



HEALTH

Herbals for Health?

no. 9.370

by J. Anderson and J. Roach¹ (Revised 12/08)

Quick Facts...

People take herbs for many reasons and many conditions.

Natural does not mean safe.

The Food and Drug Administration does not test herbs for safety or efficacy.

The best prescription for disease prevention is a healthy lifestyle.

Using herbs and plants for medicinal purposes has a long tradition. In India and China, these traditions date back thousands of years.

Once thought of as “traditional medicine” used by native or ancient cultures, herbal medicine has emerged as a popular alternative or supplement to modern medicine. According to the World Health Organization, \$60 billion are currently spent on herbal remedies globally, and the trend is growing rapidly.”

It is estimated that in the United States alone, botanical dietary supplements exceed \$4.5 billion in 2007. Herbal products can be found in grocery stores and on the Web, as well as natural food markets, their traditional source. Sixty-eight percent of Americans take dietary supplements. Herbal remedies are the leading type of alternative therapy for both adults and those under 18. The herbal market is growing and herbal remedies are being used as alternative therapies for both adults and children. With this increase, however, come many questions.

The term herbs in this fact sheet refers to plants used for oral medicinal purposes, not herbs for cooking. It includes botanicals, herbs, herbals, herbal products, herbal medicines, herbal remedies and herbal supplements.

Why Take Herbs?

People take herbs for many reasons and many conditions. One of the biggest reasons is that herbs are considered natural and therefore healthier and gentler than conventional drugs. (Ironically, many prescription drugs are of herbal origin.) They are used for everything from upset stomachs to headaches. Some people take them for overall health and well-being, not for any specific condition. For others, herbal use is grounded in traditions passed down from generation to generation or recommended by folk healers.

Are Herbs Effective?

Many herbs have health benefits. Research has shown that echinacea cuts the length and symptom severity of colds and that powdered ginger is effective against morning sickness, postoperative nausea and vomiting, and vertigo-related nausea. There is a growing body of well-controlled research studies, but we still do not know all of the short-term and long-term benefits and risks of many herbs, let alone all of their active or beneficial ingredients. More and more studies are being conducted and questions are being answered.

To address this uncertainty, federal law states that herbs cannot claim to *prevent, diagnose, treat or cure* a condition or disease. Herbs may carry health-related claims about effects on the “structure or function of the body” or “general well-being” that may result from the product. This definition is very loose and gives rise to misleading health claims. Ultimately, the consumer is responsible for checking their validity and avoiding products with fraudulent claims. See fact

**Colorado
State**
University

Extension

© Colorado State University
Extension. 6/00.
Reviewed 12/08.
www.ext.colostate.edu

sheet 9.350, *Nutrition Quackery*.

The best prescription for disease prevention is a healthy lifestyle. This includes a diet high in whole grains, fruits and vegetables, and low in fat. Physical activity also plays an important role. Finally, there is no data to suggest that herbs are more beneficial than conventional drugs for treating illnesses.

Are Herbs Safe?

Because herbs are natural, many people believe they are safe. Unfortunately, this is not always the case. While many herbs may be considered safe, some have hazardous side effects. In fact, in the past few years there have been several deaths related to herbal products. In some cases, small amounts of herbs, even those found in teas, have had devastating effects. To date, the following herbs are considered toxic and, given their side effects, should be avoided:^{4,5}

- Chapparal — kidney and liver damage.
- Comfrey — liver toxicity; damage to fetus if used during pregnancy.
- Ephedra/ma huang — hypertension, myocardial infarction (MI), seizure, stroke, psychosis.
- Germander — liver damage and damage.
- Lobelia — breathing problems, rapid heartbeat, coma, death.
- Kombucha — risk of contamination when prepared at home; risk of transmission of infectious microorganisms and lead.
- Willow bark — Reye's syndrome in children.
- Wormwood — seizures, rhabdomyolysis (muscle fiber breakdown), kidney failure.
- Yohimbe — hypotension (low blood pressure), heart conduction disorders, death

If you do take herbs:

- Follow the instructions on the label.
- If any unusual side effects arise, discontinue immediately.

Herbs also may interact with prescription medications, over-the-counter drugs, vitamins and minerals. For example, ginkgo taken with ibuprofen may lead to spontaneous and/or excessive bleeding. High doses of garlic may enhance the effects and adverse effects of anticoagulant and antiplatelet drugs, including aspirin, clopidogrel (Plavix), enoxaparin (Lovenox), and others. Proceed cautiously. Herbs are not tightly regulated like drugs and other medications, even though they often are used for similar purposes. Advise your doctor, pharmacist and other health professionals of all herbs you are taking.

Medical professionals suggest taking herbs for only short periods. It is unclear if short-term benefits continue over a longer time or if long-term herb use could actually be detrimental to health. Follow the instructions on the label. If any unusual side effects arise, discontinue immediately. In addition, herbs are not recommended in place of medical treatment or conventional medicine for chronic conditions or diseases, such as severe depression, diabetes, hypertension and heart disease. Herbs also are not recommended for people who may be immuno-compromised, such as the elderly or those with HIV; people with kidney damage or liver disease; anyone who may be undergoing surgery or other invasive procedures; and pregnant or lactating women. Herbal products also are not recommended for children under 6.

Medical professionals suggest taking herbs for only short periods. Do not take them in place of medical treatment or conventional medicine for chronic conditions or diseases. They are not recommended for people with certain medical conditions nor for children under 6.

How Are Herbs Regulated?

If herbs can be unsafe, why are they so readily available? This is because herbal products — like vitamin and mineral supplements — are classified by the U.S. Food and Drug Administration (FDA) as dietary supplements, not drugs. As a result, they are not tested for safety or efficacy. Thus herbal products can be marketed at any time, without scientific research and without approval from the FDA. Drug companies, on the other hand, must conduct clinical studies to determine the effectiveness of the drugs, safety, possible interactions with

other substances, and appropriate dosages. The FDA must review the data and authorize the drug's use before the product may be marketed. The FDA can take regulatory action on an herbal product only after it has received a sufficient number of reports of ill effects and can show the product is unsafe. At this point, the FDA can recommend the product be withdrawn from the market and/or labeled to reflect potential side effects. This system of regulation is always after the fact, not before.

Moreover, herbs — unlike drugs — are not standardized. When you buy a drug, even an over-the-counter one, you know that each capsule contains the same amount of active ingredient. Drug companies have to follow strict quality-control measures. Herb companies do not. Doses differ between herb capsules and from product to product. The active ingredients also vary depending on the plant part (flower, root, seeds, nuts, bark, branch), plant form (dried, extract, tincture, tea) and plant species. An independent test by Consumer Lab on a variety of ginkgo biloba supplements found that many brands do not provide the expected ingredients. Two brands appeared to contain impure ingredients and two others contained less ginkgo than claimed on their labels, one of which was contaminated with lead and also failed to break apart properly. A fifth supplement failed to identify the part of the ginkgo plant used, a FDA labeling requirement. Only three ginkgo supplements passed Consumer Lab's tests.

The herbal industry is taking steps to address standardization. Much work is still needed. Currently, if manufacturers follow certain protocols for extracting or drying herbs, they can include USP (for the United States Pharmacopeia) or NF (for Natural Formulary) on their label. It does not ensure that doses are the same from one bottle to another, or that the product is safe. It provides assurance that the product was properly manufactured, that it contains the ingredients listed on the label and that it does not contain harmful levels of contaminants. The most rigorous stamp of approval is from *Consumer Lab* (CL). CL conducts independent tests of products for identity and potency (proper labeling), purity (any contaminants), and consistency (the same identity, potency and purity from one batch to the next). Products that pass their tests contain a CL stamp of approval. They are listed on CL's Web site.

Summary

The herb industry is growing. More herbs are available than ever before, and Americans are embracing their use. More and more research is being conducted to evaluate safety and effectiveness; however, many herbs have not been well studied or are not well understood. Consumers must become informed in order to protect themselves from questionable health products and services. Here are some tips to do so:

- Determine whether you really need an herbal supplement.
- Be an informed consumer. Research the product to determine: safety, validity of claims, dosage, most effective form, plant part, species, how long to use it, side effects, any counterindications with other supplements or medications, and reasonable price.
- Inform your doctor, pharmacist and other health care professionals of any herbs you are considering or that you routinely use. Consult them with any questions.
- Pick brands that have been tested for consistency in dosage by looking for the USP, NF, or CL symbols.
- Read the product label and follow the instructions.
- Use herbal products only for minor conditions and only for the short-term. If a condition is serious or chronic, consult your doctor.
- Discontinue herbs if you experience *any* adverse side effects.
- Avoid herbal therapies if you suffer from certain conditions or under certain circumstances. (See *Are Herbs Safe?*, above.)

Resources

The following are reliable resources for information on herbs and other dietary supplements:

Foster S., Tyler V.: *Honest Herbal* (4th edition), Binghamton, N.Y., The Haworth Press, Inc. 1999.

Stephen Barrett, Quackwatch: www.quackwatch.com.

Healthcare Reality Check: www.hcrc.org/index.html.

Consumer Lab: www.consumerlab.com.

References

ConsumerLab.com

National Institutes of Health. Office of Dietary Supplements. *Frequently Asked Questions*. Last modified August 8, 2008.

http://ods.od.nih.gov/Health_Information/ODS_Frequently_Asked_Questions.aspx accessed December 16, 2008.

Natural Medicines Comprehensive Database

Thurston, Charleston. *Nutraceuticals World. Dietary Supplements: The Latest Trends & Issues* <http://www.nutraceuticalsworld.com/articles/2008/04/dietary-supplements-the-latest-trends-issues> accessed December 10, 2008.

World Health Organization. *Traditional Medicine. Fact Sheet No. 134*. Revised May 2003. <http://www.who.int/mediacentre/factsheets/fs134/en/> accessed December 10, 2008.

Table 1: Top ten most commonly used herbs.

Common name, source	Main uses	Apparent efficacy	Possible side effects	Comments
Echinacea (<i>Echinacea angustifolia</i>)	<ul style="list-style-type: none"> Reduce duration of colds. Boost immune system. Heal wounds. 	<p>+</p> <p>+</p> <p>+</p>	<ul style="list-style-type: none"> GI symptoms including nausea, abdominal pain, diarrhea, and vomiting are the most common. Allergic reactions (especially people allergic to the daisy/aster family). 	<ul style="list-style-type: none"> Echinacea products are frequently mislabeled or may contain no Echinacea. Echinacea products have been commonly adulterated. Some have been contaminated with selenium, arsenic, and lead.
Evening primrose oil (<i>Oenothera biennis</i>)	<ul style="list-style-type: none"> Reduce menopausal symptoms (hot flashes). Reduce breast pain. Treat eczema. Treat ADHD. Treat rheumatoid arthritis. Treat osteoporosis. 	<p>-</p> <p>+</p> <p>-</p> <p>-</p> <p>+/-</p> <p>+</p>	<ul style="list-style-type: none"> One case report of nocturnal seizures, but generally well tolerated; may increase the risk for pregnancy complications. 	<ul style="list-style-type: none"> Good source of gamma-linolenic acid which is primarily responsible for the health benefits of evening primrose oil. May act as an anticoagular - do not take with anticoagulant/antiplatelet drugs including aspirin and ibuprofen.
Feverfew thin(<i>Tanacetum parthenium</i>)	<ul style="list-style-type: none"> Reduce migraines, headaches. Treat arthritis. 	<p>+</p> <p>+/-</p>	<ul style="list-style-type: none"> GI discomfort when taken orally. Mouth ulcers and inflamed mouth tissue when chewing leaf. 	<ul style="list-style-type: none"> May inhibit platelet activity - ask pharmacist/doctor before taking with anticoagulant/ antiplatelet drugs.
Garlic (<i>Allium sativum</i>)	<ul style="list-style-type: none"> Prevent heart disease. Lower high blood cholesterol. Lower high blood pressure. Improve blood clotting disorders. Prevent cancer. Treat athlete's foot. 	<p>+</p> <p>+</p> <p>+</p> <p>+</p> <p>+/-</p> <p>+</p>	<ul style="list-style-type: none"> Breath and skin odor. Possible nausea, heartburn, or diarrhea. Topical garlic can cause skin irritation, blistering and burns. 	<ul style="list-style-type: none"> Fresh garlic is the best form. Garlic contains allin and allicin. If consuming high doses of garlic, do not take blood-thinning drugs, ginkgo, ginger, Panax ginseng, or high-dose Vitamin E.
Ginger (<i>Zingiber officinale</i>)	<ul style="list-style-type: none"> Prevent motion sickness. Reduce morning sickness. Reduce nausea. Used as digestive aid. 	<p>+</p> <p>+</p> <p>+/-</p> <p>+/-</p>	<ul style="list-style-type: none"> Well tolerated when used in typical doses. At high doses, may cause abdominal discomfort, heartburn, diarrhea. 	<ul style="list-style-type: none"> May increase the risk of bleeding - ask pharmacist/doctor before taking with anticoagulant/ antiplatelet drugs, garlic, ginko, or Panax ginseng.
Ginkgo biloba (<i>Ginkgo biloba</i>)	<ul style="list-style-type: none"> Improve age-related memory impairment and dementia. Improve visual field in glaucoma and diabetic retinopathy. Reduce PMS symptoms. 	<p>+</p> <p>+</p> <p>+</p>	<ul style="list-style-type: none"> Mild gastrointestinal (GI) upset, headache, dizziness, palpitations, constipation, and allergic skin reactions. Spontaneous bleeding. 	<ul style="list-style-type: none"> Decreases platelet activity and may increase risk of bleeding - do not take with anticoagulant/ antiplatelet drugs, garlic, ginger, or Panax ginseng.
Ginseng (<i>Panax ginseng</i>)	<ul style="list-style-type: none"> Improve cognitive function. Enhance athletic performance. Improve mood. 	<p>+</p> <p>+</p> <p>-</p>	<ul style="list-style-type: none"> Side effects rare. Menstrual abnormalities, breast tenderness. Insomnia. 	<ul style="list-style-type: none"> Not recommended for people with autoimmune diseases, bleeding conditions, cardiac conditions, or diabetes. May decrease platelet activity - ask pharmacist/doctor before taking with anticoagulant/antiplatelet drugs, garlic, ginko, or Panax ginseng. Do not take with stimulants, including excessive caffeine.
Kava kava (<i>Piper methysticum</i>)	<ul style="list-style-type: none"> Lower anxiety, tension, restlessness. Reduce insomnia. 	<p>+</p> <p>+/-</p>	<ul style="list-style-type: none"> Gastrointestinal (GI) upset, headache, dizziness, drowsiness, enlarged pupils and disturbances of oculomotor equilibrium and accommodation. dry mouth, and allergic skin reactions. Liver toxicity. Yellowed skin (jaundice), fatigue, and dark urine. 	<ul style="list-style-type: none"> Not recommended for people with depression, liver disease, or Parkinson's disease. Do not drive or operate machinery when taking kava kava. Do not take with Xanax or central nervous system (CNS) depressants including alcohol, barbiturates, or benzodiazepines.

St. John's wort (<i>Hypericum perforatum</i>)	<p>Orally:</p> <ul style="list-style-type: none"> • Treat depression. + • Improve premenstrual syndrome. +/- • Treat seasonal affective disorder (SAD). +/- • Treat obsessive compulsive disorder (OCD) +/- 	<ul style="list-style-type: none"> • Insomnia, anxiety, irritability, gastrointestinal (GI) discomfort, diarrhea, fatigue, dry mouth, dizziness, and headache. • Photosensitivity. • Hypomania in depressed 	<ul style="list-style-type: none"> • Not recommended for people with major depression, bipolar disorder, Alzheimer's disease, or ADHD. • Do not take with antidepressants, barbiturates, or alcohol. Check
with	<p>Topically:</p> <ul style="list-style-type: none"> • Used for wounds (inflammation), muscle aches, first-degree burns. +/- 	patients.	<p>pharmacist/doctor about other potential herb-drug interactions.</p> <ul style="list-style-type: none"> • Women taking St. John's Wort and oral contraceptives concurrently should use an additional or alternative form of birth control.
Saw palmetto (<i>Serenoa repens</i>)	<ul style="list-style-type: none"> • Treat benign prostatic hyperplasia. + • Improve overall prostate health. +/- • Enhance sexual vigor, enhance breast size. - 	<ul style="list-style-type: none"> • Dizziness, headache, and gastrointestinal complaints such as nausea, vomiting, constipation, and diarrhea. • Check with pharmacist before using saw palmetto with anticoagulant/antiplatelet drugs, contraceptive drugs, or estrogens. 	

+ Research supports efficacy/safety of this product when used appropriately. See disclaimer below.
 +/- Clinical evidence is inconclusive.
 - Research finds that it is ineffective/unsafe.

Except where noted in comments, research indicates these 10 herbs appear to be safe **when used appropriately.**

Disclaimer: What we know about herbs is constantly changing, so take any herb with caution. Herbs generally are not recommended for people suffering from autoimmune disorders or liver disease, people undergoing surgery or other invasive medical procedure, pregnant or lactating women, or infants and small children. Use herbs only for minor conditions and only for the short-term. Discontinue if you experience any adverse side effects.

¹J. Anderson, Colorado State University Extension food and nutrition specialist and professor; food science and human nutrition; and J. Roach, M.S. graduate student.

U.S. Department of Agriculture and Colorado counties cooperating. Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.