanses the blood."

WHAT THE RESEARCH SAYS

There are very few human studies on burdock for any medical use. A few small studies looked at it for skin or inflammation, but they don't add up to good evidence. Its strongest case is as a healthy, high-fiber food.

HOW PEOPLE USE IT

Peel and slice the long brown root and cook it like a carrot in stir-fries and soups. For tea, simmer 1 to 2 teaspoons of dried root in a cup of water for 10 to 15 minutes.

WARNINGS

The cooked root is safe as food. Burdock root looks a bit like the root of deadly nightshade and has been contaminated with it, so buy from a reliable source and never dig wild roots unless you are sure of the plant. It may lower blood sugar and act like a mild water pill. People allergic to ragweed or daisies may react. Avoid medicinal amounts in pregnancy because of reports that it may stimulate the uterus.

SOURCES: 6, 14 (see Sources at the back of the book)

Butterbur

Petasites hybridus

ALSO CALLED: Petasites, bog rhubarb, pestilence wort

FAMILY: Asteraceae (daisy family)

PARTS USED: Root and leaf extracts (only processed products free of PAs)

EVIDENCE: Migraine prevention: Moderate (but with safety concerns). Hay fever: Limited.



Butterbur. Photo: Richard Bartz, Munich aka Makro Freak, CC BY-SA 2.5. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low perennial of wet ground in Europe and Asia with enormous round leaves, often 2 to 3 feet across, that look like rhubarb. In early spring, before the leaves come up, it sends up thick stalks of pinkish flower clusters.

TRADITIONAL USES

The name comes from wrapping butter in the big leaves to keep it cool. In the Middle Ages it was used for plague fevers. Later it was used for coughs, asthma, and pain.

HOW IT WORKS IN THE BODY

The active compounds, petasin and isopetasin, relax smooth muscle and block leukotrienes and histamine, which may explain effects on migraine and allergy. The raw plant also contains pyrrolizidine alkaloids (PAs), which damage the liver.

WHAT THE RESEARCH SAYS

The NCCIH reports that a specific root extract may reduce how often migraines happen in adults and children, and a leaf extract may help hay fever. The American Academy of Neurology recommended butterbur for migraine prevention in 2012 but withdrew that support in 2015 because of liver safety concerns.

HOW PEOPLE USE IT

Do not make butterbur tea or use the raw plant. If you choose to use it, only use a product labeled and certified "PA-free," and talk with your doctor first.

WARNINGS

Butterbur's PAs can damage the liver and lungs and may cause cancer. Even PA-free products have been linked to rare liver injury. Do not use any butterbur product in pregnancy or breastfeeding. People allergic to ragweed, marigolds, or daisies may react. Never gather it wild.

SOURCES: 8, 15, 16 (see Sources at the back of the book)

Calendula

Calendula officinalis

ALSO CALLED: Pot marigold, English marigold (not the same as garden Tagetes marigolds)

FAMILY: Asteraceae (daisy family)

PARTS USED: Flower heads, mainly the petals

EVIDENCE: Minor skin wounds and inflammation: Limited. Skin irritation from radiation therapy: Limited (mixed results).



Calendula. Photo: Franz Eugen Köhler, Köhler's Medizinal-Pflanzen, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A cheerful garden annual 1 to 2 feet tall with sticky, slightly fuzzy leaves and bright orange or yellow daisy-like flowers 2 to 3 inches across. The flowers close at night and open with the sun. It is native to southern Europe and is easy to grow from seed.

TRADITIONAL USES

Calendula has been a skin herb in Europe since the Middle Ages, used on cuts, scrapes, burns, rashes, diaper rash, and sore nipples. The petals were also used to color butter and cheese and as a cheap substitute for saffron.

HOW IT WORKS IN THE BODY

The flowers contain triterpenoids (such as faradiol esters) that calm inflammation, flavonoids, and carotenoids that give the orange color. In lab and animal studies, calendula helps new tissue and blood vessels form in a wound.

WHAT THE RESEARCH SAYS

Commission E and the European Medicines Agency approve calendula for minor skin inflammation and to help small wounds heal, based mostly on long use and lab work. A 2004 French trial in women getting radiation for breast cancer found calendula cream reduced severe skin reactions compared with another cream, but later studies have been mixed.

HOW PEOPLE USE IT

Use a store-bought calendula cream or ointment, or make an infused oil and salve from dried flowers (see Making Your Own Remedies). A cooled tea (1 to 2 teaspoons of petals per cup) works as a wash for minor scrapes or a gargle for a sore mouth.

WARNINGS

Calendula is very well tolerated on the skin. People allergic to ragweed, daisies, chrysanthemums, or other plants in the daisy family can get a rash. Do not use it on deep or puncture wounds, which need medical care. Avoid taking it by mouth in pregnancy, because of old reports that it may affect the uterus.

SOURCES: 5, 17, 18 (see Sources at the back of the book)

Cascara Sagrada

Frangula purshiana

ALSO CALLED: Cascara sagrada ("sacred bark"), chittem bark, Rhamnus purshiana

FAMILY: Rhamnaceae (buckthorn family)

PARTS USED: Bark that has been aged at least one year or heat-treated

EVIDENCE: Occasional constipation: Moderate (it works, but safer choices exist).



Cascara Sagrada. Photo: Jesse Taylor, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A small tree of the Pacific Northwest, 15 to 30 feet tall, with smooth gray bark, glossy oval leaves with distinct parallel veins, and small black berries.

TRADITIONAL USES

Native peoples of the Pacific Northwest used the bark as a laxative. Spanish missionaries named it "sacred bark," and by the late 1800s it was one of the most widely used laxatives in the world.

HOW IT WORKS IN THE BODY

The bark contains anthraquinone glycosides (cascarosides). Gut bacteria in the colon turn them into compounds that irritate the bowel lining, make it push stool along, and draw water into the bowel. Fresh bark is much harsher and causes violent cramps and vomiting, so the bark must be aged before use.

WHAT THE RESEARCH SAYS

Cascara does work as a stimulant laxative. However, in 2002 the FDA removed cascara from over-the-counter laxative products in the United States because manufacturers did not provide the safety data the agency asked for. It is still sold as a dietary supplement.

HOW PEOPLE USE IT

Follow the label of a commercial product, and use it for only a few days at a time. Most doctors would recommend fiber, fluids, and gentler laxatives first.

WARNINGS

Do not use cascara for more than a week or so without a doctor's advice. Long use can make the bowel dependent on it, cause low potassium, and darken the lining of the colon. Low potassium is dangerous for people taking digoxin, water pills, or steroids. Rare cases of liver injury have been reported. Never use it if you have belly pain of unknown cause, a bowel blockage, Crohn's disease, ulcerative colitis, or appendicitis. Not for children, pregnant or breastfeeding women.

SOURCES: 2, 5, 8 (see Sources at the back of the book)

Catnip

Nepeta cataria

ALSO CALLED: Catmint, catswort, Nepeta

FAMILY: Lamiaceae (mint family)

PARTS USED: Leaves and flowering tops

EVIDENCE: Calming and mild stomach upset: Traditional. Insect repellent: Limited.



Catnip. Photo: Jon Sullivan, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A gray-green, square-stemmed mint 2 to 3 feet tall with soft, heart-shaped, toothed leaves covered in fine hairs and spikes of small white flowers with purple spots. Crush a leaf and it smells minty and a little skunky. Cats love it. It came from Europe and Asia and now grows wild in much of North America.

TRADITIONAL USES

Long before cats got it, people drank catnip tea in Europe for colds, fevers, upset stomach, and restlessness, and it was given to fussy babies. It was a common tea in England before Chinese tea became widespread.

HOW IT WORKS IN THE BODY

The main oil, nepetalactone, is what sends cats into a frenzy. In people it seems to have a mild calming effect. Nepetalactone also repels insects. Lab studies found it drove off mosquitoes about as well as some commercial repellents, though it doesn't last as long on the skin.

WHAT THE RESEARCH SAYS

Very few studies have tested catnip in people for anything. Its calming and stomach-settling effects rest on tradition. A 2021 study showed nepetalactone repels mosquitoes by triggering an irritant receptor, which supports its use as a repellent.

HOW PEOPLE USE IT

For a mild bedtime tea, steep 1 to 2 teaspoons of dried leaves in a cup of just-boiled water, covered, for 10 minutes.

WARNINGS

A cup of tea is generally considered safe for adults. Large amounts may cause headaches, vomiting, or drowsiness. Do not combine with sedatives or alcohol. Do not give it to babies or young children. Avoid it in pregnancy, because it has traditionally been used to bring on menstruation.

SOURCES: 6, 14 (see Sources at the back of the book)

Cat's Claw

Uncaria tomentosa

ALSO CALLED: Una de gato, Uncaria tomentosa

FAMILY: Rubiaceae (coffee family)

PARTS USED: Inner bark and root

EVIDENCE: Arthritis and immune support: Limited at best. The NCCIH says there is no conclusive evidence for any use.



Cat's Claw. Photo: Kristi Denby/Archivo Centro Takiwasi, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A woody climbing vine of the Amazon rainforest that can reach 100 feet up into the trees. It gets its name from the curved, hook-like thorns where the leaves meet the stem, which help it climb.

TRADITIONAL USES

Indigenous peoples of Peru and other Amazon countries used the bark for inflammation, wounds, stomach problems, and fevers. It became popular in Europe and North America in the 1990s as an immune and arthritis supplement.

HOW IT WORKS IN THE BODY

The bark contains oxindole alkaloids and other compounds that in lab studies affect immune cells and reduce inflammatory signals.

WHAT THE RESEARCH SAYS

The NCCIH reports there is no conclusive evidence in people that cat's claw helps any health condition, including COVID-19. A few small studies looked at rheumatoid arthritis and osteoarthritis, but there aren't enough high-quality trials to draw conclusions.

HOW PEOPLE USE IT

Sold as capsules, tablets, and tea. Follow the product label.

WARNINGS

Cat's claw appears safe by mouth for up to about 6 months. It may slow blood clotting, so stop it before surgery and don't mix it with blood thinners without a doctor's advice. Because it may stimulate the immune system, avoid it with autoimmune diseases and after an organ transplant. It may lower blood pressure. Some studies suggest it is not safe in pregnancy. Do not use while breastfeeding.

SOURCES: 19 (see Sources at the back of the book)

Cayenne

Capsicum annuum

ALSO CALLED: Chili pepper, red pepper, capsicum

FAMILY: Solanaceae (nightshade family)

PARTS USED: Ripe fruit (the pepper)

EVIDENCE: Nerve and joint pain (capsaicin cream or patch on the skin): Moderate to Strong.



Cayenne. Photo: Franz Eugen Köhler, Köhler's Medizinal-Pflanzen, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A bushy plant 1 to 3 feet tall with smooth oval leaves, small white flowers, and long, thin, shiny peppers that turn from green to bright red. All hot peppers come from plants first grown in Mexico and Central and South America.

TRADITIONAL USES

Native peoples of the Americas used chilies as food and medicine for thousands of years, for pain, toothache, and digestion. Early American herbalists such as Samuel Thomson made cayenne a key "warming" remedy in the 1800s.

HOW IT WORKS IN THE BODY

The heat comes from capsaicin. It binds to a pain receptor called TRPV1, which is the same receptor that senses heat. At first it burns. With repeated use, the nerve endings run low on a pain messenger called substance P and the area becomes less sensitive to pain. That is why capsaicin cream can relieve pain after a week or two of regular use.

WHAT THE RESEARCH SAYS

Capsaicin is an FDA-approved over-the-counter ingredient for minor muscle and joint pain. A Cochrane review found that a high-strength capsaicin patch, applied in a doctor's office, helps some people with long-term nerve pain, such as after shingles. Low-strength creams help some people with arthritis, although the evidence is weaker.

HOW PEOPLE USE IT

Rub a capsaicin cream (0.025 to 0.1 percent) into the sore area three or four times a day, and give it at least two weeks to work. Wash your hands well afterward, or wear gloves.

WARNINGS

Expect burning and redness at first. **Keep it away from your eyes, nose, mouth, and genitals,** and off broken skin. Never use it under a heating pad or bandage, which can cause burns. Eating a lot of hot pepper can upset the stomach and worsen heartburn. Capsaicin may increase the absorption of some drugs. Pepper spray-strength capsaicin is a weapon, not a remedy.

SOURCES: 6, 20 (see Sources at the back of the book)

Chamomile

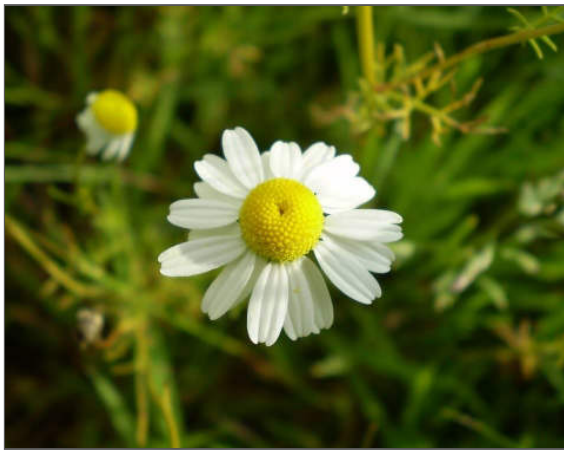
Matricaria chamomilla

ALSO CALLED: German chamomile, Matricaria recutita. Roman chamomile (Chamaemelum nobile) is a related plant.

FAMILY: Asteraceae (daisy family)

PARTS USED: Flower heads

EVIDENCE: Mild anxiety: Limited. Mouth sores from cancer treatment (mouthwash): Limited. Sleep: Limited (one study found no benefit). Upset stomach and colic: Traditional (blends only).



Chamomile. Photo: Rob Hille, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A feathery annual 1 to 2 feet tall with thread-thin leaves and many small daisy-like flowers with white petals that fold back around a raised, hollow yellow center. It smells sweet and apple-like. Pineapple weed, a close relative with no petals, grows wild in hard dirt and paths across the West.

TRADITIONAL USES

Chamomile is one of the oldest and most widely used medicinal herbs, used since ancient Egypt for stomach upset, cramps, sleeplessness, nerves, teething babies, and skin and eye irritation. In Peter Rabbit, Peter's mother gives him chamomile tea after his troubles in Mr. McGregor's garden.

HOW IT WORKS IN THE BODY

The flowers contain apigenin, a flavonoid that attaches to the same brain receptors as some anti-anxiety drugs, but much more weakly. The oil contains bisabolol and chamazulene, which calm inflammation and relax smooth muscle in the gut.

WHAT THE RESEARCH SAYS

The NCCIH reports that small, early studies suggest a chamomile supplement might help generalized anxiety disorder, and that a chamomile mouthwash may help mouth sores from cancer treatment. A study of chamomile for insomnia found no benefit. Herbal blends that include chamomile may help colic and diarrhea, but those results can't be credited to chamomile alone.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried flowers, or one tea bag, in a cup of just-boiled water, covered, for 5 to 10 minutes. A cooled tea makes a soothing compress for irritated skin.

WARNINGS

Chamomile tea is likely safe for most people. Allergic reactions, including rare severe ones, can happen, especially in people allergic to ragweed, daisies, marigolds, or chrysanthemums. It may interact with warfarin and possibly with birth control pills and drugs broken down by the liver. Safety in pregnancy and breastfeeding is not known, so keep it to an occasional cup. Do not use a chamomile wash in or near the eyes; it can cause allergic eye inflammation.

SOURCES: 5, 18, 21 (see Sources at the back of the book)

Chaparral (Creosote Bush)

Larrea tridentata

ALSO CALLED: Chaparral, creosote bush, greasewood, gobernadora, Larrea tridentata

FAMILY: Zygophyllaceae (caltrop family)

PARTS USED: Leaves and twigs (used on the skin only, if at all)

EVIDENCE: All uses: Traditional only. **SERIOUS LIVER RISK WHEN TAKEN BY MOUTH.**



Chaparral (Creosote Bush). Photo: Chris English, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A gangly, evergreen desert shrub 3 to 10 feet tall with many slender, gray branches and small, shiny, olive-green leaves in pairs, joined at the base like little butterfly wings, and coated with a sticky, strong-smelling resin. Small yellow flowers become fuzzy white seed balls. After rain, the desert smells like creosote. It dominates the Mojave Desert in southern Nevada, and some clonal rings are thought to be more than 10,000 years old.

TRADITIONAL USES

Native peoples of the desert Southwest, including the Tohono O'odham and Southern Paiute, used creosote bush for colds, arthritis, stomach problems, wounds, and skin infections. In the 1960s and 1970s chaparral tea and capsules were sold as cancer cures and "blood cleansers."

HOW IT WORKS IN THE BODY

The resin contains NDGA (nordihydroguaiaretic acid), a powerful antioxidant and germ killer in the lab. NDGA is also toxic to the liver and kidneys.

WHAT THE RESEARCH SAYS

There are no clinical trials showing benefit. In 1992 the FDA warned the public about chaparral after reports of serious liver damage in people taking the tea or capsules. Later case reviews described acute hepatitis and liver failure, including cases that needed a liver transplant.

HOW PEOPLE USE IT

I do not recommend taking chaparral by mouth in any form. Some desert herbalists use a diluted infused oil or salve of the leaves on minor skin problems, but even that has little research behind it.

WARNINGS

Chaparral taken by mouth has been linked to **acute hepatitis, liver failure, and kidney damage.** Do not drink the tea or take capsules, especially if you have liver or kidney disease. It may also cause skin rashes when applied. Not for pregnancy, breastfeeding, or children.

SOURCES: 8, 22, 23 (see Sources at the back of the book)

Chasteberry

Vitex agnus-castus

ALSO CALLED: Vitex, chaste tree, monk's pepper

FAMILY: Lamiaceae (mint family)

PARTS USED: Ripe dried berries

EVIDENCE: PMS breast pain and symptoms: Limited to Moderate.



Chasteberry. Photo: peganum from Henfield, England, CC BY-SA 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A shrub or small tree 10 to 20 feet tall with leaves shaped like an open hand with five to seven narrow fingers, and long spikes of lavender-blue flowers in summer. The small dark berries smell and taste peppery. It is native to the Mediterranean and is now planted widely in the southern United States.

TRADITIONAL USES

The name comes from the belief, going back to ancient Greece, that the berries reduced sexual desire. Monks in the Middle Ages are said to have used it for that, which is why it was called monk's pepper. In modern European herbal medicine it is used for premenstrual syndrome (PMS), irregular periods, and breast pain.

HOW IT WORKS IN THE BODY

Chasteberry appears to act on the pituitary gland, the hormone control center at the base of the brain. It lowers prolactin, a hormone that can cause breast pain and irregular cycles when it runs high, partly by working like dopamine.

WHAT THE RESEARCH SAYS

The NCCIH reports that several low to moderate quality studies suggest chasteberry might reduce PMS symptoms such as breast pain, but higher quality research is needed. There isn't enough evidence for infertility or menopause.

HOW PEOPLE USE IT

Take a standardized extract as directed on the label, usually once a day in the morning, for at least three menstrual cycles to judge the effect.

WARNINGS

It is generally well tolerated for up to about 3 months. Side effects can include nausea, stomach upset, headache, itching, and acne. Because it affects hormones, avoid it if you have a hormone-sensitive cancer or condition, take birth control or hormone therapy, or take drugs that act on dopamine (such as some Parkinson's and psychiatric drugs). Do not use it while pregnant or breastfeeding.

SOURCES: 18, 24 (see Sources at the back of the book)

Chickweed

Stellaria media

ALSO CALLED: Common chickweed, starwort, Stellaria

FAMILY: Caryophyllaceae (pink family)

PARTS USED: Fresh leaves and stems

EVIDENCE: Itchy skin (on the skin): Traditional. As a food: safe.



Chickweed. Photo: Kaldari, CC0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, sprawling, weak-stemmed plant that forms mats in cool, damp weather. It has small, pointed oval leaves in pairs and tiny white star-shaped flowers. Each flower has five petals so deeply split they look like ten. A key feature: a single line of fine hairs runs along one side of the stem, switching sides at each pair of leaves.

TRADITIONAL USES

Chickweed has been eaten as a spring green and fed to chickens for centuries. It was used in poultices and salves for itchy skin, rashes, eczema, and minor burns.

HOW IT WORKS IN THE BODY

Chickweed contains saponins, flavonoids, and vitamin C, along with minerals. The saponins may soften the skin and have a mild soothing effect.

WHAT THE RESEARCH SAYS

There are almost no clinical studies on chickweed. Its use for itchy skin is based on tradition.

HOW PEOPLE USE IT

Add a handful of fresh, tender tips to salads. For an itchy rash, crush fresh chickweed and apply it as a poultice, or use a chickweed salve.

WARNINGS

As a food in normal amounts it is safe for most people. It contains nitrates and saponins, and eating very large amounts has caused stomach upset. Be sure of your identification. Scarlet pimpernel, a mildly toxic plant, can grow alongside it; pimpernel has square stems, no hair line, and orange-red flowers.

SOURCES: 6, 25 (see Sources at the back of the book)

Cinnamon

Cinnamomum verum

ALSO CALLED: Ceylon cinnamon (true cinnamon, Cinnamomum verum) and cassia cinnamon (Cinnamomum cassia), the cheaper kind sold in most U.S. stores

FAMILY: Lauraceae (laurel family)

PARTS USED: Inner bark

EVIDENCE: Blood sugar in diabetes: Limited (unclear). Weight loss: no good evidence.



Cinnamon. Photo: Wikimedia Commons uploader (see file page), Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

Cinnamon trees are tropical evergreens with glossy, leathery leaves. The bark is peeled and dried in curls called quills. Ceylon cinnamon quills are thin, papery, and rolled in many layers. Cassia quills are thick, hard, and rolled in a single layer.

TRADITIONAL USES

Cinnamon was so prized in the ancient world that it was given as gifts to kings. It was used for stomach upset, colds, and diarrhea, and it is mentioned in the Bible as an ingredient of the holy anointing oil.

HOW IT WORKS IN THE BODY

The flavor comes from cinnamaldehyde. Lab studies suggest cinnamon compounds may help insulin work better. Cassia cinnamon also contains coumarin, a natural compound that can damage the liver in large amounts.

WHAT THE RESEARCH SAYS

The NCCIH says research doesn't clearly support using cinnamon for any health condition. Studies on blood sugar in diabetes have had mixed results, and benefits for weight loss are unclear.

HOW PEOPLE USE IT

Enjoy it as a spice. If you use cinnamon every day in large amounts, choose Ceylon cinnamon, which has very little coumarin.

WARNINGS

Cinnamon in food amounts is safe. Taking large amounts of **cassia** cinnamon every day for a long time can expose you to enough coumarin to harm the liver, especially if you have liver disease. Germany's food safety agency has warned about this. Never do the "cinnamon challenge" (swallowing a spoonful of dry powder). It has caused choking and lung damage. People taking diabetes drugs should watch for low blood sugar if they take cinnamon supplements.

SOURCES: 26, 27 (see Sources at the back of the book)

Cleavers

Galium aparine

ALSO CALLED: Goosegrass, sticky willy, bedstraw, catchweed
FAMILY: Rubiaceae (coffee family)
PARTS USED: Fresh aboveground plant
EVIDENCE: Lymph and skin: Traditional only.



Cleavers. Photo: Wikimedia Commons uploader (see file page), Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A scrambling annual with weak square stems that climb over other plants. Its narrow leaves grow in whorls of six to eight, like the spokes of a wheel. Tiny hooked hairs on the stems, leaves, and small round seeds make the whole plant stick to clothes and fur like Velcro. It is common in shady, damp spots in spring.

TRADITIONAL USES

Herbalists have used cleavers as a spring "cleansing" tonic, for swollen glands, minor skin problems, and as a mild water pill. Geese love it, which is where the name goosegrass comes from. Its seeds have been roasted as a coffee substitute, since it is related to coffee.

HOW IT WORKS IN THE BODY

It contains asperuloside and other iridoids, flavonoids, and tannins. These may give a mild water-pill effect.

WHAT THE RESEARCH SAYS

There are no meaningful human studies. All uses are traditional.

HOW PEOPLE USE IT

Herbalists often soak the fresh chopped plant in cold water overnight and drink it, or juice it. Some people eat the young shoots as a cooked green.

WARNINGS

Cleavers is generally considered mild. The sticky hairs can irritate sensitive skin. Because it may act as a water pill, avoid it if you take water pills or lithium, or if you have kidney disease. Not enough is known about its safety in pregnancy or breastfeeding.

SOURCES: 6, 28 (see Sources at the back of the book)

Clove

Syzygium aromaticum

ALSO CALLED: Syzygium, Eugenia caryophyllata

FAMILY: Myrtaceae (myrtle family)

PARTS USED: Dried flower buds and their oil

EVIDENCE: Toothache numbing (on the gum): Limited to Moderate.



Clove. Photo: Bayu Nugroho, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

Clove trees are tropical evergreens 25 to 40 feet tall with glossy leaves, native to the Spice Islands of Indonesia. The spice is the dried, unopened flower bud, which looks like a small brown nail. The word clove comes from the Latin for nail.

TRADITIONAL USES

Cloves have been used for toothache for centuries, in Chinese medicine and in Europe. Dentists still use clove oil mixed with zinc oxide as a temporary filling and dressing for painful tooth sockets.

HOW IT WORKS IN THE BODY

Clove oil is 70 to 90 percent eugenol, which numbs nerves, kills many germs, and calms inflammation.

WHAT THE RESEARCH SAYS

A 2006 study found a homemade clove gel numbed the gum about as well as benzocaine, a standard numbing gel, and better than a placebo. Commission E approved clove oil for local numbing in dentistry. The FDA did not find enough evidence to approve eugenol as an over-the-counter toothache drug.

HOW PEOPLE USE IT

For a toothache while you wait to see a dentist, dip a cotton swab in a few drops of clove oil diluted with a little olive oil, and dab it on the sore gum. Or hold a whole clove against the tooth.

WARNINGS

Clove oil can burn and irritate the gums, lips, and skin if used full strength or often. Never swallow clove oil. In children, even small amounts have caused seizures, liver damage, and life-threatening breathing problems. Keep it locked away. Clove oil may slow blood clotting. A toothache needs a dentist. Clove only buys time.

SOURCES: 5, 29 (see Sources at the back of the book)

Comfrey

Symphytum officinale

ALSO CALLED: Knitbone, boneset (not Eupatorium), Symphytum
FAMILY: Boraginaceae (borage family)
PARTS USED: Leaves and root, **ON UNBROKEN SKIN ONLY**
EVIDENCE: Sprains, bruises, and back pain (on the skin): Moderate.



Comfrey. Photo: Acabashi, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A large, hairy perennial 2 to 4 feet tall with broad, rough, pointed leaves that feel like sandpaper and drooping clusters of bell-shaped flowers in purple, pink, cream, or blue. The root is black outside and white and slimy inside. It grows in damp places in Europe and gardens everywhere.

TRADITIONAL USES

The old names knitbone and boneset tell the story: comfrey was wrapped around broken bones, sprains, and bruises for centuries. People also drank it as tea and ate it as a vegetable, until its dangers were understood.

HOW IT WORKS IN THE BODY

Comfrey contains allantoin, which helps skin cells multiply, and rosmarinic acid, which calms inflammation. It also contains pyrrolizidine alkaloids (PAs), which can block the small veins of the liver, cause liver failure, and may cause cancer.

WHAT THE RESEARCH SAYS

Several well-designed trials in Europe found that comfrey creams eased pain and swelling from ankle sprains, sore muscles, and back pain, sometimes as well as an anti-inflammatory gel. Those trials used special products with the PAs removed.

HOW PEOPLE USE IT

Use a commercial comfrey cream or ointment made from PA-reduced comfrey, on unbroken skin, for no more than 10 days at a time and no more than 4 to 6 weeks a year.

WARNINGS

Never take comfrey by mouth in any form, including tea. In 2001 the FDA asked companies to remove oral comfrey products from the market because of liver damage and deaths. Do not put it on open wounds or broken skin, which can absorb the PAs. Not for pregnant or breastfeeding women or young children, or anyone with liver disease. Comfrey leaves have been mistaken for foxglove leaves, which is deadly.

SOURCES: 16, 18, 30 (see Sources at the back of the book)

Cranberry

Vaccinium macrocarpon

ALSO CALLED: American cranberry, Vaccinium macrocarpon

FAMILY: Ericaceae (heath family)

PARTS USED: Fruit, juice, and dried extracts

EVIDENCE: Preventing repeat bladder infections in women: Moderate (inconsistent). Treating an active infection: does not work.



Cranberry. Photo: Photo by Keith Weller, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, creeping evergreen shrub with small, leathery oval leaves that grows in acid bogs and wetlands of eastern North America. Pink flowers become hard, bright red, sour berries.

TRADITIONAL USES

Native peoples of New England used cranberries as food, dye, and poultices for wounds. Cranberry juice has been a folk remedy for bladder infections since at least the 1800s.

HOW IT WORKS IN THE BODY

Cranberries contain A-type proanthocyanidins (PACs). These seem to keep E. coli bacteria from sticking to the wall of the bladder and urinary tract, so they get flushed out instead of starting an infection. Cranberry does not kill bacteria that are already causing an infection.

WHAT THE RESEARCH SAYS

The NCCIH reports that cranberry may lower the risk of repeat urinary tract infections (UTIs) in women by about 25 percent, though results haven't been consistent. It is not a treatment for an existing UTI and did not help much in some high-risk groups.

HOW PEOPLE USE IT

For prevention, drink unsweetened or lightly sweetened cranberry juice daily, or take a cranberry capsule that lists its PAC content.

WARNINGS

Cranberry is safe for most people. Large amounts can cause stomach upset and diarrhea. Evidence on whether it boosts warfarin's effect is conflicting, so check with your doctor if you take warfarin. People with a history of kidney stones should ask their doctor, since cranberry contains oxalate. **A suspected UTI needs a doctor.** Burning urination with fever, back or side pain, or blood in the urine can mean a kidney infection.

SOURCES: 31 (see Sources at the back of the book)

Dandelion

Taraxacum officinale

ALSO CALLED: Lion's tooth, blowball, Taraxacum

FAMILY: Asteraceae (daisy family)

PARTS USED: Leaves, root, and flowers

EVIDENCE: Water pill, liver, and digestion: Traditional. The NCCIH finds no compelling evidence for any condition.



Dandelion. Photo: Franz Eugen Kohler, Kohler's Medizinal-Pflanzen, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

Everyone knows it: a flat rosette of deeply toothed leaves (the name comes from the French dent de lion, "lion's tooth"), a hollow stem that oozes milky sap, a single bright yellow flower, and the round white puffball of seeds. The long taproot is brown outside and white inside.

TRADITIONAL USES

Dandelion was a respected medicine in Europe, the Middle East, and China. The leaves were eaten as a bitter spring green and taken as a water pill. The French nickname pissenlit means "wet the bed." The root was used for the liver, gallbladder, and digestion, and roasted as a coffee substitute.

HOW IT WORKS IN THE BODY

The leaves are rich in potassium and vitamins A, C, and K, and contain bitter compounds (sesquiterpene lactones) that stimulate digestive juices and bile. The root contains inulin, a fiber that feeds healthy gut bacteria. One small study suggested the leaf increased urine output.

WHAT THE RESEARCH SAYS

The NCCIH reports no compelling scientific evidence for using dandelion for any health condition. Most research has been done in the lab or in animals.

HOW PEOPLE USE IT

Pick young leaves in early spring, away from sprayed lawns and roads, and eat them in salads or cooked like spinach. For root tea, simmer 1 to 2 teaspoons of dried, chopped root in a cup of water for 10 minutes. Roasted root makes a coffee-like drink.

WARNINGS

Dandelion is likely safe as food. It may cause allergic reactions in people sensitive to ragweed and related plants, and skin contact can cause a rash in people with eczema. In theory it could interact with water pills, lithium, diabetes drugs, and blood thinners. Avoid it if you have a blocked bile duct or gallbladder disease without a doctor's advice. Never pick from lawns that may have been sprayed with weed killer.

SOURCES: 5, 32 (see Sources at the back of the book)

Devil's Claw

Harpagophytum procumbens

ALSO CALLED: Grapple plant, wood spider, Harpagophytum

FAMILY: Pedaliaceae (sesame family)

PARTS USED: Secondary storage roots (tubers)

EVIDENCE: Low back pain and osteoarthritis pain: Limited to Moderate.



Devil's Claw. Photo: The original uploader was Henri pidoux at French Wikipedia., Attribution. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A sprawling, low perennial of the Kalahari Desert in southern Africa with gray-green lobed leaves and trumpet-shaped pink-purple flowers. Its strange seed pods are covered in long, hooked claws that latch onto animals' feet. The medicine comes from the fat tubers that grow off the main root.

TRADITIONAL USES

The San and Khoikhoi peoples of southern Africa used the root for pain, fevers, digestive problems, and childbirth. In the 1900s it became a popular arthritis remedy in Germany.

HOW IT WORKS IN THE BODY

The root contains harpagoside and other iridoid glycosides that reduce inflammatory chemicals such as COX-2 and nitric oxide in lab studies. Its bitter taste also stimulates digestion.

WHAT THE RESEARCH SAYS

A Cochrane review of herbal medicines for low back pain found moderate evidence that devil's claw extract providing 50 to 100 mg of harpagoside a day helped short-term back pain more than placebo. A few trials suggest it may ease osteoarthritis pain. The European Medicines Agency approves it as a traditional remedy for minor joint pain and indigestion.

HOW PEOPLE USE IT

Take a standardized extract according to the label. Effects may take two to three weeks.

WARNINGS

Side effects include diarrhea, nausea, stomach pain, headache, and loss of taste. Because it stimulates stomach acid, avoid it if you have stomach ulcers or gallstones. It may lower blood sugar and affect heart rate and blood pressure, and it may interact with blood thinners. Not for pregnancy or breastfeeding.

SOURCES: 18, 33 (see Sources at the back of the book)

Dong Quai

Angelica sinensis

ALSO CALLED: Dang gui, Chinese angelica, "female ginseng"

FAMILY: Apiaceae (carrot family)

PARTS USED: Root

EVIDENCE: Menstrual cramps and menopause: Traditional. One good trial found no effect on hot flashes when used alone.



Dong Quai. Photo: François Nguyen, CC BY 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall, fragrant perennial, 3 to 6 feet, with large leaves divided into many toothed leaflets and umbrella-shaped clusters of small white flowers. The dried root is brown and strongly aromatic, a bit like celery. It is native to the mountains of China.

TRADITIONAL USES

Dong quai is one of the most important herbs in traditional Chinese medicine for women's health. It is used to "nourish the blood" and for menstrual cramps, irregular periods, and menopause symptoms, usually in formulas with other herbs.

HOW IT WORKS IN THE BODY

The root contains ferulic acid, ligustilide, and coumarin compounds. Some of these relax smooth muscle and may thin the blood. Some are also photosensitizers, which make the skin more sensitive to sun.

WHAT THE RESEARCH SAYS

A well-designed trial published in 1997 found dong quai alone did not relieve menopausal hot flashes any better than a placebo. Chinese medicine practitioners argue it should be used in formulas, not alone. Good studies on menstrual cramps are lacking.

HOW PEOPLE USE IT

Commonly used in Chinese herbal formulas and sold as capsules and extracts. Follow the label, or see a licensed practitioner of Chinese medicine.

WARNINGS

Dong quai contains blood-thinning compounds and has increased the effect of warfarin, so **do not combine it with blood thinners** and stop it before surgery. It can make the skin sunburn easily. Avoid it in pregnancy, while breastfeeding, and if you have a hormone-sensitive cancer. Never harvest wild "angelica" roots. Several members of the carrot family, including water hemlock, are deadly look-alikes.

SOURCES: 3, 6 (see Sources at the back of the book)

Echinacea

Echinacea purpurea

ALSO CALLED: Purple coneflower. Three species are used: Echinacea purpurea, E. angustifolia, and E. pallida.

FAMILY: Asteraceae (daisy family)

PARTS USED: Roots, aboveground parts, or both

EVIDENCE: Preventing colds: Limited (a small effect). Shortening colds: unclear.



Echinacea. Photo: Burkhard Mücke, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A sturdy prairie wildflower 2 to 4 feet tall with rough, lance-shaped leaves and big flowers with drooping pink-purple petals around a spiky, orange-brown cone. It is native to the central and eastern United States and is now a common garden flower.

TRADITIONAL USES

Plains peoples used echinacea more than any other plant medicine, for wounds, snakebites, toothaches, sore throats, and infections. In the late 1800s it became a top-selling patent medicine in America, and later a leading cold remedy in Germany.

HOW IT WORKS IN THE BODY

Echinacea contains alkylamides (which cause the tingling, numbing feeling on the tongue), polysaccharides, and caffeic acid compounds. In the lab they affect immune cells, but which compounds matter, and how much, isn't clear.

WHAT THE RESEARCH SAYS

The NCCIH reports that taking echinacea may slightly reduce your chances of catching a cold, but it isn't clear whether it shortens a cold once you have it. A 2014 Cochrane review found the products studied were so different from each other that results were hard to compare. There isn't enough evidence for other uses.

HOW PEOPLE USE IT

Products vary widely by species, plant part, and preparation, so follow the label. Many people start it at the first sign of a cold and take it for 7 to 10 days.

WARNINGS

Echinacea is likely safe short term for most adults. Upset stomach is the most common side effect. Allergic reactions, sometimes severe, can occur, especially in people allergic to ragweed or daisies or with asthma. Avoid it if you have an autoimmune disease or take drugs that suppress the immune system. Talk to a doctor before giving it to children. Little is known about use while breastfeeding.

SOURCES: 34, 35 (see Sources at the back of the book)

Elderberry

Sambucus nigra

ALSO CALLED: Black elder, European elder, Sambucus. Blue elderberry (Sambucus cerulea) grows wild in the West.

FAMILY: Adoxaceae (moschatel family)

PARTS USED: Ripe, cooked berries and flowers

EVIDENCE: Flu and cold symptoms: Limited.



Elderberry. Photo: Ryan Hodnett, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A large shrub or small tree, 6 to 20 feet, with leaves divided into five to nine toothed leaflets. In early summer it bears flat-topped clusters of tiny, creamy white, sweet-smelling flowers, followed by drooping clusters of small purple-black (or, in the West, dusty blue) berries.

TRADITIONAL USES

Elder has been called "the medicine chest of the country people." The flowers were used in tea for fevers and colds, and the berries were made into syrup, jam, and wine for winter coughs and flu. Native peoples of North America used the local species for food and medicine.

HOW IT WORKS IN THE BODY

The berries are rich in anthocyanins and other flavonoids that, in lab studies, keep flu viruses from entering cells and affect immune signals.

WHAT THE RESEARCH SAYS

The NCCIH says preliminary research suggests elderberry may relieve symptoms of flu, colds, or other upper respiratory infections. There isn't enough evidence for other uses, including COVID-19. The FDA and FTC have warned companies selling elderberry with false COVID-19 claims.

HOW PEOPLE USE IT

Take a commercial elderberry syrup or lozenge as labeled, or make your own syrup (see Making Your Own Remedies), simmering the berries at least 30 minutes. For elderflower tea, steep 1 to 2 teaspoons of dried flowers per cup for 10 minutes.

WARNINGS

Never eat raw or unripe elderberries, or the leaves, stems, bark, or roots. They contain compounds that release cyanide and cause nausea, vomiting, and diarrhea. Ripe berries must be cooked. Red elderberry (Sambucus racemosa) is more toxic and best avoided. Little is known about use in pregnancy and breastfeeding. Water hemlock, which is deadly, also has white umbrella-shaped flower clusters. Learn the difference: elder is a woody shrub, while water hemlock is a soft-stemmed herb.

SOURCES: 18, 36 (see Sources at the back of the book)

Elecampane

Inula helenium

ALSO CALLED: Horse-heal, elfwort, Inula

FAMILY: Asteraceae (daisy family)

PARTS USED: Root

EVIDENCE: Coughs and chest congestion: Traditional.



Elecampane. Photo: Karelj, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall, coarse perennial 4 to 6 feet tall with huge, soft, velvety leaves and bright yellow, shaggy sunflower-like flowers with very thin petals. The thick root smells like violets and camphor. It came from Europe and western Asia and has escaped from old gardens along roadsides in the eastern United States.

TRADITIONAL USES

Elecampane was a respected lung herb from ancient Rome through the 1800s, used for wet coughs, bronchitis, and asthma. The root was candied as a cough lozenge.

HOW IT WORKS IN THE BODY

The root contains up to 40 percent inulin, a starchy fiber, and an oil with alantolactone, a bitter compound that may loosen mucus and act against some bacteria in the lab.

WHAT THE RESEARCH SAYS

Human studies are almost entirely lacking. Its use rests on tradition.

HOW PEOPLE USE IT

Herbalists simmer 1 teaspoon of the dried root in a cup of water for 15 to 20 minutes and sweeten it with honey, up to three cups a day for a short time.

WARNINGS

Large amounts can cause vomiting, diarrhea, and cramps. Alantolactone can cause allergic skin reactions, and people allergic to ragweed or daisies may react. It may lower blood sugar and blood pressure and may add to the effects of sedatives. Avoid it in pregnancy and while breastfeeding.

SOURCES: 6, 14 (see Sources at the back of the book)

Eucalyptus

Eucalyptus globulus

ALSO CALLED: Blue gum, fever tree

FAMILY: Myrtaceae (myrtle family)

PARTS USED: Leaves and the oil distilled from them

EVIDENCE: Stuffy nose and chest congestion (breathed in or rubbed on): Limited. Cineole capsules for bronchitis: Limited to Moderate.



Eucalyptus. Photo: John Tann from Sydney, Australia, CC BY 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall, fast-growing tree from Australia with peeling bark and long, sickle-shaped, gray-green leaves that smell strongly of menthol when crushed. Young leaves are round and bluish and wrap around the stem. Eucalyptus is planted widely in California.

TRADITIONAL USES

Aboriginal Australians used eucalyptus leaves for fevers, wounds, and colds. The oil became a worldwide cough and cold remedy in the 1800s and is an ingredient in many vapor rubs and cough drops.

HOW IT WORKS IN THE BODY

The oil is mostly 1,8-cineole (also called eucalyptol). Breathed in, it gives a cooling feeling that makes the nose feel clearer and may thin mucus and calm airway inflammation. It also has germ-killing effects in the lab.

WHAT THE RESEARCH SAYS

European trials found capsules of purified cineole helped acute bronchitis and sinusitis symptoms. The European Medicines Agency recognizes eucalyptus oil for relief of cough from colds, inhaled or rubbed on the chest. Most other uses are based on tradition.

HOW PEOPLE USE IT

For a stuffy nose, add 2 or 3 drops of oil to a bowl of hot water for steam inhalation (adults only), or use a vapor rub on the chest. Fresh leaves can be hung in the shower.

WARNINGS

Eucalyptus oil is poisonous if swallowed. As little as a teaspoon has caused seizures, coma, and death in young children. Keep it locked up. Never put it on or near the face of a baby or young child; it can cause breathing problems. Dilute it before putting it on skin. Do not take it by mouth unless your doctor tells you to, and avoid it in pregnancy. People with asthma may find strong smells trigger an attack.

SOURCES: 5, 18, 37 (see Sources at the back of the book)

Evening Primrose

Oenothera biennis

ALSO CALLED: Evening primrose oil (EPO), sundrop, Oenothera

FAMILY: Onagraceae (evening primrose family)

PARTS USED: Oil pressed from the seeds

EVIDENCE: Eczema, breast pain, PMS, menopause: not shown to work.



Evening Primrose. Photo: Georg Slickers, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A biennial 3 to 5 feet tall with a rosette of lance-shaped leaves in the first year and a tall stalk of pale yellow, four-petaled flowers in the second. The flowers open in the evening and close the next morning, which gave it its name. It is native to North America.

TRADITIONAL USES

Native peoples used the root as food and the leaves on bruises.
The seed oil became popular in the 1980s for eczema, PMS, and breast pain.

HOW IT WORKS IN THE BODY

The oil contains gamma-linolenic acid (GLA), an omega-6 fat the body can turn into compounds that affect inflammation.

WHAT THE RESEARCH SAYS

The NCCIH says there isn't enough evidence to support evening primrose oil for any health condition. It is probably no better than a placebo for breast pain and was not helpful for eczema taken by mouth. Results for starting labor have been inconsistent. In the United Kingdom, its license as a prescription for eczema and breast pain was withdrawn in 2002 for lack of evidence.

HOW PEOPLE USE IT

Sold in capsules. Follow the label if you choose to try it.

WARNINGS

Probably safe for most adults by mouth. The most common side effects are mild stomach upset and headache. It may increase bleeding risk with blood thinners and may lower the seizure threshold with certain psychiatric drugs (phenothiazines). Avoid using it to start labor unless your doctor or midwife recommends it.

SOURCES: 38 (see Sources at the back of the book)

Fennel

Foeniculum vulgare

ALSO CALLED: Sweet fennel, Florence fennel (the vegetable bulb), Foeniculum

FAMILY: Apiaceae (carrot family)

PARTS USED: Seeds (really the fruit), bulb, and leaves

EVIDENCE: Gas, bloating, and colic: Limited (mostly in combination products).



Fennel. Photo: Elekes Andor, CC BY 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall, feathery perennial 3 to 6 feet tall with hollow stems, thread-like leaves, and flat clusters of tiny yellow flowers. The whole plant smells and tastes like licorice or anise. It has gone wild along roads and in vacant lots in California and the West.

TRADITIONAL USES

Fennel has been used for gas, indigestion, coughs, and colic since ancient Egypt and Greece. In India, sugar-coated fennel seeds are chewed after meals to freshen the breath and help digestion.

HOW IT WORKS IN THE BODY

The seed oil is mostly anethole, which relaxes the smooth muscle of the gut and helps release trapped gas. Anethole has a mild estrogen-like effect.

WHAT THE RESEARCH SAYS

The European Medicines Agency approves fennel as a traditional remedy for mild cramps, bloating, and gas. A few small trials found fennel seed oil or fennel-containing teas reduced infant colic, but most were small or not well controlled.

HOW PEOPLE USE IT

Crush 1 teaspoon of seeds right before using and steep them in a cup of just-boiled water, covered, for 10 minutes. Chew a pinch of seeds after a heavy meal.

WARNINGS

Fennel is safe as a food. People allergic to celery, carrot, or mugwort may react. Because of its estrogen-like effect, avoid medicinal amounts if you have a hormone-sensitive cancer, and check with a doctor before giving fennel tea to babies. **Never gather wild fennel unless you are certain.** Poison hemlock, which is deadly, grows in the same places and looks similar, but does not smell like licorice and has purple blotches on a smooth stem.

SOURCES: 5, 18 (see Sources at the back of the book)

Fenugreek

Trigonella foenum-graecum

ALSO CALLED: Methi, Greek hay, Trigonella

FAMILY: Fabaceae (pea family)

PARTS USED: Seeds; leaves as a vegetable

EVIDENCE: Blood sugar in type 2 diabetes: Limited. Increasing breast milk: Limited (mixed).



Fenugreek. Photo: Yak, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

An annual herb 1 to 2 feet tall with three-part, clover-like leaves, small white or pale yellow flowers, and long, thin pods holding hard, yellow-brown, squarish seeds. The seeds smell like maple syrup and are used to flavor imitation maple syrup.

TRADITIONAL USES

Fenugreek is an ancient food and medicine in India, the Middle East, and North Africa, used for digestion, diabetes, and to increase breast milk. It is a common spice in curries.

HOW IT WORKS IN THE BODY

The seeds are about half fiber, mostly a gel-forming fiber that slows the absorption of sugar from food. They also contain saponins and an amino acid (4-hydroxyisoleucine) that may increase insulin release.

WHAT THE RESEARCH SAYS

The NCCIH says fenugreek may help lower blood sugar in people with type 2 diabetes, but many of the studies were low quality. Results on breast milk supply are mixed, so its effect is uncertain.

HOW PEOPLE USE IT

Use the seeds as a spice, or soak 1 teaspoon of seeds in water overnight and drink the water and seeds in the morning. Capsules are sold. Follow the label.

WARNINGS

Fenugreek in food amounts is safe. Larger amounts can cause diarrhea, gas, and a maple syrup smell in sweat and urine, which in a baby can be confused with a rare disease called maple syrup urine disease. It may cause dangerously low blood sugar with diabetes drugs and can increase bleeding with blood thinners. Serious allergic reactions have occurred, especially in people allergic to peanuts or chickpeas. **Fenugreek in amounts larger than food is not safe in pregnancy** and has been linked to birth defects.

SOURCES: 39 (see Sources at the back of the book)

Feverfew

Tanacetum parthenium

ALSO CALLED: Featherfew, bachelor's buttons, Tanacetum

FAMILY: Asteraceae (daisy family)

PARTS USED: Leaves

EVIDENCE: Migraine prevention: Limited (mixed results).



Feverfew. Photo: Wikimedia Commons uploader (see file page), CC BY 2.5. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A bushy perennial 1 to 2 feet tall with bright yellow-green, deeply cut, strong-smelling leaves and many small daisy-like flowers with short white petals and a flat yellow center. It came from southeastern Europe and is common in old gardens.

TRADITIONAL USES

The name comes from the Latin febrifugia, "driver out of fevers," but its best-known use is for headaches. In the 1970s and 1980s British migraine sufferers made it famous by eating a few fresh leaves every day.

HOW IT WORKS IN THE BODY

Feverfew contains parthenolide and other compounds that may reduce the release of serotonin from blood platelets and the inflammatory chemicals that set off migraines.

WHAT THE RESEARCH SAYS

The NCCIH reports some research suggests feverfew may help prevent migraines, but results are mixed. A Cochrane review found some evidence of benefit, but the trials were small and inconsistent. There is little or no evidence for other uses.

HOW PEOPLE USE IT

Most people take a dried leaf capsule daily as labeled. Some chew one or two fresh leaves a day, though this can cause mouth sores. It may take a month or more to see an effect.

WARNINGS

Chewing fresh leaves can cause mouth sores and swelling of the lips and tongue. Other side effects include nausea and bloating. Stopping suddenly after long use can cause rebound headaches and joint aches. It may slow blood clotting, so avoid it with blood thinners and stop at least 2 weeks before surgery. People allergic to ragweed may react. **Do not take it during pregnancy,** because it may cause the uterus to contract.

SOURCES: 40, 41 (see Sources at the back of the book)

Flaxseed

Linum usitatissimum

ALSO CALLED: Linseed, Linum

FAMILY: Linaceae (flax family)

PARTS USED: Ground seeds and seed oil

EVIDENCE: Constipation (ground seed): Moderate. Cholesterol: Limited.



Flaxseed. Photo: Moreau.henri, CC BY 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A slender annual 1 to 3 feet tall with narrow, gray-green leaves and delicate sky-blue flowers that last only a day. Each flower becomes a small round capsule of flat, shiny, brown or golden seeds. Flax has been grown for linen cloth for thousands of years. Blue wild flax (Linum lewisii) grows across the West.

TRADITIONAL USES

Flax is one of the oldest crops in the world. The seeds have long been used as a gentle laxative, a soothing poultice for boils, and a food.

HOW IT WORKS IN THE BODY

Ground flaxseed is high in fiber, including mucilage, a gel that softens stool and adds bulk. It is also rich in alpha-linolenic acid (ALA), a plant omega-3 fat, and lignans, plant compounds with weak estrogen-like effects.

WHAT THE RESEARCH SAYS

The NCCIH reports early research on flax for weight loss, blood sugar, and gut health, with no firm conclusions. Commission E approves flaxseed for constipation. Several studies show ground flaxseed modestly lowers cholesterol.

HOW PEOPLE USE IT

Grind the seeds (whole seeds often pass through undigested) and add 1 to 2 tablespoons a day to cereal, yogurt, or smoothies. Drink plenty of water with it.

WARNINGS

Do not eat raw or unripe flaxseed, which can be toxic. Too much flax, or too little water, can cause bloating, gas, and even a bowel blockage. Avoid it if you have a bowel obstruction or narrowing. It may slow the absorption of drugs taken at the same time, so take medicines an hour before or two hours after. It may add to the effect of blood thinners. Avoid large amounts in pregnancy, since some studies suggest possible harm.

SOURCES: 5, 42 (see Sources at the back of the book)

Garlic

Allium sativum

ALSO CALLED: Allium, stinking rose

FAMILY: Amaryllidaceae (onion family)

PARTS USED: Bulb (cloves)

EVIDENCE: Cholesterol: Limited to Moderate (modest effect). Blood pressure: Limited (modest effect). Colds: Limited.



Garlic. Photo: Billjones94, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A bulb plant 1 to 2 feet tall with flat, grass-like leaves and, in some types, a curling flower stalk (a scape) topped with small bulbs. The bulb is a cluster of cloves wrapped in papery skin. Wild onions and garlics grow across North America, and some have deadly look-alikes (see death camas).

TRADITIONAL USES

Garlic is one of the oldest medicines on record. Ancient Egyptian workers ate it, Greek athletes used it, and soldiers in World War I and II put it on wounds when antiseptics ran short. It has been used for infections, colds, heart health, and digestion.

HOW IT WORKS IN THE BODY

When you crush or chop raw garlic, an enzyme turns alliin into allicin, the compound responsible for the smell and much of the germ-killing power. Allicin quickly breaks down into other sulfur compounds that may relax blood vessels, slightly lower cholesterol production, and make blood platelets less sticky.

WHAT THE RESEARCH SAYS

The NCCIH reports that garlic supplements may modestly reduce total and LDL ("bad") cholesterol and may modestly lower blood pressure and blood sugar. A Cochrane review found only one small trial suggesting garlic might prevent colds, which isn't enough to be sure. Claims that it boosts the immune system rest on very little research.

HOW PEOPLE USE IT

Use it generously in food. To get the most allicin, crush or chop raw garlic and let it sit for 10 minutes before eating or cooking it. Supplements vary; aged garlic extract is the type most often studied for blood pressure.

WARNINGS

Garlic in food is safe. Supplements can cause bad breath, body odor, heartburn, and gas. Garlic may increase bleeding, so tell your doctor if you take warfarin, aspirin, or other blood thinners, and stop supplements before surgery. It can lower the levels of some HIV drugs (saquinavir). **Raw garlic on the skin can cause serious chemical burns,** so don't tape garlic to skin or put it in ears. Supplement amounts may not be safe in pregnancy or breastfeeding.

SOURCES: 43, 44 (see Sources at the back of the book)

Ginger

Zingiber officinale

ALSO CALLED: Zingiber, ginger root

FAMILY: Zingiberaceae (ginger family)

PARTS USED: Underground stem (rhizome)

EVIDENCE: Pregnancy nausea: Moderate. Menstrual cramps: Limited. Knee osteoarthritis: Limited. Motion sickness: mostly not helpful.



Ginger. Photo: Franz Eugen Köhler, Köhler's Medizinal-Pflanzen, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tropical plant 2 to 4 feet tall with reed-like stems and long, narrow leaves. The knobby, tan "root" sold in stores is actually an underground stem. It is pale yellow inside and hot and spicy.

TRADITIONAL USES

Ginger has been used in China and India for more than 2,000 years for nausea, upset stomach, colds, and arthritis. Ginger ale and ginger snaps are old home remedies for sick stomachs.

HOW IT WORKS IN THE BODY

Fresh ginger contains gingerols. Drying and cooking turn some of them into shogaols, which are even more pungent. These compounds speed stomach emptying, calm nausea signals in the gut, and reduce inflammatory chemicals.

WHAT THE RESEARCH SAYS

The NCCIH says ginger may help nausea and vomiting in pregnancy. It is uncertain for nausea after chemotherapy or surgery, and mostly not helpful for motion sickness. Ginger supplements might ease menstrual cramps, and might help knee osteoarthritis pain, though many of those studies were poor quality.

HOW PEOPLE USE IT

For nausea, slice 1 inch of fresh ginger thinly and simmer it in 2 cups of water for 10 minutes, then sip. Candied ginger and ginger capsules also work. Most studies used about 1 gram of ginger a day.

WARNINGS

Ginger can cause heartburn, gas, diarrhea, and mouth irritation. It may add to the effect of blood thinners in large amounts. If you are pregnant, talk with your doctor or midwife before taking ginger supplements; normal food amounts are fine. Severe vomiting in pregnancy that keeps you from holding down fluids needs medical care.

SOURCES: 45 (see Sources at the back of the book)

Ginkgo

Ginkgo biloba

ALSO CALLED: Maidenhair tree

FAMILY: Ginkgoaceae (ginkgo family, the last of its kind)

PARTS USED: Leaf extract

EVIDENCE: Memory and dementia prevention: not shown to work. Dementia symptoms: Limited (inconsistent).



Ginkgo. Photo: Cayambe; derivative work by Ginkgotree, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall tree with distinctive fan-shaped leaves, often split in the middle, that turn brilliant gold in fall and drop all at once. Female trees bear fleshy orange seeds that smell like rancid butter when they fall. Ginkgo is a living fossil, nearly unchanged for 200 million years, and is a popular street tree.

TRADITIONAL USES

The seeds have been used in Chinese medicine and cooking for centuries for coughs and asthma. The leaf extract became one of the best-selling herbal products in Europe and the United States for memory and circulation.

HOW IT WORKS IN THE BODY

The leaf extract contains flavonoids and terpene lactones (ginkgolides and bilobalide). Ginkgolides block platelet-activating factor, which can thin the blood. The extract may slightly improve blood flow in small vessels.

WHAT THE RESEARCH SAYS

The NCCIH says there is no conclusive evidence that ginkgo helps any health condition. A large, 6-year trial of more than 3,000 older adults found it did not prevent dementia or memory decline. It may have a modest benefit for symptoms of dementia, but results are inconsistent. It did not help high blood pressure, heart disease, tinnitus, or multiple sclerosis.

HOW PEOPLE USE IT

Studies used standardized leaf extracts (often 120 to 240 mg a day). Don't make tea from raw leaves, which contain compounds that cause allergic reactions.

WARNINGS

Leaf extract is likely safe in moderate amounts, but it can cause headache, dizziness, and stomach upset. **It increases bleeding risk** with warfarin, aspirin, and other blood thinners; stop it 2 weeks before surgery. It may be unsafe in pregnancy because of bleeding near delivery. **Fresh or roasted ginkgo seeds can be seriously toxic** and have caused seizures, especially in children. The fruit pulp causes a rash like poison ivy.

SOURCES: 46 (see Sources at the back of the book)

Ginseng, American

Panax quinquefolius

ALSO CALLED: Panax quinquefolius, sang

FAMILY: Araliaceae (ginseng family)

PARTS USED: Root

EVIDENCE: Preventing colds and flu: Limited. Blood sugar after meals: Limited.



Ginseng, American. Photo: Wikimedia Commons uploader (see file page), Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

Very similar to Asian ginseng: a single stem with a whorl of hand-shaped, five-leaflet leaves and a cluster of bright red berries in late summer. It grows in shady, rich hardwood forests of the eastern United States and Canada.

TRADITIONAL USES

Native peoples, including the Cherokee and Iroquois, used American ginseng for headaches, fevers, and digestive problems. It has been exported to China since the 1700s, where it is valued as a cooling tonic.

HOW IT WORKS IN THE BODY

It has a different mix of ginsenosides than Asian ginseng. Traditional Chinese medicine considers American ginseng "cooling" and Asian ginseng "warming."

WHAT THE RESEARCH SAYS

Several small Canadian studies of a specific American ginseng extract found it modestly reduced the number of colds and flu in adults. Small studies also suggest it may lower blood sugar after meals in people with type 2 diabetes.

HOW PEOPLE USE IT

Follow the product label. Buy cultivated roots or products; wild American ginseng is overharvested and protected.

WARNINGS

Side effects are uncommon but can include headache, trouble sleeping, and stomach upset. It may lower blood sugar and has been reported to reduce the effect of warfarin. Avoid it in pregnancy and breastfeeding; one of its ginsenosides has caused birth defects in animal studies. **Do not dig wild ginseng.** Its harvest is regulated by federal and state law, and it is threatened in much of its range.

SOURCES: 3, 6 (see Sources at the back of the book)

Ginseng, Asian

Panax ginseng

ALSO CALLED: Korean ginseng, Chinese ginseng, red ginseng, Panax ginseng

FAMILY: Araliaceae (ginseng family)

PARTS USED: Root

EVIDENCE: Mental performance in middle-aged adults: Limited. Fatigue: Limited. Erectile dysfunction: Limited. Athletic performance: not helpful.



Ginseng, Asian. Photo: Doge24190, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A slow-growing woodland perennial about 1 to 2 feet tall with a single stem bearing a whorl of leaves, each split into five toothed leaflets like a hand, and a cluster of bright red berries. The forked, tan root can look like a little person, which is how it got its name: "ren shen," "man root."

TRADITIONAL USES

Ginseng has been the "king of herbs" in China and Korea for 2,000 years, used to restore strength and energy, sharpen the mind, and extend life. White ginseng is dried root. Red ginseng is steamed, then dried.

HOW IT WORKS IN THE BODY

The active compounds are ginsenosides, a group of saponins with many effects in lab studies, including on blood sugar, blood vessels, the brain, and the immune system. Different ginsenosides can have opposite effects, which makes ginseng hard to study.

WHAT THE RESEARCH SAYS

The NCCIH says Asian ginseng may improve some kinds of thinking in middle-aged adults, may have a small effect on fatigue, and may help erectile dysfunction, with limited evidence. Very early evidence suggests it might lower the chance of getting the flu. Most research shows no benefit for athletic performance.

HOW PEOPLE USE IT

Take a standardized extract as labeled. Traditional use is a few thin slices of root simmered as tea or chewed. Many practitioners suggest taking it for a few weeks, then taking a break.

WARNINGS

Short-term use (up to 6 months) appears safe for most people. Trouble sleeping is the most common side effect. It may lower blood sugar, so watch your levels if you take diabetes medicine. It may affect blood clotting and interact with warfarin and other drugs. Some experts advise against it for children and during pregnancy and breastfeeding. Avoid it with autoimmune diseases.

SOURCES: 47 (see Sources at the back of the book)

Goldenseal

Hydrastis canadensis

ALSO CALLED: Orangeroot, yellow puccoon, Hydrastis

FAMILY: Ranunculaceae (buttercup family)

PARTS USED: Root and rhizome

EVIDENCE: Infections and colds: Traditional. The NCCIH says there isn't enough evidence for any condition.



Goldenseal. Photo: Franz Eugen Köhler, Köhler's Medizinal-Pflanzen, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A small woodland plant 6 to 12 inches tall with two large, hand-shaped, wrinkled leaves, a single greenish-white flower, and a red berry that looks like a raspberry. The knotted root is bright yellow inside.

TRADITIONAL USES

Native peoples of eastern North America used the root for skin problems, eye infections, and as a yellow dye. In the 1800s it became one of the most popular herbs in America and is still often combined with echinacea for colds.

HOW IT WORKS IN THE BODY

The root contains berberine and hydrastine, alkaloids that kill some bacteria in a lab dish. But very little berberine is absorbed when you swallow goldenseal, so studies on berberine pills may not apply to goldenseal.

WHAT THE RESEARCH SAYS

The NCCIH says there are no rigorous studies in people showing goldenseal helps any condition. Using it to "mask" drug tests doesn't work.

HOW PEOPLE USE IT

Sold as capsules, tinctures, and in combination products. Buy cultivated goldenseal; wild goldenseal has been overharvested.

WARNINGS

Small studies found about 3 grams a day for a short time didn't cause serious harm, but long-term safety is not known. Goldenseal blocks liver enzymes that break down many drugs and lowered levels of metformin by about 25 percent in a study funded by the NCCIH. Check with your pharmacist before using it with any medicine. **Do not use it in pregnancy or breastfeeding, and never give it to infants.** Berberine can cause or worsen jaundice and brain damage in newborns.

SOURCES: 48 (see Sources at the back of the book)

Gotu Kola

Centella asiatica

ALSO CALLED: Centella, Indian pennywort, brahmi (a name also used for Bacopa)

FAMILY: Apiaceae (carrot family)

PARTS USED: Leaves and stems

EVIDENCE: Varicose veins and poor leg circulation: Limited. Wound and scar healing: Limited. Memory: Traditional.



Gotu Kola. Photo: Forest & Kim Starr, CC BY 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, creeping plant with long runners and small, round, kidney- or fan-shaped leaves with scalloped edges on long stems. It grows in wet places in tropical Asia, Africa, and Australia.

TRADITIONAL USES

Gotu kola is used in Ayurveda and Chinese medicine for wounds, skin conditions, memory, and long life. In Sri Lanka and Southeast Asia, the leaves are eaten in salads and juice.

HOW IT WORKS IN THE BODY

The leaves contain triterpenes (asiaticoside, madecassoside, and asiatic acid) that help the skin make collagen and strengthen blood vessel walls.

WHAT THE RESEARCH SAYS

Several studies found a standardized extract (often called TTFCA) improved symptoms of poor vein circulation in the legs, such as swelling and heaviness. Creams containing centella are widely used for scars and wound care in Europe and Asia, supported by small studies. Evidence for memory and anxiety is very limited.

HOW PEOPLE USE IT

Eat fresh leaves in small amounts as a salad green, use creams on the skin, or take an extract following the label.

WARNINGS

Usually well tolerated, but it can cause stomach upset, drowsiness, and skin rash. Rare cases of liver injury have been reported. It may add to the effects of sedatives. Avoid it in pregnancy and breastfeeding, and if you have liver disease.

SOURCES: 8, 49 (see Sources at the back of the book)

Green Tea

Camellia sinensis

ALSO CALLED: Camellia sinensis (the same plant makes green, black, white, and oolong tea)

FAMILY: Theaceae (tea family)

PARTS USED: Leaves

EVIDENCE: Cholesterol (tea or extract): Limited (small effect). Weight loss: Limited (small effect). Genital warts (prescription ointment): Strong.



Green Tea. Photo: AxelBoldt at en.wikipedia, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

An evergreen shrub kept trimmed to waist height on tea farms, with glossy, finely toothed, pointed leaves and small white flowers with yellow centers. Green tea is made from leaves that are heated quickly to keep them from oxidizing; black tea leaves are allowed to oxidize.

TRADITIONAL USES

Tea has been a drink and medicine in China for more than 2,000 years, used for alertness, digestion, and long life.

HOW IT WORKS IN THE BODY

Green tea contains catechins, especially EGCG, which are strong antioxidants in the lab; caffeine, which wakes you up; and L-theanine, an amino acid that may smooth out caffeine's jittery edge.

WHAT THE RESEARCH SAYS

The NCCIH reports that green tea may slightly lower total and LDL cholesterol and has a modest, variable effect on weight. A prescription ointment made from a green tea extract is approved by the FDA for genital warts. Studies on cancer prevention are inconsistent. Lower heart disease rates have been seen in Asian tea drinkers, but this is not proven to be caused by tea.

HOW PEOPLE USE IT

Steep 1 teaspoon of loose tea or one bag in a cup of water just below boiling (about 175 degrees Fahrenheit) for 2 to 3 minutes. Boiling water makes it bitter.

WARNINGS

Drinking green tea is safe for most adults. Watch the caffeine (about 30 to 50 mg a cup) if you are pregnant, have heart rhythm problems, or have trouble sleeping. **Concentrated green tea extracts, especially taken on an empty stomach, have been linked to rare liver injury.** Green tea can lower the levels of the blood pressure drug nadolol and interact with some other drugs. Green tea contains vitamin K, so drink a steady amount if you take warfarin.

SOURCES: 8, 50 (see Sources at the back of the book)

Hawthorn

Crataegus monogyna

ALSO CALLED: Crataegus, May tree, whitethorn

FAMILY: Rosaceae (rose family)

PARTS USED: Leaves, flowers, and berries

EVIDENCE: Heart failure: Limited (conflicting). Blood pressure and anxiety: Limited.



Hawthorn. Photo: Didier Descouens, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A thorny shrub or small tree, 15 to 30 feet, with small lobed leaves, clusters of white or pink five-petaled flowers in spring, and small red berries (haws) that look like tiny apples. Several native hawthorns grow along streams in the West.

TRADITIONAL USES

Hawthorn has been a heart herb in Europe since at least the 1600s and in Chinese medicine for digestion. The berries have been made into jelly, wine, and syrup.

HOW IT WORKS IN THE BODY

Hawthorn contains flavonoids and procyanidins that, in lab and animal studies, widen blood vessels, help the heart muscle squeeze, and steady the heartbeat.

WHAT THE RESEARCH SAYS

The NCCIH reports conflicting evidence on whether hawthorn helps heart failure; one study of a specific product was linked to faster worsening of heart failure. There isn't enough evidence for other heart conditions, high blood pressure, or anxiety. No studies have lasted longer than 16 weeks.

HOW PEOPLE USE IT

Leaf-and-flower extracts are sold as capsules and tinctures. The berries can be made into tea or jam.

WARNINGS

Side effects include dizziness, nausea, and stomach upset. **If you have heart disease, do not use hawthorn without your doctor,** because it can add to the effects of heart drugs such as digoxin, beta-blockers, and nitrates. The FDA has warned that some "tejocote root" products sold for weight loss, which are made from a Mexican hawthorn, actually contained yellow oleander, a heart poison that can kill. Not enough is known about safety in pregnancy and breastfeeding.

SOURCES: 51, 52 (see Sources at the back of the book)

Hibiscus

Hibiscus sabdariffa

ALSO CALLED: Roselle, sorrel, flor de Jamaica, sour tea

FAMILY: Malvaceae (mallow family)

PARTS USED: Dried red calyxes (the cup at the base of the flower)

EVIDENCE: Blood pressure: Limited to Moderate.



Hibiscus. Photo: Mokkie, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tropical annual shrub 4 to 7 feet tall with reddish stems, lobed leaves, and pale yellow flowers with dark red centers. After flowering, the fleshy, bright red calyx swells around the seed pod. This is what is dried for tea, not the big showy flowers of garden hibiscus.

TRADITIONAL USES

Hibiscus tea is a favorite cold drink in Mexico (agua de Jamaica), the Caribbean, Egypt (karkade), and West Africa. It has been used for high blood pressure, fevers, and as a mild water pill.

HOW IT WORKS IN THE BODY

The calyxes are rich in anthocyanins and organic acids, which give the tea its tart, cranberry-like taste. Anthocyanins may relax blood vessels, and the tea may act a bit like the blood pressure drugs called ACE inhibitors and as a mild water pill.

WHAT THE RESEARCH SAYS

A 2010 U.S. trial found three cups of hibiscus tea a day for six weeks lowered systolic blood pressure by about 7 points in adults with mildly high blood pressure, compared with a placebo drink. A 2015 review of five trials found a meaningful drop in blood pressure overall, though the studies were small.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried calyxes in a cup of just-boiled water for 5 to 10 minutes. Drink it hot or chilled, plain or lightly sweetened.

WARNINGS

Hibiscus tea is generally safe in food amounts. It may lower blood pressure too much with blood pressure drugs and may interact with the water pill hydrochlorothiazide. It may also lower the effect of the malaria drug chloroquine and change how the body handles acetaminophen. Avoid large amounts in pregnancy, because animal studies suggest it may affect the uterus.

SOURCES: 53, 54 (see Sources at the back of the book)

Holy Basil (Tulsi)

Ocimum tenuiflorum

ALSO CALLED: Tulsi, sacred basil, Ocimum sanctum

FAMILY: Lamiaceae (mint family)

PARTS USED: Leaves and flowering tops

EVIDENCE: Stress and mood: Limited. Blood sugar: Limited.



Holy Basil (Tulsi). Photo: I Gd Nj Prt, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A bushy, branching herb 1 to 2 feet tall with fuzzy, slightly toothed green or purple-tinged leaves and spikes of small purple or white flowers. It smells sweet and spicy, like a mix of clove and pepper. It is native to India and Southeast Asia and grows easily in a sunny pot.

TRADITIONAL USES

In India tulsi is a sacred plant grown at many Hindu homes and temples. Ayurvedic medicine has used it for coughs, colds, fevers, stress, and digestion. A cup of tulsi tea is a daily habit for many families.

HOW IT WORKS IN THE BODY

The leaves contain eugenol (the same compound that gives cloves their bite), rosmarinic acid, and other plant chemicals with anti-inflammatory and antioxidant effects in the lab. It is often called an adaptogen.

WHAT THE RESEARCH SAYS

A 2017 review of 24 human studies found tulsi had favorable effects on blood sugar, blood pressure and cholesterol, and on stress and mood, with no serious side effects reported. Most of those studies were small and short, so the evidence is limited.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried leaves (or a small handful of fresh) in a cup of just-boiled water for 5 to 10 minutes. Tulsi tea bags are widely sold.

WARNINGS

Tea in normal amounts appears safe for most adults. It may lower blood sugar, so watch your levels if you take diabetes medicine. Animal studies hint it may affect fertility and it may slow blood clotting, so avoid medicinal amounts in pregnancy, when trying to conceive, before surgery, and with blood thinners. Holy basil is not the same as the sweet basil used in cooking, though both are safe as food.

SOURCES: 55 (see Sources at the back of the book)

Hops

Humulus lupulus

ALSO CALLED: Humulus, hop strobiles

FAMILY: Cannabaceae (hemp family)

PARTS USED: Female flower cones (strobiles)

EVIDENCE: Sleep (combined with valerian): Limited. Hot flashes: Limited.



Hops. Photo: AnRo0002, CC0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A fast-growing climbing vine that can reach 20 feet in a season, with rough, hairy stems and leaves shaped like grape leaves. The female plants bear papery, pale green, pine-cone-like flowers filled with sticky yellow powder (lupulin) that smells of beer.

TRADITIONAL USES

Hops have flavored and preserved beer since the Middle Ages. Hop pickers were said to get sleepy at work, and pillows stuffed with hops were a folk remedy for sleeplessness. Herbalists used hops for anxiety, sleep, and indigestion.

HOW IT WORKS IN THE BODY

Hops contain bitter acids that help digestion and a compound (methylbutenol) that forms as they age and may have a calming effect. Hops also contain 8-prenylnaringenin, one of the strongest plant estrogens known.

WHAT THE RESEARCH SAYS

Several European studies of valerian and hops together found modest improvements in sleep, but it's hard to know what hops alone contribute. A few small studies suggest a hops extract may ease hot flashes. The European Medicines Agency approves hops as a traditional remedy for mild stress and sleep.

HOW PEOPLE USE IT

Steep 1 teaspoon of dried hops in a cup of just-boiled water, covered, for 10 minutes, and drink before bed. Many sleep blends combine hops and valerian.

WARNINGS

Hops can cause drowsiness. Do not combine with alcohol, sedatives, or sleeping pills, and don't drive if it makes you sleepy. Because of its estrogen effect, avoid hops if you have a hormone-sensitive cancer, endometriosis, or are pregnant or breastfeeding. Do not use it if you have depression; it may worsen it. **Hops are deadly to dogs**, causing a fast, dangerous rise in body temperature. Keep hops and spent hops away from pets.

SOURCES: 18, 56 (see Sources at the back of the book)

Horse Chestnut

Aesculus hippocastanum

ALSO CALLED: Conker tree, buckeye, Aesculus

FAMILY: Sapindaceae (soapberry family)

PARTS USED: Standardized seed extract only

EVIDENCE: Chronic venous insufficiency (leg vein swelling and pain): Moderate.



Horse Chestnut. Photo: Flora Vardanyan, CC BY 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A large shade tree with big leaves made of five to seven leaflets spread like fingers, upright cone-shaped clusters of white flowers with pink or yellow spots, and spiny green husks holding shiny brown nuts (conkers). Native buckeyes in the U.S., including the California buckeye, are close relatives and also poisonous.

TRADITIONAL USES

Horse chestnut was used in Europe for leg swelling, varicose veins, and hemorrhoids. British children famously play the game "conkers" with the nuts.

HOW IT WORKS IN THE BODY

The seed contains aescin (also spelled escin), which seems to seal small leaks in the walls of veins and capillaries, reducing the fluid that seeps into tissue and causes swelling.

WHAT THE RESEARCH SAYS

The NCCIH reports that a 2012 Cochrane review of 17 studies found horse chestnut seed extract improved leg pain, swelling, and itching from chronic venous insufficiency. One study suggested it worked about as well as compression stockings, though better trials are needed.

HOW PEOPLE USE IT

Use only a commercial standardized seed extract (usually providing 50 to 150 mg of aescin a day) as labeled, often for up to 12 weeks in studies.

WARNINGS

Raw horse chestnut seeds, bark, flowers, and leaves are poisonous and can cause vomiting, muscle twitching, paralysis, and death. They contain esculin, a toxin removed in processed extracts. Children have been poisoned by eating conkers they mistook for edible chestnuts. Even the extract can cause dizziness, stomach upset, headache, and itching. It may increase bleeding with blood thinners and lower blood sugar. Avoid it with kidney or liver disease, and in pregnancy and breastfeeding.

SOURCES: 57, 58 (see Sources at the back of the book)

Horsetail

Equisetum arvense

ALSO CALLED: Field horsetail, scouring rush, shavegrass, Equisetum

FAMILY: Equisetaceae (horsetail family)

PARTS USED: Dried green sterile stems

EVIDENCE: Mild water pill: Limited. Bone and hair health: Traditional.



Horsetail. Photo: botany08, CC BY 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

An ancient, flowerless plant related to ferns. In spring it sends up pale brown stalks with cone-shaped tips that release spores, followed by green stems with rings of thin, needle-like branches that make it look like a horse's tail or a tiny pine tree. The stems are hollow, jointed, and gritty with silica. It grows in moist ground all across North America.

TRADITIONAL USES

The silica-rich stems were used to scrub pots and polish wood and metal, giving the name scouring rush. Herbalists used it as a water pill, for urinary problems, bleeding, wounds, and to strengthen bones, hair, and nails.

HOW IT WORKS IN THE BODY

Horsetail is rich in silica and minerals and contains flavonoids that may increase urine output. It also contains thiaminase, an enzyme that destroys thiamine (vitamin B1).

WHAT THE RESEARCH SAYS

A small 2014 study found horsetail extract increased urine output in healthy men about as much as a standard water pill. The European Medicines Agency recognizes it as a traditional herbal remedy to increase urine for minor urinary complaints. There is no good evidence for bones, hair, or nails.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried stems in a cup of just-boiled water for 10 to 15 minutes. Use for only a few days at a time.

WARNINGS

Long-term use can lower thiamine levels, which is a special concern for people who drink a lot of alcohol. It may lower potassium and interact with water pills and lithium. Do not use it if you have heart or kidney problems or edema from those conditions, or if you have diabetes, without your doctor. Not for children, pregnancy, or breastfeeding. A related species, marsh horsetail (Equisetum palustre), is toxic to livestock, so buy a tested product rather than picking your own.

SOURCES: 6, 18 (see Sources at the back of the book)

Juniper

Juniperus communis

ALSO CALLED: Common juniper, juniper berry, Juniperus communis. Utah juniper (J. osteosperma) and western juniper (J. occidentalis) cover much of Nevada.

FAMILY: Cupressaceae (cypress family)

PARTS USED: Ripe dried "berries" (really fleshy cones)

EVIDENCE: Indigestion and gas: Traditional (accepted by the European Medicines Agency). Urinary problems: Traditional.



Juniper. Photo: Konstantin Seliverstov, CC BY 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

An evergreen shrub or small tree with sharp, needle-like or scale-like leaves and small, round, waxy, blue-black "berries" with a powdery coating that smell like a pine forest and gin. Common juniper grows low and spreading in mountains across the Northern Hemisphere. In the Great Basin, Utah juniper and western juniper form the "pinyon-juniper" woodlands of the foothills.

TRADITIONAL USES

Juniper berries flavor gin (the word comes from the Dutch for juniper) and are used in game and sauerkraut. Great Basin peoples, including the Paiute and Washoe, used juniper for colds, coughs, fevers, and as a smoke to purify the home. European herbalists used the berries for indigestion, bladder infections, and joint pain.

HOW IT WORKS IN THE BODY

The berries contain an oil rich in alpha-pinene and terpinen-4-ol, which stimulate digestion, increase urine output, and kill some germs in the lab. Terpinen-4-ol may irritate the kidneys in large amounts.

WHAT THE RESEARCH SAYS

The European Medicines Agency recognizes juniper berry as a traditional remedy for indigestion, bloating, and gas, and to increase urine in minor urinary complaints, based on long use rather than clinical trials. There are no good human trials for other uses.

HOW PEOPLE USE IT

Crush 1 teaspoon of dried berries and steep them in a cup of just-boiled water, covered, for 10 minutes, up to three times a day for no more than a couple of weeks. Use a few crushed berries to season meat and cabbage dishes.

WARNINGS

Don't take medicinal amounts for more than 4 weeks or if you have kidney disease or inflammation, because it may irritate the kidneys. **Avoid it in pregnancy**, since juniper has traditionally been used to bring on menstruation and miscarriage, and while breastfeeding. It may lower blood sugar and add to the effect of water pills. Some juniper species are toxic. **Savin juniper (Juniperus sabina)** is poisonous, so only use berries from a reliable source.

SOURCES: 18, 59, 60 (see Sources at the back of the book)

Kava

Piper methysticum

ALSO CALLED: Kava kava, awa, yaqona, Piper methysticum

FAMILY: Piperaceae (pepper family)

PARTS USED: Root and lower stem

EVIDENCE: Anxiety: Limited to Moderate (but serious safety concerns).



Kava. Photo: Forest & Kim Starr, CC BY 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A leafy shrub 6 to 10 feet tall with jointed, bamboo-like stems and large, heart-shaped leaves. It is grown on Pacific islands such as Fiji, Vanuatu, Tonga, and Hawaii.

TRADITIONAL USES

Pacific Islanders have prepared a drink from ground kava root and water for centuries in ceremonies of welcome, peace, and community. It numbs the mouth and gives a relaxed, social feeling. In the 1990s kava supplements became popular in Europe and the United States for anxiety and sleep.

HOW IT WORKS IN THE BODY

Kava contains kavalactones, which act on GABA and other brain signals to relax muscles and calm anxiety without clouding thinking as much as alcohol.

WHAT THE RESEARCH SAYS

The NCCIH reports that kava supplements may help anxiety, though they may take several weeks to work, but they were not helpful for generalized anxiety disorder. There isn't enough evidence for any other condition.

HOW PEOPLE USE IT

If you choose to use kava, talk with your doctor first, use a product made only from the root (water-based extracts are traditional), and use it only for a short time.

WARNINGS

Kava has been linked to severe liver injury, including liver failure and death. The FDA issued a warning in 2002, and several countries restricted it for years. Stop it and see a doctor right away if you notice yellow skin or eyes, dark urine, or belly pain. Never combine kava with alcohol, benzodiazepines, sleeping pills, or other sedatives, and don't drive after using it. Heavy long-term use causes dry, scaly, yellowed skin. Avoid it entirely if you have liver disease, depression, or Parkinson's disease, or if you are pregnant or breastfeeding.

SOURCES: 8, 61, 62 (see Sources at the back of the book)

Lavender

Lavandula angustifolia

ALSO CALLED: English lavender, true lavender, Lavandula angustifolia

FAMILY: Lamiaceae (mint family)

PARTS USED: Flowers and the oil distilled from them

EVIDENCE: Anxiety (oral lavender oil capsules): Limited to Moderate. Aromatherapy for anxiety, stress, and sleep: Limited (unclear).



Lavender. Photo: Didier Descouens, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A bushy, woody-based shrub 1 to 3 feet tall with narrow, gray-green, fragrant leaves and long stems topped with spikes of small purple flowers. It came from the Mediterranean and thrives in dry, sunny gardens.

TRADITIONAL USES

The name may come from the Latin lavare, "to wash," because Romans scented their baths with it. Lavender has been used for nerves, headaches, sleep, insect bites, and minor burns, and to keep moths out of linens.

HOW IT WORKS IN THE BODY

The oil is mostly linalool and linalyl acetate, which in lab studies calm the nervous system, much as some sedatives do, and relax muscles.

WHAT THE RESEARCH SAYS

The NCCIH reports that a specific oral lavender oil product taken by mouth might help anxiety, though the research has limitations. Lavender aromatherapy has been studied for anxiety, stress, pain, and sleep, but the results are unclear. Oral lavender might ease depression symptoms based on early research.

HOW PEOPLE USE IT

Add 2 or 3 drops of oil to a diffuser, or put dried flowers in a sachet by your pillow. For tea, steep 1 to 2 teaspoons of dried flowers in a cup of just-boiled water for 10 minutes. For skin, dilute the oil to about 1 to 2 percent in a carrier oil.

WARNINGS

Lavender is likely safe in food amounts and as aromatherapy. Oral products can cause burping, nausea, headache, and constipation. Lavender oil can cause allergic skin reactions. A few cases of breast growth in young boys have been reported with lavender and tea tree products, but the cause is unclear. Avoid using lavender oil on children before puberty to be safe. It may add to the effects of sedatives and should be stopped 2 weeks before surgery. **Do not swallow the essential oil.**

SOURCES: 18, 63 (see Sources at the back of the book)

Lemon Balm

Melissa officinalis

ALSO CALLED: Balm, Melissa, sweet balm

FAMILY: Lamiaceae (mint family)

PARTS USED: Leaves

EVIDENCE: Calming and mild stress: Limited. Sleep (with valerian): Limited. Cold sores (cream): Limited.



Lemon Balm. Photo: Lazaregagnidze, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A bushy, lemon-scented mint 1 to 3 feet tall with square stems, bright green, wrinkled, heart-shaped leaves with scalloped edges, and small white flowers. It spreads easily in gardens.

TRADITIONAL USES

Lemon balm has been called "the gladdening herb." Arab and European physicians used it for anxiety, sadness, sleep, and indigestion. Carmelite nuns in France made a famous lemon balm cordial, Carmelite water, in the 1600s.

HOW IT WORKS IN THE BODY

Lemon balm contains rosmarinic acid, which slows the breakdown of GABA, the brain's main calming signal. Its lemon scent comes from citral and citronellal.

WHAT THE RESEARCH SAYS

Small studies found lemon balm improved calmness and mood in healthy volunteers under stress, and combinations with valerian improved sleep. A cream with lemon balm extract helped cold sores heal in a few trials. The European Medicines Agency approves it as a traditional remedy for mild stress, sleep, and stomach upset.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried leaves, or a small handful of fresh, in a cup of just-boiled water, covered, for 10 minutes. It's pleasant iced with honey.

WARNINGS

Lemon balm is generally safe in tea amounts. It may cause drowsiness, so be careful combining it with sedatives or alcohol. Animal studies suggest it may affect thyroid hormone, so check with your doctor if you have thyroid disease. Not enough is known about medicinal amounts in pregnancy or breastfeeding.

SOURCES: 18, 64 (see Sources at the back of the book)

Lemongrass

Cymbopogon citratus

ALSO CALLED: Fever grass, West Indian lemongrass, Cymbopogon

FAMILY: Poaceae (grass family)

PARTS USED: Stalks and leaves

EVIDENCE: Anxiety, digestion, and fever: Traditional. Insect repellent (as citronella, a relative): Limited.



Lemongrass. Photo: Wikimedia Commons uploader (see file page), CC BY 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall, clumping tropical grass 3 to 6 feet high with long, sharp-edged, blue-green leaves and thick, pale stalks at the base that smell strongly of lemon when cut. It is a common ingredient in Thai and Vietnamese cooking.

TRADITIONAL USES

In Brazil, the Caribbean, and parts of Africa, lemongrass tea is a household remedy for fevers, anxiety, upset stomach, and colds, giving it the name fever grass.

HOW IT WORKS IN THE BODY

The oil is mostly citral, which in the lab has calming, germ-killing, and anti-inflammatory effects.

WHAT THE RESEARCH SAYS

Human research is very limited. A large Brazilian study in the 1980s found lemongrass tea did not act as a sedative or sleep aid in healthy volunteers. Most other evidence is from lab studies.

HOW PEOPLE USE IT

Slice or bruise a fresh stalk and simmer it, or steep 1 to 2 teaspoons of dried leaves, in a cup of water for 10 minutes. It's good hot or iced.

WARNINGS

Lemongrass is safe in food amounts. The oil on skin can cause rashes, and inhaling large amounts of the oil has caused lung problems. **Do not swallow the essential oil.** Avoid medicinal amounts in pregnancy, as it has been used to start menstruation.

SOURCES: 6 (see Sources at the back of the book)

Licorice

Glycyrrhiza glabra

ALSO CALLED: Liquorice, sweet root, gan cao, Glycyrrhiza

FAMILY: Fabaceae (pea family)

PARTS USED: Root

EVIDENCE: Canker sore pain (mouth rinse): Limited. Sore throat after a breathing tube (gargle): Limited. Heartburn and ulcers (DGL type): Limited.



Licorice. Photo: Wikimedia Commons uploader (see file page), Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A perennial 3 to 5 feet tall with leaves made of many paired oval leaflets and spikes of pale purple pea-like flowers. The long, woody roots are yellow inside and taste 50 times sweeter than sugar. American licorice (Glycyrrhiza lepidota) grows wild along streams in the West.

TRADITIONAL USES

Licorice is one of the oldest and most widely used herbs in the world. Licorice root was found in the tomb of King Tutankhamun. In Chinese medicine it is the "great harmonizer" added to many formulas. It has been used for coughs, sore throats, stomach ulcers, and heartburn. Note: most American "licorice" candy is flavored with anise, not licorice.

HOW IT WORKS IN THE BODY

The root contains glycyrrhizin, which is very sweet and soothes inflamed tissue, but in large amounts it causes the body to hold on to salt and water and lose potassium, raising blood pressure. DGL (deglycyrrhizinated licorice) has the glycyrrhizin removed and is used for the stomach.

WHAT THE RESEARCH SAYS

The NCCIH reports that a licorice gargle or mouth rinse may reduce the size and pain of canker sores and help prevent sore throat after surgery with a breathing tube. Gels for eczema and burns have only early support. There isn't enough high-quality evidence for other conditions.

HOW PEOPLE USE IT

For a sore throat, simmer 1 teaspoon of dried root in a cup of water for 10 minutes and gargle or sip. For heartburn, chew DGL tablets before meals as labeled.

WARNINGS

Regular licorice (with glycyrrhizin) can raise blood pressure, drop potassium, and cause an irregular heartbeat and even cardiac arrest when taken in large amounts or for weeks at a time. People have been hospitalized from eating a lot of black licorice candy. Avoid it if you have high blood pressure, heart disease, kidney disease, or low potassium, or if you take water pills, digoxin, steroids, or blood pressure drugs. Large amounts in pregnancy may increase the risk of early delivery. DGL is much safer.

SOURCES: 18, 65 (see Sources at the back of the book)

Linden

Tilia cordata

ALSO CALLED: Lime tree (not the citrus), basswood, Tilia

FAMILY: Malvaceae (mallow family)

PARTS USED: Flowers with their pale leaf-like bract

EVIDENCE: Colds and coughs: Traditional (accepted by the European Medicines Agency). Mild anxiety: Traditional.



Linden. Photo: ImreKiss, CC BY 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall shade tree with heart-shaped, toothed leaves and drooping clusters of small, cream-colored, honey-scented flowers hanging from a long, pale green, strap-like bract. Bees love it. American basswood (Tilia americana) is the native North American species.

TRADITIONAL USES

In France and much of Europe, linden flower tea (tilleul) is a classic evening drink for colds, fevers, nerves, and sleep. It was believed to make you sweat out a fever.

HOW IT WORKS IN THE BODY

Linden flowers contain mucilage, which coats and soothes a sore throat, and flavonoids that may have mild calming and anti-inflammatory effects.

WHAT THE RESEARCH SAYS

There are few human studies. The European Medicines Agency recognizes linden flower as a traditional remedy for symptoms of the common cold and for mild stress, based on long use.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried flowers and bracts in a cup of just-boiled water, covered, for 10 minutes. Drink it warm before bed.

WARNINGS

Linden tea is generally considered safe. Rare allergic reactions occur. Old, stale flowers may cause mild intoxication-like symptoms, so use fresh, well-stored dried flowers. Some older sources say heavy use may affect the heart, so people with heart disease should ask a doctor. Not enough is known about pregnancy and breastfeeding.

SOURCES: 6, 18 (see Sources at the back of the book)

Marshmallow

Althaea officinalis

ALSO CALLED: Althaea, white mallow, mortification root

FAMILY: Malvaceae (mallow family)

PARTS USED: Root and leaves

EVIDENCE: Dry cough and sore throat: Limited (accepted by the European Medicines Agency). Mild stomach irritation: Traditional.



Marshmallow. Photo: Ata, CC0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A soft, velvety perennial 3 to 5 feet tall with gray-green, fuzzy, slightly lobed leaves and pale pink, five-petaled flowers. It grows in salt marshes and damp meadows in Europe. Common mallow (Malva neglecta), a low weed in yards across the West, is a milder relative with similar uses.

TRADITIONAL USES

The original marshmallow candy was made from the sticky root sap of this plant, whipped with sugar and egg. For 2,000 years the root has been used for sore throats, coughs, stomach irritation, and as a poultice for skin.

HOW IT WORKS IN THE BODY

The root is up to a third mucilage, a slippery gel that coats irritated tissue in the throat and stomach and forms a protective film.

WHAT THE RESEARCH SAYS

Small studies suggest marshmallow root syrups and lozenges ease dry cough. The European Medicines Agency and Commission E approve it for irritation of the mouth and throat and the dry cough that goes with it, and for mild stomach irritation.

HOW PEOPLE USE IT

Make a cold infusion: soak 1 to 2 teaspoons of chopped dried root in a cup of room-temperature water for 2 to 8 hours, stirring now and then, then strain and sip. Heat breaks down the mucilage.

WARNINGS

Marshmallow is very safe. The gel may slow absorption of medicines taken at the same time, so take medicines an hour before or several hours after. It may lower blood sugar slightly. Little is known about pregnancy and breastfeeding, so keep to tea amounts.

SOURCES: 5, 18 (see Sources at the back of the book)

Meadowsweet

Filipendula ulmaria

ALSO CALLED: Queen of the meadow, bridewort, Spiraea ulmaria

FAMILY: Rosaceae (rose family)

PARTS USED: Flowering tops

EVIDENCE: Colds and minor aches: Traditional (accepted by the European Medicines Agency).



Meadowsweet. Photo: Acabashi, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall perennial of wet meadows and stream banks, 3 to 6 feet tall, with reddish stems, leaves divided into toothed leaflets that are white underneath, and frothy, creamy-white clusters of tiny flowers that smell sweet, like almonds or honey.

TRADITIONAL USES

Meadowsweet was strewn on floors in the Middle Ages for its scent and used to flavor mead. Herbalists used it for fevers, aches, and an upset or acid stomach.

HOW IT WORKS IN THE BODY

The flowers contain salicylates, especially salicylaldehyde, which the body turns into salicylic acid, a close relative of aspirin. In 1899 the drug company that made aspirin named it after the old Latin name of this plant, Spiraea. Unlike aspirin, meadowsweet also contains tannins and mucilage, which herbalists say protect the stomach, though this hasn't been proven.

WHAT THE RESEARCH SAYS

There are no good clinical trials. The European Medicines Agency recognizes it as a traditional remedy for cold symptoms and minor joint pain, based on long use.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried flowering tops in a cup of just-boiled water, covered, for 10 minutes.

WARNINGS

Avoid meadowsweet if you are allergic to aspirin or have asthma triggered by aspirin. Don't give it to children or teenagers with a fever or viral illness, because of the link between salicylates and Reye's syndrome, a rare, dangerous brain and liver illness. Avoid it with blood thinners and before surgery, and in pregnancy and breastfeeding.

SOURCES: 18, 66 (see Sources at the back of the book)

Milk Thistle

Silybum marianum

ALSO CALLED: Silymarin, St. Mary's thistle, holy thistle, Silybum

FAMILY: Asteraceae (daisy family)

PARTS USED: Seeds (and the silymarin extract made from them)

EVIDENCE: Liver disease: Limited (conflicting; two NIH-funded trials found no benefit). Blood sugar in type 2 diabetes: Limited.



Milk Thistle. Photo: Zeynel Cebeci, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A big, prickly thistle 3 to 6 feet tall with glossy, dark green leaves marbled with white veins and large purple flower heads ringed with sharp spines. It came from the Mediterranean and grows as a weed in California and other western states.

TRADITIONAL USES

Milk thistle has been used for the liver and gallbladder since ancient Greece and Rome. Legend says the white veins came from a drop of the Virgin Mary's milk.

HOW IT WORKS IN THE BODY

The seeds contain silymarin, a mix of flavonolignans (mainly silybin) that in lab studies protect liver cells from toxins, act as antioxidants, and help the liver repair itself. A purified form given by IV (vein) is used in Europe for death cap mushroom poisoning.

WHAT THE RESEARCH SAYS

The NCCIH reports that results for liver disease are conflicting. Two NCCIH-funded trials, one for hepatitis C and one for fatty liver disease, found no benefit. Small studies, mostly from the Middle East, suggest it may help blood sugar in type 2 diabetes.

HOW PEOPLE USE IT

Take a standardized extract as labeled. The crushed seeds can be made into tea, but silymarin doesn't dissolve well in water.

WARNINGS

Milk thistle appears well tolerated. It can cause bloating, gas, and nausea. People allergic to ragweed, daisies, or marigolds may react. It may lower blood sugar. Products vary in quality. **Milk thistle is not a treatment for mushroom poisoning at home.** If someone eats a wild mushroom and gets sick, call Poison Help and get to an emergency room. Safety in pregnancy and breastfeeding isn't well known.

SOURCES: 5, 67 (see Sources at the back of the book)

Moringa

Moringa oleifera

ALSO CALLED: Drumstick tree, horseradish tree, malunggay

FAMILY: Moringaceae (moringa family)

PARTS USED: Leaves, pods, and seeds

EVIDENCE: Nutrition: well established as a food. Blood sugar and cholesterol: Limited.



Moringa. Photo: Venkatx5, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A fast-growing tropical tree 15 to 30 feet tall with drooping, feathery leaves made of many small oval leaflets, fragrant cream-colored flowers, and long, ridged seed pods that look like drumsticks. It is native to northern India and grown widely in Africa, Asia, and Latin America.

TRADITIONAL USES

Moringa is a food tree in many countries. The leaves are cooked like spinach and dried into powder. It has been used for diabetes, inflammation, breast milk supply, and malnutrition. Crushed seeds have been used to clean muddy drinking water.

HOW IT WORKS IN THE BODY

The leaves are rich in protein, vitamins A and C, calcium, iron, and antioxidants such as quercetin and chlorogenic acid, which may slow sugar absorption.

WHAT THE RESEARCH SAYS

A 2015 safety and effectiveness review found moringa leaf appears safe as a food and that small studies suggest it may help blood sugar and cholesterol, but good clinical trials are lacking.

HOW PEOPLE USE IT

Stir 1 to 2 teaspoons of leaf powder into soups, smoothies, or eggs, or cook fresh leaves as a green.

WARNINGS

The leaves and pods are safe as food. The root and root bark contain toxic compounds and should not be used. Moringa may lower blood sugar and blood pressure and may affect thyroid medicines. Extracts of the root, bark, and flowers may cause miscarriage, so pregnant women should avoid everything but small food amounts of leaf.

SOURCES: 68 (see Sources at the back of the book)

Mormon Tea

Ephedra nevadensis

ALSO CALLED: Nevada ephedra, Brigham tea, desert tea, Ephedra nevadensis

FAMILY: Ephedraceae (ephedra family)

PARTS USED: Green jointed stems

EVIDENCE: Colds, kidney and urinary problems: Traditional only.



Mormon Tea. Photo: Joe Decruyenaere, CC BY-SA 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A scraggly, nearly leafless shrub 2 to 4 feet tall made of stiff, jointed, gray-green to yellow-green stems that look like a broom or a bundle of knitting needles. The leaves are tiny scales at the joints. It grows on dry hills and flats across Nevada and the desert West, including the hills around Dayton.

TRADITIONAL USES

Great Basin peoples, including the Northern Paiute and Washoe, brewed the stems into tea for colds, kidney and bladder problems, and as a blood tonic. Mormon pioneers and Western settlers adopted it as a substitute for coffee and black tea, which is how it got the names Mormon tea and Brigham tea.

HOW IT WORKS IN THE BODY

Nevada ephedra is a cousin of the Asian ephedra (ma huang) that was banned in supplements, but studies have found that North American ephedras contain little or no ephedrine, the stimulant that made ma huang dangerous. They do contain tannins, which are astringent.

WHAT THE RESEARCH SAYS

There are no clinical studies of Mormon tea. Its uses are traditional.

HOW PEOPLE USE IT

Traditional tea is made by simmering a small handful of chopped dried stems in a quart of water for 15 to 20 minutes. Many people in the region drink it as a pleasant, earthy tea.

WARNINGS

Because some samples of North American ephedra may contain small amounts of alkaloids, avoid it if you have high blood pressure, heart disease, an overactive thyroid, glaucoma, or anxiety, or take stimulants or MAOI antidepressants. Don't confuse it with Asian ephedra (ma huang), which is dangerous. The high tannin content can upset the stomach and, with heavy long-term use, may be hard on the liver. Not for pregnancy or breastfeeding. Only harvest where collecting is allowed.

SOURCES: 60, 69, 70 (see Sources at the back of the book)

Motherwort

Leonurus cardiaca

ALSO CALLED: Lion's tail, Leonurus

FAMILY: Lamiaceae (mint family)

PARTS USED: Flowering tops

EVIDENCE: Nervous heart palpitations: Traditional (accepted by the European Medicines Agency).



Motherwort. Photo: D. Gordon E. Robertson, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall, square-stemmed mint 2 to 5 feet tall with leaves deeply cut into three to five pointed lobes, like a crow's foot, and rings of small pink-purple, fuzzy flowers in the leaf joints, surrounded by spiny bracts. It came from Europe and Asia and is a common weed along fences and old homesteads.

TRADITIONAL USES

As the name suggests, motherwort has long been used for women's health, childbirth, and "the heart," meaning both anxiety and a racing pulse. The Latin name cardiaca means "of the heart."

HOW IT WORKS IN THE BODY

Motherwort contains leonurine, a compound that may relax smooth muscle including the uterus, and other compounds that may slow the heart slightly in animal studies.

WHAT THE RESEARCH SAYS

The European Medicines Agency recognizes motherwort as a traditional remedy for nervous heart complaints such as palpitations caused by stress, after a doctor has ruled out a heart problem. There are almost no clinical trials.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried flowering tops in a cup of just-boiled water for 10 minutes. It is very bitter, so many people take it as a tincture instead.

WARNINGS

A racing or irregular heartbeat must be checked by a doctor first. It can be a sign of a serious heart problem. Motherwort may add to the effects of sedatives, heart drugs, and blood thinners. **Do not use it in pregnancy;** it can make the uterus contract. Handling the plant can cause a rash in some people.

SOURCES: 6, 18 (see Sources at the back of the book)

Mugwort

Artemisia vulgaris

ALSO CALLED: Common mugwort, cronewort, Artemisia vulgaris

FAMILY: Asteraceae (daisy family)

PARTS USED: Leaves

EVIDENCE: All uses: Traditional. The NCCIH says there isn't enough evidence for any condition.



Mugwort. Photo: AnRo0002, CC0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall, weedy perennial 3 to 6 feet tall with purplish stems and deeply cut leaves that are dark green on top and silvery-white and woolly underneath. Crushed leaves smell like sage. It grows along roadsides across North America. Western mugwort (Artemisia ludoviciana), a native relative, grows in the Great Basin.

TRADITIONAL USES

Mugwort was used in Europe to flavor beer before hops and to keep away insects and evil spirits. In Chinese and Japanese medicine, dried mugwort is burned on or near the skin in a practice called moxibustion. It has been used for digestion, menstrual problems, and to bring on vivid dreams.

HOW IT WORKS IN THE BODY

Mugwort contains an aromatic oil with cineole and thujone, and bitter compounds that stimulate digestion. Thujone is toxic to the nervous system in large amounts.

WHAT THE RESEARCH SAYS

The NCCIH reports very little research in people and not enough evidence for any condition. Moxibustion has been studied for turning breech babies, with mixed results.

HOW PEOPLE USE IT

Some people use small amounts of dried leaf as a seasoning or in tea. A sachet of dried leaves is used to repel moths.

WARNINGS

Do not use mugwort in pregnancy. It can cause the uterus to contract and has been used to cause miscarriage. Mugwort pollen is a major cause of hay fever, and people allergic to it may react to celery, carrot, and other foods. Large amounts may be toxic because of thujone. Moxibustion can cause burns. Not enough is known about safety while breastfeeding.

SOURCES: 71 (see Sources at the back of the book)

Mullein

Verbascum thapsus

ALSO CALLED: Great mullein, cowboy toilet paper, flannel leaf, Verbascum

FAMILY: Scrophulariaceae (figwort family)

PARTS USED: Leaves and flowers

EVIDENCE: Cough: Traditional. Ear pain (flower oil drops, in combination products): Limited.



Mullein. Photo: 4028mdk09, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A big, soft biennial. In the first year it forms a rosette of large, thick, fuzzy gray-green leaves that feel like flannel. In the second year it sends up a single tall stalk, 3 to 7 feet, packed with small, five-petaled yellow flowers. Mullein came from Europe and is now common in disturbed ground and burned areas across the West, including northern Nevada.

TRADITIONAL USES

Mullein has been a cough and lung remedy since ancient Greece. Native peoples and settlers in the West smoked or drank it for coughs and asthma and used the soft leaves as bandages, insoles, and yes, toilet paper. The dried stalks were dipped in fat and burned as torches.

HOW IT WORKS IN THE BODY

The leaves and flowers contain mucilage, which soothes irritated throats, and saponins that may help loosen mucus. Lab studies show some antiviral and antibacterial activity.

WHAT THE RESEARCH SAYS

Clinical trials of mullein alone are lacking. Two studies in children with ear pain found ear drops containing mullein, garlic, and other herbs worked about as well as numbing drops, but those were combination products.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried leaves or flowers in a cup of just-boiled water for 10 to 15 minutes. **Strain it through a coffee filter or fine cloth** to catch the tiny hairs, which can irritate the throat.

WARNINGS

Mullein is considered low risk. The leaf hairs can irritate the skin and throat. **Never put anything in an ear that may have a ruptured eardrum, drainage, or tubes.** An ear infection with fever, drainage, or severe pain needs a doctor. Smoking anything, including mullein, irritates the lungs. Don't confuse first-year mullein leaves with foxglove leaves, which are deadly. Foxglove leaves are less fuzzy and have toothed edges.

SOURCES: 6, 72 (see Sources at the back of the book)

Nettle

Urtica dioica

ALSO CALLED: Stinging nettle, common nettle, Urtica

FAMILY: Urticaceae (nettle family)

PARTS USED: Leaves (young tops), root

EVIDENCE: Hay fever (leaf): Limited. Enlarged prostate symptoms (root): Limited. Joint pain (leaf on the skin): Limited. As a food: well established.



Nettle. Photo: VerboseDreamer, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A perennial 3 to 6 feet tall with square stems and opposite, heart-shaped, coarsely toothed leaves, all covered with tiny, glassy stinging hairs. Small greenish flowers hang in strings from the leaf joints. It grows in rich, damp soil along streams and around old barns and corrals across North America.

TRADITIONAL USES

Nettle has been a food, fiber, and medicine for thousands of years. Young tops are cooked like spinach and made into soup. The fibers were woven into cloth. Herbalists used the leaf as a spring tonic, for allergies, arthritis, and as a water pill. Roman soldiers are said to have whipped their joints with nettles to warm them in cold Britain.

HOW IT WORKS IN THE BODY

The sting comes from hairs that inject histamine, formic acid, and other chemicals. Cooking or drying destroys the sting. The leaves are rich in iron, calcium, vitamins A, C, and K, and flavonoids that may calm allergic reactions. The root contains compounds that affect hormones that act on the prostate.

WHAT THE RESEARCH SAYS

A small 1990 study found freeze-dried nettle leaf helped some hay fever symptoms more than placebo. European studies of nettle root, often combined with saw palmetto, found modest relief of urinary symptoms from an enlarged prostate. Stinging the skin over painful joints (urtication) eased pain in a small trial. The European Medicines Agency recognizes nettle leaf as a traditional remedy for minor joint pain and to increase urine.

HOW PEOPLE USE IT

Wear gloves to pick young tops in spring, before flowering. Steam, boil, or saute them, and the sting disappears. For tea, steep 1 to 2 teaspoons of dried leaf in a cup of just-boiled water for 10 minutes.

WARNINGS

Fresh nettle stings and causes an itchy, burning rash for hours (see the Natural Remedies book for treatment). Cooked or dried nettle is safe as food for most people. As a water pill it may interact with lithium, other water pills, and blood pressure drugs, and its vitamin K can affect warfarin. Nettle root may affect hormone-related conditions. Avoid medicinal amounts in pregnancy. Pick only from clean ground; nettle soaks up nitrates and metals.

SOURCES: 18, 73 (see Sources at the back of the book)

Oats and Oat Straw

Avena sativa

ALSO CALLED: Oatmeal, oat straw, milky oats, colloidal oatmeal, Avena

FAMILY: Poaceae (grass family)

PARTS USED: Grain (oatmeal, oat bran), green "milky" tops, and dried straw

EVIDENCE: Lowering cholesterol (oat bran and oatmeal): Strong. Itchy, dry skin (colloidal oatmeal): Strong. Calming nerves (milky oats): Traditional.



Oats and Oat Straw. Photo: Henrik Sendelbach, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A cereal grass 2 to 4 feet tall with flat, rough leaves and loose, drooping clusters of grain spikelets. "Milky oats" are the green tops picked when the grain still squirts a white liquid when pinched.

TRADITIONAL USES

Oatmeal has been a staple food for centuries in Scotland and northern Europe. Oatmeal baths are an old remedy for itchy skin, chicken pox, and poison ivy. Western herbalists use milky oats as a nerve tonic for stress and exhaustion.

HOW IT WORKS IN THE BODY

Oats contain beta-glucan, a soluble fiber that forms a gel in the gut, binds cholesterol-rich bile, and slows sugar absorption. Colloidal oatmeal (finely ground) contains avenanthramides, which calm itching and inflammation, and starches and fats that lock moisture into the skin.

WHAT THE RESEARCH SAYS

A 2014 review of 28 trials found that 3 grams or more of oat beta-glucan a day lowers LDL cholesterol. The FDA allows a heart-health claim for it. Colloidal oatmeal is an FDA-approved skin protectant for itchy, irritated skin and eczema. Milky oat tincture has very little research behind it.

HOW PEOPLE USE IT

Eat about 1.5 cups of cooked oatmeal (or 3 grams of beta-glucan) a day for cholesterol. For itchy skin, grind plain oats very fine in a blender, stir a cup into a warm bath, and soak for 15 minutes, or buy a colloidal oatmeal bath product.

WARNINGS

Oats are very safe. Fiber can cause gas and bloating at first. Oats are naturally gluten-free but are often contaminated with wheat, so people with celiac disease should choose certified gluten-free oats. Oat baths can make the tub slippery.

SOURCES: 6, 74 (see Sources at the back of the book)

Oregano

Origanum vulgare

ALSO CALLED: Wild marjoram, Mediterranean oregano, Origanum

FAMILY: Lamiaceae (mint family)

PARTS USED: Leaves and the oil distilled from them

EVIDENCE: Infections (oil of oregano): Limited (lab studies only). As a culinary herb: safe.



Oregano. Photo: Ivar Leidus, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A bushy, spreading perennial 1 to 2 feet tall with square, often reddish stems, small, soft, oval leaves, and clusters of tiny pink or white flowers. Crushed leaves smell warm and peppery.

TRADITIONAL USES

Oregano has been used in Mediterranean cooking and medicine since ancient Greece, for coughs, stomach upset, toothaches, and wounds. Today "oil of oregano" is sold as a natural antibiotic.

HOW IT WORKS IN THE BODY

The oil is mostly carvacrol and thymol, which kill many bacteria and fungi in a lab dish by breaking down their outer walls.

WHAT THE RESEARCH SAYS

Lab studies show strong germ-killing effects, but there are almost no good studies in people showing oregano oil treats infections. A 2017 review called for clinical trials. Killing germs in a dish is very different from treating an infection in the body.

HOW PEOPLE USE IT

Use it freely in cooking. For a sore throat, steep 1 teaspoon of dried leaf in a cup of just-boiled water for 10 minutes and gargle or sip.

WARNINGS

The leaf in food is safe. **Oil of oregano is strong and can burn the mouth, throat, and skin.** Dilute it heavily, and don't use it on children. It may cause stomach upset, interfere with iron absorption, and add to the effect of blood thinners. People allergic to mint, basil, thyme, or sage may react. Avoid medicinal amounts in pregnancy. **Don't use oregano oil to treat an infection that needs antibiotics,** such as strep throat, a bladder infection, or an infected wound.

SOURCES: 6, 75 (see Sources at the back of the book)

Passionflower

Passiflora incarnata

ALSO CALLED: Maypop, purple passionflower, Passiflora incarnata

FAMILY: Passifloraceae (passionflower family)

PARTS USED: Leaves, stems, and flowers

EVIDENCE: Anxiety (including before surgery or dental work): Limited. Sleep: Limited.



Passionflower. Photo: E.nielsen, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A climbing vine that grips with curly tendrils, with deeply three-lobed leaves and spectacular flowers: white or lavender petals topped with a fringe of wavy purple and white filaments around a central structure. Spanish missionaries saw symbols of Christ's passion in the flower, which is where the name came from. It is native to the southeastern United States, and its oval yellow fruits "pop" when stepped on.

TRADITIONAL USES

Native peoples of the Southeast used maypop for food and as a poultice for wounds. In the 1800s American doctors used it for nerves, sleeplessness, and seizures.

HOW IT WORKS IN THE BODY

Passionflower contains flavonoids such as chrysin and vitexin, which may act on GABA, the brain's calming signal.

WHAT THE RESEARCH SAYS

The NCCIH reports that small studies suggest passionflower taken by mouth may reduce anxiety, including before surgery, but no firm conclusions can be made. It may increase total sleep time in people with insomnia, but results on falling and staying asleep are mixed.

HOW PEOPLE USE IT

Steep 1 teaspoon of dried herb in a cup of just-boiled water for 10 minutes and drink it in the evening. Tinctures and capsules are also sold.

WARNINGS

Passionflower can cause drowsiness, dizziness, and confusion. Don't combine it with alcohol, sedatives, or sleeping pills, and talk to your doctor if you will have surgery within 2 weeks. **Do not use it in pregnancy;** it may cause the uterus to contract. Not enough is known about breastfeeding. Only the purple passionflower (Passiflora incarnata) is used medicinally. Some other passionflowers contain cyanide-producing compounds.

SOURCES: 18, 76 (see Sources at the back of the book)

Peppermint

Mentha piperita

ALSO CALLED: Mint, Mentha x piperita

FAMILY: Lamiaceae (mint family)

PARTS USED: Leaves and the oil distilled from them

EVIDENCE: Irritable bowel syndrome (enteric-coated oil capsules): Moderate to Strong. Tension headache (oil on the forehead): Limited. Indigestion: peppermint oil alone may make it worse.



Peppermint. Photo: Wikimedia Commons uploader (see file page), CC BY 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A spreading perennial 1 to 3 feet tall with square, often purplish stems, opposite, toothed, pointed leaves, and spikes of small lavender flowers. It is a natural cross between water mint and spearmint and spreads by runners. Wild mints grow along creeks and irrigation ditches throughout the West.

TRADITIONAL USES

Mint has been used for upset stomach, gas, nausea, headaches, and colds since ancient Egypt. Peppermint candy after a meal is an old habit for a reason.

HOW IT WORKS IN THE BODY

The oil is mostly menthol, which relaxes the smooth muscle of the gut, easing cramps and spasms, and triggers cold receptors in the skin, giving a cooling, numbing feeling that can quiet pain. Because it relaxes muscle, it can also relax the valve at the top of the stomach and let acid back up.

WHAT THE RESEARCH SAYS

The NCCIH reports that enteric-coated peppermint oil capsules may improve IBS symptoms, and the American College of Gastroenterology recommends them. Limited evidence suggests peppermint oil on the forehead may help tension headaches, and oral or inhaled peppermint may ease chemotherapy nausea.

HOW PEOPLE USE IT

For IBS, take enteric-coated peppermint oil capsules (which release in the intestine, not the stomach) as labeled. For tea, steep 1 to 2 teaspoons of dried leaves in a covered cup of just-boiled water for 5 to 10 minutes. For a tension headache, dilute peppermint oil and dab a little on the temples, away from the eyes.

WARNINGS

Peppermint can cause heartburn, especially if you have reflux. Coated capsules reduce this. **Never apply peppermint oil to the face or chest of a baby or young child;** menthol can cause breathing problems. Keep the oil away from the eyes. Don't take capsules within 2 hours of antacids, which can dissolve the coating early. Food amounts are fine in pregnancy and breastfeeding.

SOURCES: 18, 77, 78 (see Sources at the back of the book)

Pine

Pinus ponderosa

ALSO CALLED: Ponderosa pine, single-leaf pinyon (Pinus monophylla), Jeffrey pine

FAMILY: Pinaceae (pine family)

PARTS USED: Needles, inner bark, pitch (resin)

EVIDENCE: Colds and coughs (needle tea): Traditional. Minor wounds and splinters (pitch): Traditional.



Pine. Photo: Aaron Liston, CC BY 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

Ponderosa and Jeffrey pines are tall trees with long needles in bundles of three, orange bark broken into puzzle-like plates that smell like vanilla or butterscotch on a warm day. Single-leaf pinyon, the classic pine of Nevada's hills, is a small, rounded tree with single, short, stiff needles and cones holding edible pine nuts.

TRADITIONAL USES

Pine needle tea was used across North America for colds and coughs, and pine needles are a source of vitamin C. The Washoe and Paiute peoples gathered pinyon nuts as a staple food and used warm pinyon pitch on cuts, sores, and splinters, and as a chest rub. Settlers made "pine tar" salves for wounds.

HOW IT WORKS IN THE BODY

Pine needles contain vitamin C and aromatic oils (pinene) that may loosen mucus. The resin is sticky, seals small wounds, and has mild germ-killing properties.

WHAT THE RESEARCH SAYS

There are no clinical trials of pine needle tea or pine pitch for medical use.

HOW PEOPLE USE IT

Traditional tea: chop a small handful of fresh green needles and steep them, covered, in a cup of hot (not boiling) water for 10 minutes. Warm pitch has been applied to draw out splinters.

WARNINGS

Pregnant women should avoid ponderosa pine needle tea. Ponderosa pine needles contain isocupressic acid, which causes abortions in cattle. Lodgepole pine, Jeffrey pine, Monterey cypress, and common juniper contain the same compound. **Make sure it really is a pine.** Yew (Taxus), which has flat, single needles and red berries, is deadly poisonous. Norfolk Island "pine" is not a true pine and is toxic. Pine resin can cause skin allergies.

SOURCES: 25, 60, 79 (see Sources at the back of the book)

Pineapple (Bromelain)

Ananas comosus

ALSO CALLED: Bromelain (the enzyme extract), Ananas

FAMILY: Bromeliaceae (bromeliad family)

PARTS USED: Fruit and stem (bromelain)

EVIDENCE: Swelling after dental surgery: Limited. Sinus infections: not enough evidence. Debriding severe burns: Strong (prescription product only).



Pineapple (Bromelain). Photo: Keyz abdulsalaam, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, spiky plant 3 to 5 feet tall with long, stiff, sharp-edged leaves in a rosette, and a single fruit rising from the center. It is native to South America.

TRADITIONAL USES

Indigenous peoples of Central and South America used pineapple for indigestion and on wounds. Bromelain, the enzyme mix from the stem, has been sold in Europe since the 1950s for swelling after injury and surgery.

HOW IT WORKS IN THE BODY

Bromelain is a group of enzymes that break down protein. It may reduce swelling by breaking down certain proteins involved in inflammation. It's also why fresh pineapple makes your tongue tingle and why it won't let gelatin set.

WHAT THE RESEARCH SAYS

The NCCIH says there isn't enough high-quality research to recommend oral bromelain for sinusitis, though some studies suggest it may reduce symptoms after wisdom tooth surgery. In 2022 the FDA approved a prescription bromelain product (applied to the skin) for removing dead tissue from severe burns.

HOW PEOPLE USE IT

Eat fresh pineapple, or take bromelain capsules as labeled, often between meals for swelling.

WARNINGS

Bromelain can cause stomach upset and diarrhea. It may increase bleeding with blood thinners and raise the levels of some antibiotics (amoxicillin, tetracycline). People allergic to pineapple, latex, wheat, celery, or bee venom may react. Stop it before surgery unless your surgeon says otherwise. Little is known about pregnancy and breastfeeding.

SOURCES: 80 (see Sources at the back of the book)

Plantain (Broadleaf)

Plantago major

ALSO CALLED: Broadleaf plantain, white man's footprint, ribwort plantain (Plantago lanceolata). Not related to the banana-like plantain.

FAMILY: Plantaginaceae (plantain family)

PARTS USED: Leaves

EVIDENCE: Insect stings, bites, and minor skin irritation: Traditional. Cough (ribwort, accepted by the European Medicines Agency): Limited.



Plantain (Broadleaf). Photo: Alepistoia, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, tough weed with a flat rosette of broad, oval leaves (or long, narrow leaves in ribwort) with strong, parallel ribs running from base to tip. If you gently pull a leaf apart, stringy fibers stick out like the strings of celery. Slender spikes of tiny greenish flowers rise from the center. It grows in lawns, paths, and packed dirt everywhere.

TRADITIONAL USES

Plantain is one of the most widely used folk remedies in the world, especially the chewed "spit poultice" for bee stings, mosquito bites, splinters, and minor cuts. Native Americans called it "white man's footprint" because it spread wherever European settlers walked.

HOW IT WORKS IN THE BODY

The leaves contain aucubin, an anti-inflammatory compound; allantoin, which helps skin heal; and mucilage, which soothes and draws. Lab studies show mild anti-inflammatory and germ-fighting effects.

WHAT THE RESEARCH SAYS

There are very few clinical studies of plantain on the skin. Ribwort plantain syrup is approved in Europe for dry cough and throat irritation, based on long use and lab data.

HOW PEOPLE USE IT

For a sting or bite, clean the area, then crush or chew a clean fresh leaf and press it on the spot for 10 to 15 minutes, replacing it as it dries. It's also a great salve herb.

WARNINGS

Plantain is generally safe on the skin. Allergic rashes are possible. Pick it from areas not sprayed with weed killer and away from dog areas. **A bee sting with swelling of the face, lips, or throat, hives all over, or trouble breathing is an emergency.** Call 911 and use an epinephrine auto-injector if you have one.

SOURCES: 18, 25, 60 (see Sources at the back of the book)

Prickly Pear

Opuntia ficus-indica

ALSO CALLED: Nopal, nopales (pads), tuna (fruit), Opuntia. Several native prickly pears grow in Nevada.

FAMILY: Cactaceae (cactus family)

PARTS USED: Young pads (nopales), fruit (tunas), flowers

EVIDENCE: Lowering blood sugar after a meal (eating cooked pads): Limited. Hangover: Limited.



Prickly Pear. Photo: ZooFari at en.wikipedia, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A cactus with flat, oval, jointed pads covered with clusters of spines and tiny, hair-like barbed bristles called glochids. Showy yellow, orange, or pink flowers grow on the pad edges in late spring and become egg-shaped, red to purple fruits. Several species grow on dry hillsides in the Great Basin and Mojave.

TRADITIONAL USES

Nopales and tunas are traditional foods in Mexico and the Southwest. The split pads were used as poultices for burns, wounds, and bruises, and pads and fruit were eaten for diabetes and digestion.

HOW IT WORKS IN THE BODY

The pads are high in soluble fiber and mucilage, which slow sugar absorption from a meal.

WHAT THE RESEARCH SAYS

Several small studies, mostly in Mexico, found that eating cooked nopal pads with a meal lowered the rise in blood sugar afterward in people with type 2 diabetes. A small study found a prickly pear fruit extract reduced some hangover symptoms.

HOW PEOPLE USE IT

Scrape off the spines and glochids, slice, and boil or grill young pads like green beans. Peel the fruit carefully (it's covered with glochids) and eat the pulp, spitting out the seeds or not.

WARNINGS

Nopal is safe as food. It may lower blood sugar along with diabetes drugs. Large amounts can cause diarrhea, bloating, and nausea. **Glochids are the real hazard:** they stick in skin by the hundreds and are hard to see. Handle pads with tongs and leather gloves. Remove glochids with tape or a layer of white school glue that you let dry and peel off. Rarely, seeds eaten in very large amounts have blocked the bowel.

SOURCES: 23, 81 (see Sources at the back of the book)

Psyllium

Plantago ovata

ALSO CALLED: Ispaghula, blond psyllium, Metamucil (a brand), Plantago ovata

FAMILY: Plantaginaceae (plantain family)

PARTS USED: Seed husks

EVIDENCE: Constipation: Strong. Lowering cholesterol: Strong. Diarrhea and IBS: Moderate.



Psyllium. Photo: Gideon Pisanty (Gidip), CC BY 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low annual plant with narrow leaves and short flower spikes, grown mainly in India. The product you buy is the thin, pinkish-white husk around the seeds.

TRADITIONAL USES

Psyllium has been used in Ayurveda and Persian medicine for centuries to regulate the bowels. It is the main ingredient in Metamucil and many other fiber products.

HOW IT WORKS IN THE BODY

The husk is about 70 percent soluble fiber that swells into a gel when it gets wet. In constipation, it holds water and makes stool softer and bulkier. In diarrhea, it absorbs extra water and firms stool up. The gel also binds bile acids, which lowers cholesterol.

WHAT THE RESEARCH SAYS

The American College of Gastroenterology recommends psyllium for chronic constipation. The FDA allows a heart-health claim for psyllium fiber because it lowers LDL cholesterol. Psyllium also helps some people with IBS.

HOW PEOPLE USE IT

Stir 1 teaspoon to 1 tablespoon of husk powder into at least 8 ounces of water or juice, drink it right away before it thickens, and follow it with another glass of water. Start low and work up over a week or two.

WARNINGS

Always take psyllium with plenty of water. Taken dry, it can swell and choke you or block your esophagus or bowel. Don't take it if you have trouble swallowing or a bowel narrowing or blockage. It causes gas and bloating at first. Take other medicines at least 2 hours before or after psyllium, because it can slow their absorption. Some people, especially those who handle the powder at work, develop allergies to it.

SOURCES: 5, 82, 83 (see Sources at the back of the book)

Purslane

Portulaca oleracea

ALSO CALLED: Pigweed, little hogweed, verdolaga, Portulaca

FAMILY: Portulacaceae (purslane family)

PARTS USED: Leaves and stems (eaten fresh or cooked)

EVIDENCE: Nutrition (omega-3 fats, vitamins): well established as a food. Medicinal uses: Traditional.



Purslane. Photo: AnRo0002, CC0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, sprawling succulent "weed" with smooth, reddish, fleshy stems and small, paddle-shaped, juicy green leaves. Tiny yellow flowers open only in the morning sun. It grows in gardens, sidewalk cracks, and hot, disturbed ground in summer.

TRADITIONAL USES

Purslane is eaten in Mexico (verdolagas), the Mediterranean, the Middle East, and India. Herbalists used it for burns, insect stings, and as a cooling food for fevers.

HOW IT WORKS IN THE BODY

Purslane is one of the richest plant sources of alpha-linolenic acid, an omega-3 fat, and also contains vitamins A, C, and E, magnesium, and antioxidants. It also contains oxalate.

WHAT THE RESEARCH SAYS

A famous 1986 letter in the New England Journal of Medicine pointed out its high omega-3 content. Small studies suggest purslane may help blood sugar and cholesterol, but evidence is limited.

HOW PEOPLE USE IT

Eat it raw in salads, or saute or add to stews. Its taste is lemony and a little salty.

WARNINGS

Safe as food in normal amounts. Because it is high in oxalate, people with kidney stones should limit it. **Don't confuse it with spotted spurge,** a toxic look-alike that grows in the same places: spurge has thin, wiry stems that ooze white milky sap and is not succulent. Purslane has thick, juicy stems with clear sap.

SOURCES: 25, 84 (see Sources at the back of the book)

Raspberry Leaf

Rubus idaeus

ALSO CALLED: Red raspberry leaf, Rubus

FAMILY: Rosaceae (rose family)

PARTS USED: Leaves

EVIDENCE: Shortening labor: Limited (studies were small and found little effect).



Raspberry Leaf. Photo: AnRo0002, CC0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A thorny shrub with canes 3 to 6 feet long, leaves divided into three to five toothed leaflets that are white and fuzzy underneath, white flowers, and red berries that pull away from their core when ripe. Wild raspberries grow in mountain canyons in the West.

TRADITIONAL USES

Raspberry leaf tea is a traditional "uterine tonic" taken by midwives' clients in the last weeks of pregnancy to prepare for labor. It was also used for diarrhea and sore throats because of its tannins.

HOW IT WORKS IN THE BODY

The leaves contain tannins, which tighten tissues, and fragarine, which some lab studies suggest may affect the muscle of the uterus.

WHAT THE RESEARCH SAYS

A 2001 Australian trial of 192 women found raspberry leaf tablets did not shorten labor overall, though there was a trend toward a shorter second stage and fewer forceps deliveries. Evidence is limited and safety in pregnancy hasn't been well studied.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried leaf in a cup of just-boiled water for 10 minutes.

WARNINGS

Pregnant women should use raspberry leaf only with their doctor's or midwife's approval, and usually not before the last weeks of pregnancy. It may lower blood sugar. As a tannin-rich tea, it can upset the stomach and reduce iron absorption if taken with meals.

SOURCES: 6, 85 (see Sources at the back of the book)

Red Clover

Trifolium pratense

ALSO CALLED: Trifolium, cow clover, meadow clover

FAMILY: Fabaceae (pea family)

PARTS USED: Flower heads; extracts of the flowers or leaves

EVIDENCE: Menopause hot flashes: Limited (inconsistent). Cholesterol and bone health: Limited.



Red Clover. Photo: Ivar Leidus, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A short-lived perennial 1 to 2 feet tall with three oval leaflets, each marked with a pale "V" or crescent, and round, pinkish-purple flower heads. It is a common hay crop and roadside plant.

TRADITIONAL USES

Red clover blossoms were brewed into tea as a "blood purifier," for coughs, and for skin problems such as eczema. In the 1800s and early 1900s it was a main ingredient in folk cancer remedies, which never proved to work.

HOW IT WORKS IN THE BODY

Red clover is rich in isoflavones (such as biochanin A and formononetin), plant compounds with weak estrogen-like effects. Fermented or moldy red clover can contain dicoumarol, which thins the blood.

WHAT THE RESEARCH SAYS

The NCCIH reports studies on hot flashes have been inconsistent, and some had a high risk of bias. Red clover may benefit cholesterol in women after menopause, and studies on bone density are few and inconsistent. There isn't conclusive evidence of benefit for any condition.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried flower heads in a cup of just-boiled water for 10 minutes. Extracts standardized for isoflavones are sold as capsules.

WARNINGS

Extracts appeared safe in trials up to 2 years. Because of its estrogen-like effects, avoid it if you have a hormone-sensitive cancer, endometriosis, or are pregnant or breastfeeding. It may increase bleeding with blood thinners. Moldy red clover hay causes bleeding in cattle.

SOURCES: 86 (see Sources at the back of the book)

Rhodiola

Rhodiola rosea

ALSO CALLED: Golden root, arctic root, roseroot

FAMILY: Crassulaceae (stonecrop family)

PARTS USED: Root

EVIDENCE: Fatigue and stress: Limited.



Rhodiola. Photo: Alpsdake, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low succulent 6 to 15 inches tall with fleshy, blue-green, toothed leaves crowded on thick stems and flat clusters of small yellow flowers. The thick root smells like roses when cut. It grows in cold, rocky places in the Arctic and in high mountains, including the Rockies.

TRADITIONAL USES

Rhodiola was used in Scandinavia, Siberia, and Tibet for strength, stamina, and to endure cold and altitude. Soviet researchers studied it as an "adaptogen" for workers and soldiers.

HOW IT WORKS IN THE BODY

The root contains rosavins and salidroside, which in lab and animal studies affect stress hormones and brain chemicals such as serotonin and dopamine.

WHAT THE RESEARCH SAYS

The NCCIH reports there isn't enough reliable evidence to say rhodiola is useful for any health purpose. Most studies are low to moderate quality.

HOW PEOPLE USE IT

Take a standardized extract as labeled, usually in the morning, since it may disrupt sleep if taken late.

WARNINGS

It may be safe for up to 12 weeks. Side effects include dizziness, headache, dry mouth, and trouble sleeping. It may interact with the blood pressure drug losartan and possibly with antidepressants and diabetes drugs. Depression can be serious. See a doctor rather than treating it on your own. Not enough is known about pregnancy and breastfeeding.

SOURCES: 87 (see Sources at the back of the book)

Rose Hips

Rosa canina

ALSO CALLED: Dog rose, wild rose hips, Rosa canina. Woods' rose (Rosa woodsii) grows along streams across Nevada.

FAMILY: Rosaceae (rose family)

PARTS USED: Ripe fruit (hips)

EVIDENCE: Vitamin C: well established. Osteoarthritis pain (a specific rose hip powder): Limited.



Rose Hips. Photo: Roberta F., CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A prickly shrub with leaves divided into five to nine toothed leaflets and pink, five-petaled, sweet-smelling flowers. In late summer and fall the flowers become bright red or orange, oval fruits called hips. Woods' rose forms thickets along creeks and ditches in the Great Basin.

TRADITIONAL USES

During World War II, when oranges couldn't reach Britain, people gathered tons of wild rose hips to make vitamin C syrup for children. Native peoples of the West ate the hips in winter and used them for colds and sore throats.

HOW IT WORKS IN THE BODY

Fresh rose hips are very rich in vitamin C, plus carotenoids and other antioxidants. A specific dried powder made from the seeds and shells contains a plant fat (a galactolipid) that may reduce inflammation in joints.

WHAT THE RESEARCH SAYS

Small European trials of a standardized rose hip powder found modest relief of osteoarthritis pain. Rose hips are a good food source of vitamin C, but drying and long cooking destroy much of it.

HOW PEOPLE USE IT

Pick ripe hips after the first frost, when they soften and sweeten. Cut them open and remove the hairy seeds (an old schoolboy itching powder). Simmer 2 teaspoons of chopped dried hips in a cup of water for 10 minutes, or make syrup or jelly.

WARNINGS

Rose hips are safe as food. **The hairs inside the hips irritate the mouth, throat, and gut,** so strain tea through a fine cloth. Large amounts of vitamin C may cause loose stools and can raise kidney stone risk in some people. Rose hip powder may add to the effect of blood thinners.

SOURCES: 6, 60 (see Sources at the back of the book)

Rosemary

Salvia rosmarinus

ALSO CALLED: Rosmarinus officinalis (old name), dew of the sea

FAMILY: Lamiaceae (mint family)

PARTS USED: Leaves and the oil distilled from them

EVIDENCE: Hair loss (diluted oil on the scalp): Limited. Memory and alertness (aroma): Limited.



Rosemary. Photo: Miguel Angel Masegosa Martínez, CC BY 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

An evergreen shrub 2 to 6 feet tall with woody stems, needle-like leaves that are dark green on top and white underneath, and small pale blue flowers. It smells strongly of pine and camphor. It loves hot, dry Mediterranean-type gardens and does well in western yards.

TRADITIONAL USES

In ancient Greece students wore rosemary wreaths to help their memory, and Shakespeare's Ophelia says, "There's rosemary, that's for remembrance." It was used for headaches, digestion, poor circulation, and hair growth.

HOW IT WORKS IN THE BODY

Rosemary contains carnosic acid and rosmarinic acid, strong antioxidants, and an oil rich in 1,8-cineole and camphor, which may stimulate blood flow and brain activity.

WHAT THE RESEARCH SAYS

A 2015 study of 100 men with male-pattern hair loss found that rosemary oil rubbed into the scalp worked about as well as 2 percent minoxidil after 6 months, with less itching. It was one study. Small studies suggest the smell of rosemary may improve alertness and memory. The European Medicines Agency recognizes rosemary as a traditional remedy for indigestion and minor muscle and joint pain.

HOW PEOPLE USE IT

Cook with it freely. For tea, steep 1 teaspoon of dried leaves in a cup of just-boiled water for 10 minutes. For the scalp, mix about 5 drops of rosemary oil into a tablespoon of carrier oil and massage in a few times a week.

WARNINGS

Rosemary is safe as food. **Undiluted rosemary oil can irritate skin and should never be swallowed;** large amounts can cause vomiting and seizures. Avoid the oil if you have epilepsy. Avoid medicinal amounts in pregnancy. It may interact with blood thinners, blood pressure drugs, and lithium.

SOURCES: 18, 88 (see Sources at the back of the book)

Sage

Salvia officinalis

ALSO CALLED: Common sage, garden sage, Salvia officinalis. Not the same as sagebrush.

FAMILY: Lamiaceae (mint family)

PARTS USED: Leaves

EVIDENCE: Menopause hot flashes and sweating: Limited. Sore throat (gargle or spray): Limited. Memory: Limited.



Sage. Photo: Philmarin, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A woody, shrubby perennial 1 to 2 feet tall with soft, pebbly, gray-green, oval leaves and spikes of purple-blue flowers. It smells warm and savory, like stuffing.

TRADITIONAL USES

The name Salvia comes from the Latin salvere, "to save" or "to be well." Sage was used for sore throats, mouth sores, excess sweating, digestion, and memory, and to dry up breast milk when weaning.

HOW IT WORKS IN THE BODY

Sage contains rosmarinic acid and other antioxidants, tannins that tighten tissue (which may explain its use for sweating and sore throat), and an oil that contains thujone, a nerve toxin in high doses.

WHAT THE RESEARCH SAYS

The NCCIH reports a few small studies suggest sage may reduce how often hot flashes happen during menopause, and may improve memory or thinking in healthy people, but more research is needed. A small trial found a sage throat spray eased sore throat pain. The European Medicines Agency recognizes sage for mouth and throat inflammation and excess sweating.

HOW PEOPLE USE IT

For a sore throat, steep 1 to 2 teaspoons of dried leaves in a cup of just-boiled water for 10 minutes and gargle several times a day.

WARNINGS

Sage is safe in food amounts and has been used safely in larger amounts for up to 8 weeks in studies. **Large amounts or long use can be toxic because of thujone,** causing restlessness, vomiting, a fast heart rate, and seizures. Never swallow sage essential oil. Avoid medicinal amounts in pregnancy and while breastfeeding (it may reduce milk), and if you have a seizure disorder. It may affect blood sugar and interact with sedatives.

SOURCES: 18, 89 (see Sources at the back of the book)

Sagebrush

Artemisia tridentata

ALSO CALLED: Big sagebrush, Great Basin sagebrush, Artemisia tridentata. Nevada's state flower.

FAMILY: Asteraceae (daisy family)

PARTS USED: Leaves

EVIDENCE: Colds, fevers, and wounds: Traditional only.



Sagebrush. Photo: Famartin, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A gray-green, aromatic shrub 2 to 7 feet tall with twisted, shreddy bark and small, wedge-shaped, silver-gray leaves with three little teeth at the tip, the "tridentata" in its name. Tiny yellow flowers bloom in long, loose clusters in late summer and fall. After a rain, the whole desert smells of it. It covers millions of acres of the Great Basin, including the valleys and hills around Dayton.

TRADITIONAL USES

Sagebrush was one of the most important medicines of the Great Basin peoples. The Northern Paiute, Shoshone, and Washoe made tea from the leaves for colds, coughs, fevers, headaches, and stomach troubles; used it as a wash and poultice for wounds and sores; and burned it to clean the air. Pioneers used it as a tea and a moth repellent. It is not related to the kitchen herb sage.

HOW IT WORKS IN THE BODY

The leaves contain an aromatic oil with camphor, 1,8-cineole, and other terpenes, plus bitter sesquiterpene lactones. Lab studies show these compounds have some germ-killing activity. Camphor and cineole are also what give it its strong smell and its decongestant feel.

WHAT THE RESEARCH SAYS

There are no clinical trials of big sagebrush in people. Its uses are traditional.

HOW PEOPLE USE IT

Traditional tea: steep a small pinch of leaves (a few leaves, not a handful) in a cup of hot water for a few minutes. It is extremely bitter. For a steam, put a few sprigs in a bowl of just-boiled water and breathe the steam. A cooled tea has been used as a wash for minor scrapes.

WARNINGS

Sagebrush tea is strong and bitter and can upset the stomach; large amounts may be toxic because of the camphor and thujone-like oils. **Do not use it in pregnancy,** since related Artemisia species can stimulate the uterus. Sagebrush pollen is a major allergy trigger in the West in late summer and fall. People allergic to ragweed or mugwort may react to the plant. Never pick near roads or in areas treated with herbicides. Leave plenty for the sage grouse and other wildlife that depend on it.

SOURCES: 60, 72, 90 (see Sources at the back of the book)

Saw Palmetto

Serenoa repens

ALSO CALLED: Serenoa, American dwarf palm, cabbage palm

FAMILY: Arecaceae (palm family)

PARTS USED: Ripe berries

EVIDENCE: Enlarged prostate urinary symptoms: probably not helpful (good recent trials found no benefit).



Saw Palmetto. Photo: Ted Bodner, Southern Weed Science Society, United States, CC BY 3.0 us. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, shrubby fan palm 3 to 10 feet tall with stiff, fan-shaped leaves and saw-toothed leaf stems. Clusters of small white flowers turn into dark purple-black, olive-sized berries. It forms thickets in the pinewoods of Florida and the coastal Southeast.

TRADITIONAL USES

Native peoples of Florida ate the berries. In the 1800s American doctors used them for prostate, bladder, and reproductive problems. It became one of the most popular supplements in the world for an enlarged prostate.

HOW IT WORKS IN THE BODY

Saw palmetto berry extract contains fatty acids and plant sterols that in the lab block 5-alpha-reductase, the same enzyme targeted by the prostate drug finasteride.

WHAT THE RESEARCH SAYS

The NCCIH reports that saw palmetto is probably not helpful for urinary symptoms from an enlarged prostate (benign prostatic hyperplasia, or BPH). Large, well-designed trials, including one funded by NIH, found no benefit over placebo, even at high doses. There isn't enough evidence for hair loss or other uses.

HOW PEOPLE USE IT

Sold as capsules of berry extract. Follow the label if you choose to try it.

WARNINGS

Saw palmetto is generally well tolerated. It can cause mild stomach upset, dizziness, and headache. It does not seem to affect the PSA blood test. Urinary trouble in men can be a sign of other problems, including prostate cancer or infection, so see a doctor. It may be unsafe in pregnancy and breastfeeding, since it may act on hormones.

SOURCES: 91 (see Sources at the back of the book)

Schisandra

Schisandra chinensis

ALSO CALLED: Five-flavor berry, wu wei zi, magnolia vine

FAMILY: Schisandraceae (schisandra family)

PARTS USED: Ripe dried berries

EVIDENCE: Stamina and stress: Limited. Liver protection: Limited.



Schisandra. Photo: peganum from Small Dole, England, CC BY-SA 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A woody climbing vine of northern China and Russia with oval leaves, fragrant cream to pink flowers, and hanging clusters of small, shiny red berries. Its Chinese name means "five-flavor fruit," because the berries taste sweet, sour, salty, bitter, and pungent all at once.

TRADITIONAL USES

In traditional Chinese medicine, schisandra is used for coughs, night sweats, insomnia, and to calm the mind and protect the liver. Russian hunters chewed the berries for stamina, and Soviet scientists studied it as an adaptogen.

HOW IT WORKS IN THE BODY

The berries contain lignans called schisandrins, which in lab and animal studies protect liver cells and affect stress responses. They also strongly affect liver enzymes that break down many drugs.

WHAT THE RESEARCH SAYS

A 2008 review summarized many Russian studies suggesting schisandra improved endurance and mental performance, but most were small and older. Lignan derivatives have been used in China for liver disease. Good modern trials are scarce.

HOW PEOPLE USE IT

Simmer 1 to 2 teaspoons of crushed dried berries in a cup of water for 10 to 15 minutes, or take an extract as labeled.

WARNINGS

Side effects can include heartburn, stomach upset, and reduced appetite. Schisandra can raise or lower the blood levels of many drugs, including the transplant drug tacrolimus and some blood thinners, so check with a pharmacist if you take any prescription. Avoid it in pregnancy, since it may stimulate the uterus, and if you have epilepsy or high pressure in the brain.

SOURCES: 6, 92 (see Sources at the back of the book)

Self-Heal

Prunella vulgaris

ALSO CALLED: Heal-all, carpenter's herb, Prunella

FAMILY: Lamiaceae (mint family)

PARTS USED: Flowering tops

EVIDENCE: Sore throats and minor wounds: Traditional. Cold sores: Limited (lab only).



Self-Heal. Photo: Acabashi, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, creeping mint with square stems, oval leaves, and short, dense, cylinder-shaped flower heads packed with small purple, hooded flowers. It grows in lawns, meadows, and moist woods across North America, including mountain areas of Nevada.

TRADITIONAL USES

As its names suggest, self-heal was a "cure-all" in Europe and among many Native peoples for wounds, sore throats, mouth sores, and fevers. Carpenters used it on cuts. In Chinese medicine, the flower spikes (xia ku cao) are used for the liver, eyes, and swollen glands.

HOW IT WORKS IN THE BODY

Self-heal is rich in rosmarinic acid and tannins, which tighten tissue and calm inflammation, and it contains a polysaccharide (prunelline) that blocks the cold sore virus in lab studies.

WHAT THE RESEARCH SAYS

There are no good clinical trials. Lab studies show antiviral effects against herpes simplex, but this hasn't been tested well in people.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried flowering tops in a cup of just-boiled water for 10 minutes and gargle or sip, or use a cooled tea as a wash for scrapes.

WARNINGS

Self-heal is considered low risk. It may lower blood sugar. Not enough is known about medicinal amounts in pregnancy and breastfeeding, so avoid them then.

SOURCES: 6, 60 (see Sources at the back of the book)

Senna

Senna alexandrina

ALSO CALLED: Alexandrian senna, Cassia senna, Senokot (a brand)

FAMILY: Fabaceae (pea family)

PARTS USED: Leaves and pods

EVIDENCE: Occasional constipation: Strong (approved over-the-counter laxative).



Senna. Photo: Lalithamba from India, CC BY 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A small shrub 2 to 3 feet tall with leaves divided into pale green, pointed leaflets, yellow flowers, and flat, papery, brown pods. It grows in Egypt, Sudan, and India.

TRADITIONAL USES

Arab physicians in the 9th century used senna as a laxative, and it has been part of Western medicine ever since. It is the active ingredient in many drugstore laxatives.

HOW IT WORKS IN THE BODY

Senna contains sennosides, anthraquinone compounds that gut bacteria in the colon turn into an active form. This irritates the bowel lining, makes the colon contract, and draws water into the stool. It usually works in 6 to 12 hours.

WHAT THE RESEARCH SAYS

Senna is an FDA-approved over-the-counter stimulant laxative. Gastroenterology guidelines list it as an effective option for constipation.

HOW PEOPLE USE IT

Use a standardized drugstore product and follow the label exactly, usually at bedtime. Senna tea strength varies a lot, so a tablet is more predictable.

WARNINGS

Senna can cause cramps, diarrhea, and an urgent need to go. **Don't use it for more than a week without a doctor's advice.** Long-term use can upset your body's salt and potassium balance, which is dangerous with digoxin, water pills, and steroids. Never use it with belly pain of unknown cause, nausea or vomiting, a bowel blockage, appendicitis, or inflammatory bowel disease. Not for children under 2. Ask your doctor before using it in pregnancy or breastfeeding. "Dieter's teas" with senna have been linked to deaths when overused.

SOURCES: 5, 93 (see Sources at the back of the book)

Skullcap

Scutellaria lateriflora

ALSO CALLED: American skullcap, blue skullcap, mad-dog skullcap, Scutellaria lateriflora. Chinese skullcap (S. baicalensis) is a different herb.

FAMILY: Lamiaceae (mint family)

PARTS USED: Aboveground parts

EVIDENCE: Anxiety and nervous tension: Limited.



Skullcap. Photo: Public domain botanical illustration (see file page), Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A slender, square-stemmed mint 1 to 3 feet tall with toothed, lance-shaped leaves and small, two-lipped, blue flowers that all grow along one side of the stem. The base of each flower has a little bump that looks like a medieval helmet, or skullcap. It grows in wet meadows and along streams in North America.

TRADITIONAL USES

In the 1700s American skullcap was promoted as a cure for rabies (hence "mad-dog skullcap"). It didn't work for that. It became a nerve tonic among 1800s American doctors for anxiety, tension, insomnia, and seizures.

HOW IT WORKS IN THE BODY

Skullcap contains baicalin and other flavonoids that act on GABA receptors in the brain, like a very mild calming drug.

WHAT THE RESEARCH SAYS

A small 2014 crossover study found American skullcap improved mood in healthy volunteers compared with placebo. Good trials for anxiety disorders are lacking.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried herb in a cup of just-boiled water for 10 to 15 minutes, or take a tincture as labeled.

WARNINGS

Skullcap can cause drowsiness. Don't combine it with alcohol or sedatives. **Several cases of liver injury have been reported in products labeled as skullcap,** many probably due to contamination with germander (Teucrium), a liver toxin. Buy only third-party tested products. Not for pregnancy or breastfeeding.

SOURCES: 8, 94 (see Sources at the back of the book)

Slippery Elm

Ulmus rubra

ALSO CALLED: Red elm, Indian elm, moose elm, Ulmus rubra

FAMILY: Ulmaceae (elm family)

PARTS USED: Inner bark

EVIDENCE: Sore throat and cough (lozenges): Limited. Heartburn and stomach irritation: Traditional.



Slippery Elm. Photo: Wikimedia Commons uploader (see file page), Attribution. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A medium-sized tree of eastern North America with rough, sandpapery leaves and reddish-brown, deeply grooved bark. The inner bark is whitish and turns very slippery when you chew it. That's how to tell it from other elms.

TRADITIONAL USES

Native peoples and American settlers used the inner bark for sore throats, coughs, diarrhea, and stomach upset, and as a poultice on wounds, burns, and boils. During the American Revolution, surgeons used it on gunshot wounds. It was also cooked into a gruel for babies and invalids.

HOW IT WORKS IN THE BODY

The inner bark is full of mucilage, which forms a slick gel that coats and soothes the throat, esophagus, and stomach.

WHAT THE RESEARCH SAYS

Slippery elm is a familiar ingredient in throat lozenges, and its soothing effect is well accepted, but there are few modern clinical trials.

HOW PEOPLE USE IT

Stir 1 to 2 teaspoons of slippery elm powder into a cup of warm water or oatmeal, or suck on lozenges as labeled.

WARNINGS

Slippery elm is generally safe. Its gel may slow the absorption of medicines, so take medicines an hour before or several hours after. **Buy only from cultivated or sustainably harvested sources.** Stripping the bark kills the tree, and the species is under pressure from disease and overharvest. The whole bark was historically used to cause abortion, so avoid it in pregnancy.

SOURCES: 6, 60 (see Sources at the back of the book)

St. John's Wort

Hypericum perforatum

ALSO CALLED: Hypericum, Klamath weed, goatweed

FAMILY: Hypericaceae (St. John's wort family)

PARTS USED: Flowering tops

EVIDENCE: Mild to moderate depression: Moderate. Other uses: Limited. **DRUG INTERACTIONS: SERIOUS.**



St. John's Wort. Photo: Didier Descouens, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A branching perennial 1 to 3 feet tall with small oval leaves dotted with tiny see-through spots (hold one up to the light) and bright yellow, five-petaled flowers with black dots along the edges and bushy stamens. Crushed flowers stain your fingers red. It is a noxious weed in western rangelands, where it poisons livestock with sunburn.

TRADITIONAL USES

Named for St. John the Baptist because it blooms around his feast day in late June, the plant was hung over doors to keep away evil spirits. Its oil was used on wounds and burns. In modern Germany, it became one of the most prescribed treatments for depression.

HOW IT WORKS IN THE BODY

It contains hypericin and hyperforin. Hyperforin appears to slow the brain's recycling of serotonin, norepinephrine, and dopamine, a little like antidepressant drugs. It also strongly speeds up liver enzymes (especially CYP3A4) and a drug pump (P-glycoprotein) that clear many drugs from the body.

WHAT THE RESEARCH SAYS

The NCCIH reports that St. John's wort may help mild to moderate depression, performing about as well as standard antidepressants in many trials. A Cochrane review reached a similar conclusion, though results varied by country.

HOW PEOPLE USE IT

Studies used standardized extracts (often 300 mg three times a day). See a doctor before starting, and never use it to treat severe depression on your own.

WARNINGS

St. John's wort interacts with a long list of drugs and can make them fail. These include birth control pills (leading to unplanned pregnancy), warfarin, digoxin, transplant drugs such as cyclosporine (leading to organ rejection), HIV drugs, some cancer, heart, and seizure drugs, and many others. Combined with antidepressants, it can cause serotonin syndrome, a dangerous reaction. It makes skin and eyes more sensitive to sunlight. It may cause birth defects and should not be used in pregnancy, and it has caused colic and drowsiness in breastfed babies. **If you have depression, especially with thoughts of suicide, call your doctor or the 988 Suicide and Crisis Lifeline right away.**

SOURCES: 95, 96 (see Sources at the back of the book)

Tea Tree

Melaleuca alternifolia

ALSO CALLED: Melaleuca oil, ti tree oil

FAMILY: Myrtaceae (myrtle family)

PARTS USED: Oil distilled from the leaves

EVIDENCE: Acne: Limited. Athlete's foot: Limited. Nail fungus and head lice: not enough evidence.



Tea Tree. Photo: Tangopaso, Public domain. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A small tree or tall shrub from swampy coastal areas of New South Wales, Australia, with papery bark, narrow, needle-like leaves, and fluffy white flower spikes. It is not related to the tea plant.

TRADITIONAL USES

The Bundjalung people of Australia crushed the leaves and breathed them in for coughs and colds or applied them to wounds. Australian soldiers carried tea tree oil in their first aid kits in World War II.

HOW IT WORKS IN THE BODY

The oil's main active compound, terpinen-4-ol, kills many bacteria and fungi in the lab by damaging their cell membranes.

WHAT THE RESEARCH SAYS

The NCCIH reports a small amount of evidence that tea tree oil might help acne and athlete's foot, though it may not work as well as standard treatments. There isn't enough evidence for nail fungus or lice.

HOW PEOPLE USE IT

For acne, use a 5 percent tea tree gel, or mix 1 drop of oil with 19 drops of aloe gel or carrier oil and dab on spots. For athlete's foot, use a 25 to 50 percent solution, applied twice a day for a month, or a commercial cream.

WARNINGS

Never swallow tea tree oil. Even small amounts have caused confusion, loss of coordination, and coma, especially in children. Keep it locked away. On the skin it can cause redness, irritation, and allergic rashes, which get worse with old, oxidized oil. Test a small patch first. A few cases of breast growth in boys have been reported with tea tree and lavender products. Keep it away from pets, especially cats.

SOURCES: 97 (see Sources at the back of the book)

Thyme

Thymus vulgaris

ALSO CALLED: Common thyme, garden thyme, Thymus vulgaris

FAMILY: Lamiaceae (mint family)

PARTS USED: Leaves and flowering tops; oil

EVIDENCE: Cough from colds and bronchitis (in combination with ivy or primrose): Moderate.



Thyme. Photo: Isidre blanc, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, woody subshrub 6 to 12 inches tall with wiry stems, tiny gray-green leaves, and clusters of small pink to lilac flowers. It smells warm and sharp. It loves sun and dry, rocky soil.

TRADITIONAL USES

Ancient Egyptians used thyme in embalming, Romans burned it to purify rooms, and medieval knights wore it for courage. It was a classic remedy for coughs, whooping cough, sore throats, and intestinal worms. Thymol from thyme was used as an antiseptic in hospitals and is still in some mouthwashes today.

HOW IT WORKS IN THE BODY

The oil is rich in thymol and carvacrol, which kill bacteria and fungi, relax the airway muscles, and help loosen mucus.

WHAT THE RESEARCH SAYS

A 2006 German trial of 361 people with acute bronchitis found a syrup of thyme and ivy leaf reduced coughing fits faster than placebo. Thyme is approved by the European Medicines Agency and Commission E for coughs from colds and bronchitis.

HOW PEOPLE USE IT

Steep 1 to 2 teaspoons of dried thyme in a cup of just-boiled water, covered, for 10 minutes. Sweeten with honey and drink up to three times a day. Thyme makes a good steam for congestion.

WARNINGS

Thyme is safe as food and tea. People allergic to oregano or other mints may react. **The essential oil is toxic if swallowed** and irritating to skin. Avoid medicinal amounts in pregnancy. A cough lasting more than 3 weeks, or with fever, chest pain, bloody mucus, or trouble breathing, needs a doctor.

SOURCES: 5, 18, 98 (see Sources at the back of the book)

Turmeric

Curcuma longa

ALSO CALLED: Curcumin (its main active compound), Indian saffron, haldi, Curcuma longa

FAMILY: Zingiberaceae (ginger family)

PARTS USED: Underground stem (rhizome)

EVIDENCE: Knee osteoarthritis pain: Limited to Moderate. Fatty liver and other conditions: Limited.



Turmeric. Photo: Thamizhpparithi Maari, CC BY-SA 3.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tropical relative of ginger 3 feet tall with large, long, lily-like leaves. The knobby rhizome is bright orange inside. It is native to South Asia.

TRADITIONAL USES

Turmeric is the yellow in curry and mustard. It has been used in Ayurveda for 4,000 years for arthritis, wounds, digestion, liver problems, and skin, and is part of Hindu weddings and ceremonies.

HOW IT WORKS IN THE BODY

Curcumin blocks several inflammation pathways (including NF-kappa B and COX-2) in the lab. But the body absorbs very little curcumin and gets rid of it quickly. Black pepper (piperine) and fats raise absorption a great deal.

WHAT THE RESEARCH SAYS

The NCCIH reports initial evidence is positive for knee osteoarthritis pain and function. Early research suggests possible help for fatty liver disease and mouth sores from cancer treatment. There isn't enough evidence for other uses.

HOW PEOPLE USE IT

Cook with it, ideally with a pinch of black pepper and some oil. For knee pain, many studies used curcumin extracts of 500 to 1,000 mg a day. Follow the label.

WARNINGS

Turmeric in food is safe. Supplements can cause nausea, reflux, and diarrhea and are likely safe for 2 to 3 months. **High-absorption curcumin products, especially those with black pepper extract, have been linked to liver injury.** Stop and see a doctor if you notice yellow skin or eyes, dark urine, or belly pain. Turmeric may increase bleeding with blood thinners, lower blood sugar with diabetes drugs, and worsen gallstones. Avoid supplements in pregnancy. Some imported turmeric powders have been found to contain lead.

SOURCES: 8, 99 (see Sources at the back of the book)

Uva Ursi (Bearberry)

Arctostaphylos uva-ursi

ALSO CALLED: Bearberry, kinnikinnick, Arctostaphylos

FAMILY: Ericaceae (heath family)

PARTS USED: Leaves

EVIDENCE: Mild bladder infection symptoms (short-term only): Limited.



Uva Ursi (Bearberry). Photo: Matt Lavin from Bozeman, Montana, USA, CC BY-SA 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low, trailing evergreen shrub that forms mats on dry, rocky or sandy ground, with small, shiny, leathery, spoon-shaped leaves, little pink or white bell flowers, and bright red berries that bears eat. It grows in mountains across North America, including the Sierra Nevada and Great Basin ranges.

TRADITIONAL USES

Native peoples smoked the dried leaves in kinnikinnick mixtures and used them for urinary problems. It was a standard bladder remedy in European and American medicine before antibiotics.

HOW IT WORKS IN THE BODY

The leaves contain arbutin, which is turned into hydroquinone in the body and excreted in urine, where it can kill bacteria, especially when the urine is not acidic. The leaves are also very high in tannins.

WHAT THE RESEARCH SAYS

The European Medicines Agency recognizes uva ursi for mild bladder infection symptoms for no more than one week, once a doctor has ruled out serious disease. Modern clinical trials are few, and a 2019 British trial found it did not reduce antibiotic use for bladder infections in women.

HOW PEOPLE USE IT

Use only as directed on a European-style product, for no more than a week, and no more than five times a year.

WARNINGS

Uva ursi is for short-term use only. Hydroquinone may damage the liver and may cause cancer with long use. It can cause nausea and stomach upset. Do not use it if you are pregnant or breastfeeding, if you have kidney disease, or for children under 12. Urine may turn greenish-brown. **A bladder infection with fever, back pain, or blood in the urine needs a doctor,** as do UTIs in men, children, and pregnant women.

SOURCES: 18, 100 (see Sources at the back of the book)

Valerian

Valeriana officinalis

ALSO CALLED: All-heal, garden heliotrope, Valeriana

FAMILY: Caprifoliaceae (honeysuckle family)

PARTS USED: Root

EVIDENCE: Sleep: Limited (inconsistent; sleep doctors recommend against it for chronic insomnia).



Valerian. Photo: Ivar Leidus, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall perennial 3 to 5 feet with leaves divided into many lance-shaped leaflets and flat, rounded clusters of tiny, sweet-smelling white or pink flowers. The dried roots, by contrast, smell like old socks. Cats are drawn to it.

TRADITIONAL USES

Valerian has been used for sleep and nerves since ancient Greece and Rome. During both World Wars, it was given in Britain for "shell shock" and air-raid nerves.

HOW IT WORKS IN THE BODY

Valerian contains valerenic acid and other compounds that may increase GABA activity in the brain, the same system that sleeping pills act on, but much more weakly.

WHAT THE RESEARCH SAYS

The NCCIH says evidence on valerian for sleep is inconsistent, and the American Academy of Sleep Medicine recommends against using it for chronic insomnia. Small studies suggest possible help for menopause symptoms. There isn't enough evidence for anxiety or depression.

HOW PEOPLE USE IT

Studies used 300 to 600 mg of root extract taken 30 minutes to 2 hours before bed. Some people make tea from 1 teaspoon of dried root steeped for 10 to 15 minutes, though many find the smell hard to take.

WARNINGS

Valerian is probably safe short term, up to about 6 weeks. Side effects include headache, stomach upset, dizziness, and vivid dreams. Stopping suddenly after long use may cause withdrawal-like symptoms. Rare cases of liver injury have been reported, mostly with combination products. **Don't combine it with alcohol, sleeping pills, or other sedatives,** and don't drive if you feel drowsy. Safety in pregnancy and breastfeeding is unknown.

SOURCES: 101 (see Sources at the back of the book)

Violet

Viola odorata

ALSO CALLED: Sweet violet, English violet, Viola odorata. Many wild violets grow in North America.

FAMILY: Violaceae (violet family)

PARTS USED: Leaves and flowers

EVIDENCE: Cough and skin irritation: Traditional.



Violet. Photo: Fritz Geller-Grimm, CC BY-SA 2.5. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A low perennial 4 to 6 inches tall with heart-shaped, scalloped leaves on long stems and five-petaled, sweet-smelling purple or white flowers with a short spur in back. It spreads by runners in lawns and shady gardens.

TRADITIONAL USES

Violets were used in ancient Greece for headaches and sleep and in European folk medicine for coughs, sore throats, and skin conditions. The flowers are candied and made into syrup.

HOW IT WORKS IN THE BODY

The leaves and flowers contain mucilage, which soothes, and saponins and salicylate compounds, which may loosen mucus and ease pain a little. The leaves are rich in vitamins A and C.

WHAT THE RESEARCH SAYS

There are almost no clinical studies. Its uses rest on tradition.

HOW PEOPLE USE IT

Add young leaves and flowers to salads. For a soothing tea, steep 1 to 2 teaspoons of dried leaves and flowers in a cup of just-boiled water for 10 minutes.

WARNINGS

Violet leaves and flowers are generally safe as food. Large amounts, and especially the roots and seeds, can cause vomiting. Don't confuse violets with African violets, which aren't true violets, or with other look-alike plants. If you're allergic to aspirin, be cautious with medicinal amounts.

SOURCES: 14, 60 (see Sources at the back of the book)

Willow Bark

Salix alba

ALSO CALLED: Willow bark, Salix. Many willows (Salix species) grow along Nevada's rivers and creeks.

FAMILY: Salicaceae (willow family)

PARTS USED: Bark

EVIDENCE: Low back pain: Limited to Moderate. Osteoarthritis pain: Limited.



Willow Bark. Photo: Burkhard Mücke, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A tall tree or shrub with long, narrow, finely toothed leaves that are silvery underneath and fuzzy flower spikes (catkins) in spring. Native willows line the Carson River and nearly every creek in the Great Basin.

TRADITIONAL USES

Willow bark was used for pain and fever by the ancient Egyptians, Greeks (Hippocrates mentions it), and Native peoples across North America. In 1763 an English minister, Edward Stone, reported to the Royal Society that willow bark cured fevers. Chemists later isolated salicin from it, the starting point for aspirin.

HOW IT WORKS IN THE BODY

The bark contains salicin, which the body turns into salicylic acid, which blocks the COX enzymes that make pain and inflammation chemicals. It works more slowly and gently than aspirin and doesn't seem to thin the blood as strongly.

WHAT THE RESEARCH SAYS

A Cochrane review of herbal medicines for low back pain found evidence that willow bark extract providing 120 to 240 mg of salicin a day reduced back pain in the short term. Evidence for arthritis is weaker. The European Medicines Agency recognizes it for low back pain in adults.

HOW PEOPLE USE IT

Take a standardized extract as labeled. Traditional tea: simmer 1 to 2 teaspoons of dried bark in a cup of water for 10 to 15 minutes. It's very bitter.

WARNINGS

Don't use willow bark if you are allergic to aspirin, have asthma, stomach ulcers, bleeding problems, or kidney disease. **Never give it to children or teenagers,** because of the risk of Reye's syndrome. Avoid combining it with aspirin, other pain relievers such as ibuprofen, or blood thinners, and stop it before surgery. Not for pregnancy or breastfeeding.

SOURCES: 18, 33 (see Sources at the back of the book)

Witch Hazel

Hamamelis virginiana

ALSO CALLED: Hamamelis water, winterbloom

FAMILY: Hamamelidaceae (witch hazel family)

PARTS USED: Leaves, bark, and twigs, usually as distilled witch hazel water

EVIDENCE: Hemorrhoids, minor skin irritation, bruises: Moderate (approved over-the-counter astringent).



Witch Hazel. Photo: Homer Edward Price, CC BY 2.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A shrub or small tree 10 to 20 feet tall with wavy-edged, oval leaves and odd, spidery yellow flowers with ribbon-like petals that bloom in fall or winter after the leaves drop. Its seed pods shoot seeds up to 30 feet. It grows in eastern North American woods.

TRADITIONAL USES

Native peoples, including the Haudenosaunee (Iroquois), used it on swellings, wounds, and sore muscles. American settlers learned it from them, and by the 1840s "Pond's Extract" of witch hazel was a household staple.

HOW IT WORKS IN THE BODY

Witch hazel contains tannins (hamamelitannin) and gallic acid, which tighten skin and tissues, reduce swelling and oozing, and calm itching and inflammation. Most drugstore witch hazel water is distilled and contains only a little of the tannin, plus alcohol.

WHAT THE RESEARCH SAYS

Witch hazel is an FDA-approved over-the-counter astringent for minor skin irritation and for hemorrhoids, where it is a common ingredient in medicated pads. Commission E approved it for minor skin injuries, inflammation, and hemorrhoids.

HOW PEOPLE USE IT

Dab witch hazel water on itchy bug bites, razor burn, or minor scrapes with a cotton ball. For hemorrhoids, use medicated witch hazel pads after each bowel movement.

WARNINGS

Witch hazel is safe on the skin for most people, though it can sting and dry the skin, and a few people get allergic rashes. **Don't drink it.** Swallowing it can cause stomach upset and, in large amounts, liver damage. Rectal bleeding should always be checked by a doctor.

SOURCES: 5, 102 (see Sources at the back of the book)

Yarrow

Achillea millefolium

ALSO CALLED: Milfoil, soldier's woundwort, nosebleed plant, Achillea millefolium

FAMILY: Asteraceae (daisy family)

PARTS USED: Flowering tops

EVIDENCE: Minor bleeding and wounds: Traditional. Indigestion and cramps: Traditional (accepted by the European Medicines Agency).



Yarrow. Photo: AnRo0002, CC0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A perennial 1 to 3 feet tall with soft, feathery, fern-like leaves cut into hundreds of tiny segments (millefolium means "thousand leaves") and flat-topped clusters of small white (sometimes pink) flowers. It smells sharp and herby. Native yarrow grows on dry slopes, meadows, and roadsides throughout the Great Basin.

TRADITIONAL USES

Legend says the Greek hero Achilles used yarrow to stop his soldiers' wounds from bleeding, which gave it its scientific name. Soldiers used it on battlefields into the 1800s. Native peoples of the West, including the Paiute and Shoshone, used it for wounds, colds, fevers, and toothaches.

HOW IT WORKS IN THE BODY

Yarrow contains achilleine, which in animal studies helps blood clot, plus tannins that tighten tissue, flavonoids that relax smooth muscle, and an oil with chamazulene, which calms inflammation.

WHAT THE RESEARCH SAYS

Human trials are few. The European Medicines Agency recognizes yarrow as a traditional remedy for minor cramps, indigestion, loss of appetite, and on the skin for small wounds.

HOW PEOPLE USE IT

For a small cut or nosebleed in the field, crush clean fresh leaves and press them on the spot. For tea, steep 1 to 2 teaspoons of dried flowering tops in a cup of just-boiled water for 10 minutes.

WARNINGS

Yarrow can cause allergic rashes, especially in people allergic to ragweed or daisies, and can make skin more sensitive to sun. **Avoid it in pregnancy,** as it may stimulate the uterus. It may interact with blood thinners and sedatives. **Learn yarrow well before you pick it:** poison hemlock and water hemlock also have white, flat-topped flower clusters, but their leaves are not feathery and finely divided like yarrow's, and they have no yarrow smell. A deep cut or bleeding that won't stop needs real first aid and medical care.

SOURCES: 18, 60 (see Sources at the back of the book)

Yellow Dock

Rumex crispus

ALSO CALLED: Curly dock, sour dock, Rumex crispus

FAMILY: Polygonaceae (buckwheat family)

PARTS USED: Root; young leaves as a cooked green

EVIDENCE: Constipation and skin problems: Traditional.



Yellow Dock. Photo: Didier Descouens, CC BY-SA 4.0. See Photo Credits.

WHAT IT LOOKS LIKE AND WHERE IT GROWS

A perennial 2 to 4 feet tall with long, lance-shaped leaves with very wavy, curly edges, and tall stalks of greenish flowers that turn into dense clusters of rusty-brown, three-winged seeds in late summer. The long taproot is yellow inside. It grows in damp, disturbed ground and pastures across the West.

TRADITIONAL USES

Herbalists used yellow dock root as a "blood cleanser" for skin problems, as a mild laxative, and to help with iron-poor blood. The young leaves are eaten as a wild green, and the rubbed leaves are a folk remedy for nettle stings.

HOW IT WORKS IN THE BODY

The root contains anthraquinones, which act as a mild stimulant laxative, and tannins. The leaves are high in oxalic acid, which gives the sour taste.

WHAT THE RESEARCH SAYS

There are no clinical trials.

HOW PEOPLE USE IT

Cook young leaves in two changes of water to reduce the oxalate. Herbalists simmer 1 teaspoon of dried root in a cup of water for 10 to 15 minutes.

WARNINGS

The leaves are high in oxalates. Large amounts of raw leaves have caused serious poisoning and even death from oxalate buildup, especially in livestock. People with kidney stones, kidney disease, or gout should avoid it. As a laxative, it can cause cramps and diarrhea and lower potassium. Avoid it in pregnancy and breastfeeding.

SOURCES: 6, 25 (see Sources at the back of the book)

PART THREE

Dangerous Plants and Deadly Look-Alikes

Know these before you pick anything wild

Before You Pick Anything Wild

Every year people in North America are poisoned by plants they believed were food or medicine. Most of them were not careless. They had a field guide, they had picked wild plants before, and they were wrong about one plant. The fourteen plants in this part are the ones most likely to kill or badly hurt you, or that are most often confused with plants in this book.

Learn them before you learn anything else. Many of them grow in Nevada and across the West: poison hemlock and water hemlock along ditches and rivers, death camas in the same sagebrush flats as wild onions, monkshood and corn lily in mountain meadows, and jimsonweed and sacred datura along roads and washes.

IF SOMEONE MAY HAVE EATEN A POISONOUS PLANT

Call **911** if the person is having trouble breathing, having a seizure, or is hard to wake up. Otherwise call **Poison Help at 1-800-222-1222** right away, even if they feel fine. Many plant poisons take hours to show symptoms. Do not make the person vomit unless Poison Help tells you to. Bring a piece of the plant, or a clear photo of it, to the hospital.

Poison Hemlock

Conium maculatum



Poison Hemlock. Photo: MPF, CC BY-SA 3.0. See Photo Credits.

HOW TO RECOGNIZE IT

A tall biennial 3 to 8 feet with smooth, hollow, hairless stems covered with **purple or reddish blotches**, leaves divided again and again into fern-like, lacy segments, and many small umbrella-shaped clusters of tiny white flowers. The crushed plant smells musty, like mice. It grows along ditches, creeks, roadsides, and field edges across the West, including Nevada.

WHY IT IS DANGEROUS

Every part is poisonous, especially the seeds and roots. Its alkaloids, mainly coniine, paralyze the nerves to the muscles, including the breathing muscles. It killed the philosopher Socrates in 399 B.C. Children have been poisoned using the hollow stems as whistles or peashooters.

OFTEN MISTAKEN FOR

Wild carrot (Queen Anne's lace), which has a hairy stem without purple blotches; fennel, which smells like licorice; parsley, chervil, and anise; and yarrow, which has feathery leaves. Its roots have been mistaken for wild parsnip.

SIGNS OF POISONING

Within 30 minutes to a few hours: burning mouth, drooling, trembling, dilated pupils, slow then fast heart rate, muscle weakness, and paralysis that can stop breathing.

WHAT TO DO

Call 911 or Poison Help (1-800-222-1222) immediately. People can survive with breathing support in a hospital.

Water Hemlock

Cicuta douglasii



Water Hemlock. Photo: Wikimedia Commons uploader (see file page), Public domain. See Photo Credits.

HOW TO RECOGNIZE IT

A stout perennial 2 to 6 feet tall that grows with its feet wet: along streams, ditches, marshes, and wet meadows. It has smooth stems (sometimes purple-streaked), leaves divided into toothed, lance-shaped leaflets whose side veins run to the **notches** between the teeth rather than to the tips, and umbrella-shaped clusters of white flowers. The base of the stem and the root, when cut lengthwise, show **chambers** separated by cross walls and ooze a yellowish, oily liquid that smells like raw parsnip.

WHY IT IS DANGEROUS

Water hemlock is often called the most poisonous plant in North America. Its cicutoxin causes violent seizures. A single bite of the root can kill an adult, and it has killed people who mistook it for wild parsnip or wild carrot. Western water hemlock (Cicuta douglasii) grows along the Carson River and other Nevada waterways.

OFTEN MISTAKEN FOR

Wild parsnip, wild carrot, water parsnip, angelica, elderberry (the flowers), and cow parsnip.

SIGNS OF POISONING

Within 15 minutes to an hour: drooling, vomiting, belly pain, then violent, repeated seizures, a racing heart, and loss of consciousness. Death can follow within hours.

WHAT TO DO

Call 911 immediately. Do not wait for symptoms.

Foxglove

Digitalis purpurea



Foxglove. Photo: René Hourdry, CC BY-SA 4.0. See Photo Credits.

HOW TO RECOGNIZE IT

A biennial 2 to 5 feet tall. In the first year it forms a rosette of large, soft, wrinkled, fuzzy, gray-green leaves with slightly toothed edges. In the second year it sends up a tall spike of drooping, tube-shaped purple, pink, or white flowers, spotted inside. It is a common garden plant and has gone wild in the Pacific Northwest and Northern California.

WHY IT IS DANGEROUS

Foxglove contains digitoxin and related heart glycosides, the source of the heart drug digoxin. Small amounts can throw the heart into deadly irregular rhythms.

OFTEN MISTAKEN FOR

First-year leaves have been mistaken for comfrey, mullein, and borage leaves, and the tea for "herbal tea." Several people have died from comfrey tea that was actually foxglove.

SIGNS OF POISONING

Nausea, vomiting, diarrhea, confusion, blurred or yellow-tinted vision, a very slow or irregular heartbeat, and cardiac arrest.

WHAT TO DO

Call 911 or Poison Help immediately. Hospitals have an antidote (digoxin immune fab).

Lily of the Valley

Convallaria majalis



Lily of the Valley. Photo: Ivar Leidus, CC BY-SA 4.0. See Photo Credits.

HOW TO RECOGNIZE IT

A low woodland plant 6 to 12 inches tall with two or three broad, smooth, lance-shaped leaves and a short stalk of small, nodding, bell-shaped, very fragrant white flowers, followed by red berries. It spreads in shady gardens.

WHY IT IS DANGEROUS

Like foxglove, it contains heart glycosides (convallatoxin) that can cause fatal heart rhythms. Even the water from a vase of cut flowers can be toxic.

OFTEN MISTAKEN FOR

The leaves have been mistaken for wild garlic (ramps or ramsons), which smells like garlic; lily of the valley does not.

SIGNS OF POISONING

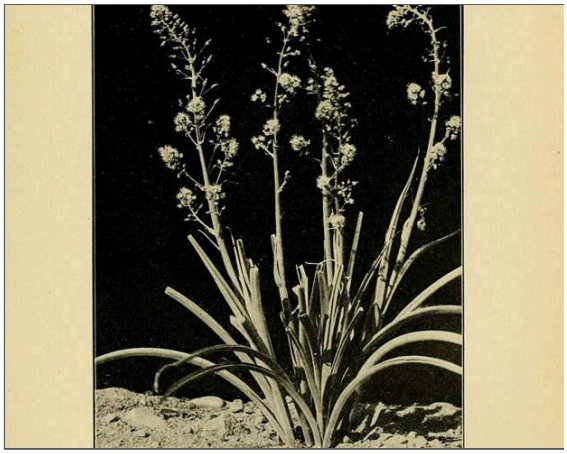
Nausea, vomiting, belly pain, confusion, and a slow or irregular heartbeat.

WHAT TO DO

Call Poison Help or 911 immediately.

Death Camas

Toxicoscordion venenosum



Death Camas. Photo: Pammel, L. H., Public domain. See Photo Credits.

HOW TO RECOGNIZE IT

A grass-like plant 1 to 2 feet tall growing from an onion-like bulb, with long, narrow, V-shaped leaves and a spike of small, creamy-white to pale yellow, six-petaled star-shaped flowers. It grows in sagebrush flats, meadows, and foothills throughout the Great Basin, often side by side with wild onions and blue camas.

WHY IT IS DANGEROUS

Death camas contains zygacine and other alkaloids that slow the heart and drop blood pressure. It has killed many sheep and some people, including pioneers who mistook it for edible camas or wild onion.

OFTEN MISTAKEN FOR

Wild onions (which always smell like onion; death camas does not), and blue camas, a traditional food that has blue flowers but looks almost identical when not in bloom.

SIGNS OF POISONING

Burning mouth, heavy drooling, vomiting, a slow heartbeat, low blood pressure, weakness, confusion, and coma.

WHAT TO DO

Call Poison Help or 911. **Rule: if it doesn't smell like onion, it isn't one.**

Jimsonweed

Datura stramonium



Jimsonweed. Photo: Chbaraka, CC BY-SA 4.0. See Photo Credits.

HOW TO RECOGNIZE IT

A coarse, bad-smelling annual 2 to 5 feet tall with large, jagged-toothed leaves, big white or lavender trumpet-shaped flowers 3 to 4 inches long, and walnut-sized, spiny seed pods full of black seeds. Sacred datura (Datura wrightii), with even larger white flowers that open at night, grows along washes and roads in Nevada.

WHY IT IS DANGEROUS

All parts contain atropine, scopolamine, and hyoscyamine, which block the nervous system signals that control the heart, gut, eyes, and brain. Teenagers have died after eating seeds or drinking tea to get high. The name comes from Jamestown, Virginia, where British soldiers ate it in 1676 and went mad for days.

OFTEN MISTAKEN FOR

The seeds have been mixed into grain and the leaves into salads and herbal teas by mistake.

SIGNS OF POISONING

The old medical saying: "red as a beet, dry as a bone, blind as a bat, mad as a hatter, hot as a hare." Flushed, hot, dry skin, wide pupils and blurred vision, a racing heart, hallucinations, seizures, and coma.

WHAT TO DO

Call 911 or Poison Help immediately.

Pokeweed

Phytolacca americana

HOW TO RECOGNIZE IT

A large, bushy perennial 4 to 10 feet tall with thick, smooth, magenta-red stems, big oval leaves, and long, drooping clusters of shiny, dark purple berries that stain everything. It grows in disturbed ground in the eastern and southern United States and has spread into parts of the West.



Pokeweed. Photo: Didier Descouens, CC BY-SA 4.0. See Photo Credits.

WHY IT IS DANGEROUS

The root, seeds, and mature leaves and stems are poisonous. Berries are toxic too, especially to children. Pokeweed contains saponins (phytolaccatoxin) that cause severe stomach and gut irritation and a lectin that affects blood cells.

OFTEN MISTAKEN FOR

Young poke shoots are a traditional Southern food ("poke sallet") only after boiling in several changes of water. People have been poisoned by eating them raw, picking them too old, or mistaking the root for parsnip or horseradish.

SIGNS OF POISONING

Burning mouth, severe vomiting and diarrhea, often bloody, cramps, low blood pressure, and rarely seizures or death.

WHAT TO DO

Call Poison Help. Severe vomiting and diarrhea need emergency care.

Monkshood

Aconitum napellus

HOW TO RECOGNIZE IT

A perennial 2 to 4 feet tall with deeply cut, hand-shaped leaves and spikes of deep blue-purple flowers, each with a hood on top like a monk's cowl. Western monkshood (Aconitum columbianum) grows in wet mountain meadows of the Sierra Nevada and other Nevada ranges.



Monkshood. Photo: Bernd Haynold, CC BY-SA 2.5. See Photo Credits.

WHY IT IS DANGEROUS

Monkshood (aconite, wolf's bane) contains aconitine, one of the deadliest plant poisons. It can be absorbed through the skin. A few grams of root can kill. In Asian medicine, processed aconite root is used, and poorly processed root has caused deaths.

OFTEN MISTAKEN FOR

The roots have been mistaken for horseradish, and the leaves for wild parsley and other greens. Don't handle it with bare hands.

SIGNS OF POISONING

Within minutes: tingling and numbness of the mouth and face that spreads, vomiting, weakness, and deadly heart rhythms.

WHAT TO DO

Call 911 immediately. There is no antidote; hospitals give heart support.

Pennyroyal

Mentha pulegium



Pennyroyal. Photo: Raffi Kojian, CC BY-SA 3.0. See Photo Credits.

HOW TO RECOGNIZE IT

A low, creeping mint with small, oval, gray-green leaves and rings of lilac flowers. It smells very strongly of spearmint. American pennyroyal (Hedeoma pulegioides) is a related plant with the same dangers.

WHY IT IS DANGEROUS

Pennyroyal oil contains pulegone, which destroys the liver. It was used for centuries to cause abortions, and women have died from drinking the oil or strong tea. Infants have died after being given pennyroyal tea for colic.

OFTEN MISTAKEN FOR

Sold as a "natural" flea repellent and in some herbal teas.

SIGNS OF POISONING

Vomiting, belly pain, then liver failure, kidney failure, bleeding, seizures, and death, often 1 to 3 days after taking it.

WHAT TO DO

Call Poison Help or 911 immediately, even if the person feels fine. An antidote (acetylcysteine) may help if given early.

Oleander

Nerium oleander

HOW TO RECOGNIZE IT

An evergreen shrub 6 to 20 feet tall with long, narrow, leathery leaves in groups of three and clusters of showy pink, red, white, or yellow flowers. It is planted everywhere in Las Vegas, southern California, and other warm places along freeways and in yards.



Oleander. Photo: Kolforn (Wikimedia), CC BY-SA 4.0. See Photo Credits.

WHY IT IS DANGEROUS

Every part contains oleandrin, a heart poison. Burning the branches releases it into smoke. People have been poisoned by eating leaves, drinking tea, using the stems as skewers for hot dogs, or eating products labeled as herbal remedies (see hawthorn).

OFTEN MISTAKEN FOR

Yellow oleander seeds have been found in products sold as tejocote root for weight loss.

SIGNS OF POISONING

Nausea, vomiting, diarrhea, dizziness, a slow or irregular heartbeat, and cardiac arrest.

WHAT TO DO

Call Poison Help or 911 immediately.

Castor Bean

Ricinus communis



Castor Bean. Photo: Davidbena, CC BY-SA 4.0. See Photo Credits.

HOW TO RECOGNIZE IT

A fast-growing, tree-like annual 6 to 15 feet tall with huge, glossy, star-shaped leaves, often reddish-purple, and spiny seed pods holding shiny, mottled brown seeds that look like a bloated tick. It is planted as an ornamental and grows wild in parts of California and the Southwest.

WHY IT IS DANGEROUS

The seeds contain ricin, one of the most toxic natural substances known. Chewing just a few seeds can kill a child. Castor oil itself, which is used as a laxative, is made by a process that leaves the ricin behind, so the oil is safe and the seeds are not.

OFTEN MISTAKEN FOR

The beautiful seeds have been strung into jewelry and eaten by children.

SIGNS OF POISONING

Hours to a day after chewing seeds: vomiting, bloody diarrhea, severe dehydration, and failure of the liver, kidneys, and other organs.

WHAT TO DO

Call Poison Help or 911 immediately.

Deadly Nightshade

Atropa belladonna



Deadly Nightshade. Photo: GT1976, CC BY-SA 4.0. See Photo Credits.

HOW TO RECOGNIZE IT

A bushy perennial 3 to 5 feet tall with large, soft, oval leaves, dull purple bell-shaped flowers, and shiny black berries the size of cherries sitting in a green star-shaped cup. It is native to Europe and rarely grows wild in North America, but bittersweet nightshade (Solanum dulcamara) and black nightshade (Solanum nigrum) are common weeds.

WHY IT IS DANGEROUS

Deadly nightshade (belladonna) contains atropine and scopolamine. The berries are sweet, which is especially dangerous for children. A few berries can kill a child.

OFTEN MISTAKEN FOR

The berries have been mistaken for blueberries or bilberries, and the root has contaminated burdock root.

SIGNS OF POISONING

The same as jimsonweed: hot, dry, flushed skin, wide pupils, a racing heart, confusion, hallucinations, and seizures.

WHAT TO DO

Call 911 or Poison Help immediately.

Poison Ivy

Toxicodendron radicans



Poison Ivy. Photo: Bob Peterson from North Palm Beach, Florida, Planet Earth!, CC BY-SA 2.0. See Photo Credits.

HOW TO RECOGNIZE IT

"Leaves of three, let it be." A vine or shrub with three shiny or dull leaflets; the middle leaflet has a longer stalk. Leaflet edges may be smooth, toothed, or lobed. It has clusters of small, white berries in fall. Western poison oak (Toxicodendron diversilobum) and western poison ivy (Toxicodendron rydbergii) grow in canyons, along streams, and in foothill brush in Nevada and California.

WHY IT IS DANGEROUS

The oil, urushiol, causes an itchy, blistering rash in most people. It sticks to clothing, tools, and pets for months. **Smoke from burning poison ivy or poison oak can cause severe lung reactions.**

OFTEN MISTAKEN FOR

Box elder seedlings, raspberry and blackberry canes (which have thorns), and Virginia creeper (five leaflets) are often confused with it.

SIGNS OF POISONING

Redness and itching within hours to two days, then streaks of blisters where the plant touched.

WHAT TO DO

Wash the skin with soap and cool water as soon as possible, ideally within 30 minutes. Wash clothes and tools. See a doctor for a rash on the face, eyes, or genitals, one that covers a large area, or any trouble breathing. See the Natural Remedies book for home care.

False Hellebore (Corn Lily)

Veratrum californicum



False Hellebore (Corn Lily). Photo: Dcrjsr, CC BY-SA 3.0. See Photo Credits.

HOW TO RECOGNIZE IT

A tall, leafy perennial 3 to 6 feet tall with large, broad, pleated, corn-like leaves wrapped around a thick stem, and a big branched plume of small greenish-white flowers on top. It forms dense patches in wet mountain meadows of the Sierra Nevada and Great Basin ranges, where people call it corn lily.

WHY IT IS DANGEROUS

Corn lily contains alkaloids (veratridine and others) that cause severe vomiting, a very slow heartbeat, and dangerously low blood pressure. It also contains cyclopamine, which causes severe birth defects in sheep whose mothers eat it early in pregnancy.

OFTEN MISTAKEN FOR

The young shoots have been mistaken for wild leeks or ramps, and the plant for skunk cabbage and gentian. Foragers have been poisoned after making "wild gentian" root drinks that were actually false hellebore.

SIGNS OF POISONING

Burning mouth, vomiting, a slow heartbeat, low blood pressure, and fainting within a few hours.

WHAT TO DO

Call Poison Help or 911.

PART FOUR

Quick Reference

Tables, glossary, sources, and photo credits

Herbs by Body System

This table points you to the herbs in Part Two most often used for each area of the body. It is a finding aid, not a list of recommendations. Read the full entry, and its warnings, before using any of them. The rating shown is the best rating that herb earned for that use.

Body system or problem	Herbs (best evidence rating for that use)
Anxiety, stress, and nerves	Kava (Limited to Moderate, liver risk), lavender oil capsules (Limited to Moderate), ashwagandha (Limited to Moderate), chamomile (Limited), passionflower (Limited), lemon balm (Limited), skullcap (Limited), holy basil (Limited), rhodiola (Limited), motherwort (Traditional)
Sleep	Ashwagandha (Limited to Moderate), valerian (Limited), hops with valerian (Limited), passionflower (Limited), lemon balm (Limited), chamomile (Limited), linden (Traditional), catnip (Traditional)
Mild depression	St. John's wort (Moderate, serious drug interactions)
Headache and migraine	Butterbur (Moderate, liver risk), feverfew (Limited), peppermint oil on the temples (Limited)
Colds, flu, and sore throat	Echinacea (Limited), elderberry (Limited), American ginseng (Limited), garlic (Limited), licorice gargle (Limited), marshmallow (Limited), slippery elm (Limited), sage gargle (Limited), linden (Traditional), yarrow (Traditional)
Cough and chest congestion	Thyme (Moderate), eucalyptus (Limited to Moderate), ribwort plantain (Limited), marshmallow (Limited), mullein (Traditional), elecampane (Traditional), pine (Traditional), sagebrush steam (Traditional)
Hay fever and allergies	Butterbur leaf (Limited), nettle leaf (Limited), black seed (Limited)
Heart, blood pressure, and cholesterol	Oats (Strong for cholesterol), psyllium (Strong for cholesterol), garlic (Limited to Moderate), hibiscus (Limited to Moderate), flaxseed (Limited), green tea (Limited), black seed (Limited), red clover (Limited), hawthorn (Limited, see a doctor first)
Blood sugar	Fenugreek (Limited), prickly pear pads (Limited), aloe by mouth (Limited), cinnamon (Limited), holy basil (Limited), black seed (Limited), milk thistle (Limited), moringa (Limited), American ginseng (Limited). Never replace diabetes medicine with herbs.
Indigestion, gas, and bloating	Peppermint (for IBS, Moderate to Strong), fennel (Limited), ginger (Limited), chamomile (Traditional), juniper (Traditional), yarrow (Traditional), dandelion (Traditional)
Nausea	Ginger (Moderate for pregnancy nausea), peppermint (Limited)
Constipation	Psyllium (Strong), senna (Strong), flaxseed (Moderate), cascara (Moderate, safer choices exist), yellow dock (Traditional)
Liver	Milk thistle (Limited, conflicting), dandelion (Traditional), schisandra (Limited)
Bladder and urinary	Cranberry (Moderate, prevention only), uva ursi (Limited, short-term only), horsetail (Limited), nettle root for prostate (Limited), saw palmetto (probably not helpful), juniper (Traditional)
Women's health	Black cohosh for hot flashes (Limited to Moderate), chasteberry for PMS (Limited to Moderate), ginger for cramps (Limited), sage for hot flashes (Limited), red clover (Limited), dong quai (Traditional), raspberry leaf (Limited, ask your midwife)

Body system or problem	Herbs (best evidence rating for that use)
Joint and muscle pain	Capsaicin cream (Moderate to Strong), comfrey cream (Moderate), devil's claw (Limited to Moderate), white willow (Limited to Moderate), boswellia (Limited to Moderate), turmeric (Limited to Moderate), arnica gel (Limited), ginger (Limited), rose hips (Limited), nettle (Limited)
Skin, burns, and wounds	Colloidal oatmeal (Strong), witch hazel (Moderate), aloe gel (Limited), calendula (Limited), tea tree oil for acne and athlete's foot (Limited), gotu kola (Limited), plantain (Traditional), chickweed (Traditional), yarrow (Traditional), self-heal (Traditional)
Leg veins and circulation	Horse chestnut seed extract (Moderate), gotu kola (Limited)
Mouth and teeth	Clove oil for toothache (Limited to Moderate), licorice rinse for canker sores (Limited), chamomile mouthwash (Limited), sage gargle (Limited)
Memory and thinking	Asian ginseng (Limited), sage (Limited), rosemary aroma (Limited), ginkgo (not shown to work)

Herb and Drug Interaction Chart

These are the most important interactions for the herbs in this book. It is not a complete list. **Always ask your pharmacist** before adding an herb if you take any prescription drug.

If you take...	Be careful with...	Why
Blood thinners (warfarin, apixaban, rivaroxaban, clopidogrel) or daily aspirin	Garlic, ginkgo, ginger (large amounts), feverfew, dong quai, devil's claw, cat's claw, turmeric, flaxseed, willow bark, meadowsweet, bromelain, red clover, St. John's wort, green tea (vitamin K), nettle (vitamin K)	More bleeding, or blood thinner works less well
Birth control pills, patches, or rings	St. John's wort (and possibly chamomile)	The birth control can fail
Transplant and immune drugs (cyclosporine, tacrolimus)	St. John's wort, schisandra, echinacea, astragalus, ashwagandha, cat's claw	Drug levels go down or up; organ rejection
Antidepressants (SSRIs, SNRIs, MAOIs, tricyclics)	St. John's wort, Mormon tea and other ephedras, rhodiola	Serotonin syndrome, blood pressure spikes
Sedatives, sleeping pills, anxiety drugs, opioids, alcohol	Kava, valerian, passionflower, hops, skullcap, lemon balm, catnip, ashwagandha, lavender capsules, chamomile (large amounts)	Too much drowsiness, slowed breathing
Diabetes drugs (insulin, metformin, sulfonylureas)	Fenugreek, prickly pear, cinnamon, aloe by mouth, holy basil, black seed, American and Asian ginseng, goldenseal (lowers metformin), moringa, devil's claw	Blood sugar drops too low, or drug works less well
Blood pressure drugs	Hibiscus, black seed, licorice (raises pressure), hawthorn, cat's claw, rhodiola (losartan), green tea (nadolol)	Pressure goes too low, or drug works less well
Digoxin and heart rhythm drugs	Licorice, senna, cascara, aloe latex, hawthorn, St. John's wort, horsetail	Low potassium and other effects make rhythm problems more likely
Water pills (diuretics) and lithium	Dandelion, horsetail, nettle, juniper, cleavers, licorice	Salt and fluid imbalance, lithium builds up
Thyroid medicine	Ashwagandha, lemon balm, moringa	May change thyroid levels
HIV medicines	St. John's wort, garlic supplements	Drug levels fall
Any prescription drug taken by mouth	Psyllium, flaxseed, marshmallow, slippery elm	Fiber and gel slow absorption; separate by 2 hours

Herbs to Avoid in Pregnancy

Do not use these herbs in medicine-sized amounts while pregnant unless your own doctor or midwife specifically recommends it. Food amounts of culinary herbs such as ginger, garlic, cinnamon, fennel, sage, and rosemary are generally fine.

Aloe (by mouth), arnica, ashwagandha, astragalus, black cohosh, black seed (large amounts), boswellia (medicinal amounts), burdock, butterbur, cascara, cat's claw, catnip, chasteberry, chaparral, comfrey, dong quai, elecampane, fenugreek, feverfew, ginkgo, Asian and American ginseng, goldenseal, hibiscus (large amounts), hops, horse chestnut, horsetail, juniper, kava, lemongrass (medicinal amounts), licorice, meadowsweet, Mormon tea, motherwort, mugwort, passionflower, pine needle tea, red clover, sagebrush, sage (medicinal amounts), saw palmetto, schisandra, senna (unless prescribed), skullcap, slippery elm (whole bark), St. John's wort, uva ursi, white willow, yarrow, yellow dock. Also every plant in Part Three, and pennyroyal in any form.

Glossary

Adaptogen. A term herbalists use for a plant believed to help the body handle stress. It is not a precise medical term.

Alkaloid. A group of nitrogen-containing plant chemicals that often have strong effects on the body, such as caffeine, morphine, and coniine.

Anthraquinone. A plant compound that irritates the bowel and acts as a stimulant laxative, found in senna, cascara, aloe latex, and yellow dock.

Antioxidant. A substance that protects cells from damage by unstable molecules called free radicals.

Astringent. Something that tightens and dries tissue, usually because of tannins, such as witch hazel.

Calyx. The ring of small leaf-like parts (sepals) at the base of a flower. The hibiscus used for tea is the calyx.

Commission E. An expert panel set up by the German government in 1978 that reviewed more than 300 herbs and published monographs on their safety and uses.

Compress. A cloth soaked in a warm or cool herbal tea and laid on the skin.

Decoction. A tea made by simmering hard plant parts like roots and bark.

Demulcent. A soothing, slippery substance that coats irritated tissue, such as marshmallow or slippery elm.

Diuretic. Something that increases urine, often called a water pill.

Enteric-coated. A capsule coating that keeps it from dissolving until it passes the stomach.

Essential oil. A highly concentrated oil distilled from a plant's aromatic parts.

Glochid. A tiny, barbed, hair-like spine on prickly pear and other cacti.

Infusion. A tea made by steeping leaves or flowers in hot water.

Interaction. When an herb changes how a drug works, or a drug changes how an herb works.

Mucilage. A thick, gel-forming fiber that becomes slippery in water.

Placebo. A dummy pill or treatment used in studies for comparison.

Poultice. Mashed or moistened plant material placed directly on the skin.

Pyrrolizidine alkaloids (PAs). Plant toxins that damage the liver, found in comfrey, butterbur, and some other plants.

Rhizome. An underground stem, such as ginger or turmeric.

Salicylate. A compound related to aspirin, found in willow bark and meadowsweet.

Salve. An oil thickened with beeswax for use on the skin.

Standardized extract. An extract made to contain a set amount of a chosen compound, so that each dose is consistent.

Tannin. A bitter, astringent plant compound found in tea, oak, and many herbs.

Tincture. An herbal extract made with alcohol.

Volatile oil. Another name for an essential oil, the part of a plant that evaporates and carries its smell.

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Acronym List

ACE: Angiotensin-converting enzyme
AKBA: Acetyl-11-keto-beta-boswellic acid
ALA: Alpha-linolenic acid
BLM: Bureau of Land Management
BPH: Benign prostatic hyperplasia (enlarged prostate)
CC: Creative Commons
COVID-19: Coronavirus disease 2019
COX-2: Cyclooxygenase-2, an enzyme that drives inflammation
CYP3A4: Cytochrome P450 3A4, a liver enzyme that breaks down many drugs
DGL: Deglycyrrhizinated licorice
EGCG: Epigallocatechin gallate
EMA: European Medicines Agency
EPO: Evening primrose oil
FDA: U.S. Food and Drug Administration
FTC: Federal Trade Commission
GABA: Gamma-aminobutyric acid, a calming brain signal
GLA: Gamma-linolenic acid
HIV: Human immunodeficiency virus
IBS: Irritable bowel syndrome
IV: Intravenous (into a vein)
LDL: Low-density lipoprotein ("bad" cholesterol)
MAOI: Monoamine oxidase inhibitor, a type of antidepressant
NCCIH: National Center for Complementary and Integrative Health
NDGA: Nordihydroguaiaretic acid
NF-kappa B: Nuclear factor kappa B, a switch that turns on inflammation
NIH: National Institutes of Health
NSF: NSF International, a product testing group
PA: Pyrrolizidine alkaloid
PAC: Proanthocyanidin
PMS: Premenstrual syndrome
PSA: Prostate-specific antigen
TRPV1: Transient receptor potential vanilloid 1, a heat and pain receptor
TTFCA: Total triterpenic fraction of Centella asiatica
USP: United States Pharmacopeia
UTI: Urinary tract infection
WHO: World Health Organization