



THE NEW

AMERICAN

HERBAL

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The image features three glass bottles of varying shapes and sizes, each containing water and a green herb stem. The bottles are arranged on a wooden surface. The central bottle is a round-bottom flask with a decorative embossed design on its front. The other two are taller, slender bottles. The background is a soft, out-of-focus white wall. A white rectangular box with a thin black border is centered in the upper half of the image, containing the text 'AN HERBAL HANDBOOK' in a black serif font.

AN HERBAL
HANDBOOK



HERB BASICS

HERBAL PROPERTIES

Here's a list of some commonly used words you'll come across in herbal books and texts that relate to the specific actions of an herb on the human body. They may sound arcane at first, but used properly they will prove useful as a shorthand way to learn more about what makes a specific plant valued in herbology.

- **Adaptogens** are herbs that are thought to help the body find hormonal balance, adapt to stress, and strengthen the immune system. Many have been used for thousands of years in ayurvedic and traditional Chinese medicine and are known to have few if any negative side effects. (American and Asian ginseng, ashwagandha, astragalus, holy basil, and licorice.)

- **Analgesics** relieve pain. (Arnica, bay, calendula, chamomile, feverfew, hops, meadowsweet, and white willow.)

- **Antibacterials** kill microbes. (Cinnamon, clove, garlic, ginger, nutmeg, oregano, peppermint, tea tree, and thyme.)

- **Anti-inflammatories** reduce pain, heat, and redness in bodily tissues. (Ginger, turmeric, and feverfew.)

- **Antispasmodics** suppress spasms of the smooth muscles of the body, including those relating to digestion. (Chamomile, lavender, lemon balm, mint, skullcap, valerian, and yarrow.)

- **Aphrodisiacs** enhance sexual arousal and performance. (Damiana, ginseng, maca, muira puama, nutmeg, and yohimbe.)

- **Bitters** are thought to stimulate appetite, promote digestion, and increase bile production in the gallbladder. (Boldo, chicory, cinchona, gentian, quassia, and wormwood.)

- **Carminatives** lessen flatulence and gas in the intestine. (Caraway, cumin, dill, fennel, lavender, mint, and rosemary.)

- **Cholagogues** stimulate the liver and its blood-cleansing actions. (Barberry, boldo, celandine, dandelion, goldenseal, rosemary, and sage.)

- **Decongestants** relieve swollen or clogged nasal or respiratory passages, especially if taken by steam inhalation. (Eucalyptus, peppermint, rosemary, and thyme.)

- **Demulcents** coat and lubricate inflamed throat tissues. (Coltsfoot, horehound, licorice, marshmallow, mullein, and oats.)

- **Depuratives** support the kidneys and liver, helping them to cleanse toxins from the system. (Agrimony, astragalus, burdock, and cleavers.)

- **Digestives** such as those herbs found in bitters help the stomach function more efficiently. (Allspice, dandelion, fennel, gentian, peppermint, lemon balm, and lemon verbena.)

- **Diuretic** herbs help relieve fluid retention or bloating. (Dandelion, stinging nettle, green or black tea, and yarrow.)

- **Emmenagogues** regulate or increase menstruation. (Black cohosh, feverfew, ginger, mugwort, parsley, rosemary, sage, and yarrow.) Strong emmenagogues are known as **abortifacients** and have been used for thousands of years to cause miscarriage; however, they also can result

in hemorrhaging when used in imprecise amounts. (Angelica, pennyroyal, rue, and tansy.)

- **Emetics** induce vomiting. (Ipecacuanha, mustard, quassia, and rue.)

- **Expectorants** loosen mucus congestion in the chest. (Anise, camphor, coltsfoot, elecampane, eucalyptus, fennel, horehound, mint, and mullein.)

- **Febrifuges** lower fever. (Boneset, catnip, dandelion, hyssop, peppermint, plantain, willow, and yarrow.)

- **Galactagogues** promote lactation in nursing women. (Fennel, fenugreek, goat's rue, and milk thistle.)

- **Nervines** relax the nervous system and reduce or relieve tension. (Catnip, chamomile, damiana, hops, lavender, lemon balm, skullcap, wild oats, wood betony, and valerian.)

- **Nootropics** are said to quicken the brain and maximize learning potential and memory. (Ashwagandha, bacopa, ginkgo, gotu kola, St. John's wort, and schisandra.)

- **Tonic** herbs offer general health improvements to the whole body. These are sometimes called adaptogens. Many are popular in Chinese and ayurvedic medicine. (Ashwagandha, eleuthero, ginseng, goji berries, licorice, rhodiola, and schisandra.)

- **Vulnerary** herbs help heal wounds. (Agrimony, calendula, comfrey, gotu kola, St. John's wort, tea tree, and yarrow.)

GET TO KNOW THE MAJOR HERB FAMILIES

Botanists have divided the plant kingdom up into groups that are united and described by their structural elements: their stems, leaves, and, most important, reproductive organs (aka flowers). By learning a little about each family, you can discover which herbs have traits that provide humans with general benefits—or risks.

- Members of the extensive **mint or deadnettle family** (Lamiaceae) can often be identified by their square stems, aromatic foliage, and tubular double-lipped flowers. These plants are known for their mildness, safety, and popularity in the garden and kitchen: basil, bee balm, catmint, ground ivy, horehound, hyssop, lavender, lemon balm, marjoram, mint, oregano, patchouli, perilla, rosemary, sage, savory, skullcap, and thyme.

- The **carrot or parsley family** (Apiaceae) is tricky. This wide-ranging group includes both edible and poisonous species. The plants are often tall with umbel-shaped florets that yield flavorful seeds. They also look very similar to one another. Common herbs include angelica, anise, asafetida, chervil, caraway, cilantro/coriander, cumin, dill, fennel,



galbanum, lovage, parsley, and sweet cicely. Other species such as poison hemlock, water hemlock, and water dropwort are among the most poisonous plants known to man and resemble their benign cousins. Foragers beware.

- The **onion family** (Allioideae), really a subfamily of the lily or amaryllis family (Amaryllidaceae), is known for its pungent flavor. Useful members include chives, garlic, leeks, onion, and shallots.

- Species in the diverse and useful **pea, bean, or legume family** (Fabaceae or Leguminosae) possess an easily identifiable bean blossom and include several of the most notable adaptogenic herbs: alfalfa, astragalus, fenugreek, goat's rue, indigo, licorice, and red clover.

- Members of the hairy-leaved **borage family** (Boraginaceae), such as alkanet, borage, comfrey, and lungwort, are known for their blue flowers, being related to forget-me-nots and heliotrope. Certain members contain pyrrolizidine alkaloids (PAs), which can be harmful and cause liver toxicity if ingested by humans.

- The vast **daisy or aster family** (Asteraceae or Compositae) share a similar flower shape of a central disc surrounded by petals. Notable species include arnica, artemisia, calendula, chamomile, chrysanthemum, dandelion, echinacea, marigold, santolina, tansy, tarragon, and yarrow.

- The **smartweed or buckwheat family** (Polygonaceae) contains bistort, dock, fo-ti, rhubarb, and sorrel. Many of these plants are notable for their sharp, sour flavor and the presence of oxalic acids, which can be harmful if eaten in excess as they may cause kidney stones (as can spinach and kale). Cooking diminishes these acids.

- The **laurel family** (Lauraceae) is valued for the essential oils found in their aromatic leaves and bark. Some of the most well known are avocado, bay, bay rum tree, camphor, cassia, cinnamon, laurel, myrtle, sassafras, and spicebush.

- A similar group of fragrant-leaved plants, the **myrtle family** (Myrtaceae), includes allspice, cloves, myrtle, tea tree, and eucalyptus. These plants are often found in subtropical or tropical parts of the world.

- The **nightshade family** (Solanaceae) contains some of our most popular vegetables, including tomatoes, potatoes, eggplants, and peppers, and also some of the most potent psychotropic plants. Henbane, belladonna, mandrake, and datura all contain powerful tropane alkaloids with hallucinogenic properties. Ashwagandha and goji (also known as wolfberry or lycium berry) are Asian herbs that have become very popular with Western medical practitioners in recent years.

- One of the safest groups is the **rose family** (Rosaceae), including roses, meadowsweet, burnet, agrimony, hawthorn, cinquefoil, and lady's mantle. This family also includes our familiar fruits: apples, blackberries, raspberries, almonds, pears, quinces, apricots, plums, cherries, peaches, and strawberries.



ARE ALL HERBS SAFE?

Many herbalists emphasize the natural balance that comes from using a whole plant versus trying to isolate or synthesize its chemical compounds. They feel that the chemical action of a particular herb is less important than the complex chemistry found in the plant in its most natural state. A powerful compound can be naturally balanced by a mollifying one, or the efficacy of a weak compound may be boosted by another. Some phytochemicals are very powerful, and their potency (or weakness) is dependent on where and how the source plants are grown or even the season or time of day or year that they are harvested to be used.

The healing use of herbs should be undertaken only under the advice of a medical practitioner with considerations for what other medications or supplements are being taken. Never use herbs during pregnancy or give them to children unless advised to do so by a physician.

SHOULD I FERTILIZE MY HERBS?

Most herbs, especially the perennial Mediterranean species we are most familiar with, such as thyme, rosemary, oregano, and marjoram, do not need to be fertilized. Consider the rocky soils of their native habitats; these tough plants grow best and possess the most concentrated essential leaf oils in a nutritionally lean situation. Overfertilizing them will only make them grow too many leaves and diffuse the flavor and fragrance you are growing them for. If you must perk up an underperforming herb, apply a natural organic fertilizer such as compost or a diluted dose of bottled fish emulsion very infrequently.

WHAT GIVES HERBS THEIR FLAVOR?

Herbs are full of natural organic compounds such as phenylpropenes and terpenes. In nature, these pungent essential oils help discourage potential plant nibblers and protect a plant's growth. However, we humans find the complex flavors and fragrances in these plants attractive instead of repellent.

- **Anethole** provides anise with its distinctively sweet flavor (it's said to be thirteen times sweeter than white sugar). Also found in licorice, fennel, and star anise, it is closely related to estragole.
- **Apiol** gives celery and parsley their fresh flavor. In a concentrated state and high doses it can cause abortions because of a powerful action on menstruation.
- **Carvacrol** is perceived as a sharp biting flavor in oregano, thyme, and winter and summer savory.
- **Carvone** is a terpenoid that flavors caraway seed and also mandarin oranges, dill, and mint.
- **Citral** gives a lemony aroma to lemongrass, lemon balm, lemon verbena, citronella, certain kinds of basil, and citrus fruits.
- **Dillapiole** gives dill leaves their distinctive aroma and taste and is closely related to apiol.
- **Elemicin** is responsible for the complex flavors of nutmeg and mace. It is mildly psychoactive in large doses.
- **Estragole** is active in tarragon and basil, giving them an anise or licorice flavor. It is also found in turpentine and pine oil and used in perfumes and food additives.
- **Eugenol** appears in bay, allspice, clove, nutmeg, cinnamon, wormwood, lemon balm, dill, vanilla, carnation (clove pinks), rose, and basil and provides a distinctively spicy clove aroma and flavor with green undercurrents. It has antiseptic properties.
- **Linalool** has a spicy scent found in coriander, mint, lavender, basil, artemisia, bay laurel, and cinnamon.
- **Menthol** contributes the cooling feeling we get from mint, especially stonger varieties such as peppermint.
- **Myristicin** is found in nutmeg oil, parsley, and dill. Like elemicin, it has psychoactive qualities and is poisonous in high doses.
- **Pinene** is a monoterpene (a volatile element of essential oil) that gives a camphor-like pine flavor to rosemary, ironwort, and certain types of sage.
- **Thymol** is another terpene that adds pungent aroma and sharp flavors to thyme, bee balm, ajwain seed, and oregano. It has powerful antiseptic and antimicrobial properties.

HARVESTING HERBS

For many herbs, timing is everything. The month or the year or the hour of day that you gather them can make a big difference in their potency and effectiveness.

Leaves: In general harvest leafy green herbs just before they come into flower. This is the point when the plant's vital components and chemicals are just about to peak but are not yet spent by the effort of flowering and making seed. Most herbs should be gathered early in the day after the dew or morning moisture has evaporated, but before

their essential oils have had a chance to bake away in the sun. Choose only fresh, undamaged leaves.

Flowers: Gather flowers such as lavender, chamomile, fennel, dill, and rosemary on the first day they open from their buds before they wilt.



Roots: Depending on the species, most herbs with useful roots are dug after the first cool fall weather but before the plant has withered from frost. They can also be gathered in early spring when the plant is beginning to leaf out.

Seeds: Pick the seeds when they have matured and ripened past their green state but before they dry or turn brown and fall from the plant.

CHILDREN AND PETS SAFETY

Our gardens are full of poisonous ornamental plants that most people don't recognize as dangerous: daffodils, yew, morning glory, and wisteria to name a few. The herb garden is no different. Certain beautiful herbs, such as foxglove or monkshood, are powerful poisons when ingested by humans; other seemingly safe garden residents, such as lily-of-the-valley, aloe, and chrysanthemum, can be poisonous to pets. If you have very young children avoid planting true poisons and be sure your kids know never to eat anything off of a plant unless you tell them it's okay. I still remember my mother warning me away from the neighbor's deadly oleander bush and I always gave it a wide margin when walking by (as if it were going to jump out at me). It's harder to train pets, particularly dogs, not to eat plants in the garden or house, but most animals seem to know when a plant is not good for them to nibble on. If you encounter a problem check the Pet Poison Helpline (petpoisonhelpline.com) for a list of common garden plants that can harm pets. Or contact your local veterinarian or the twenty-four-hour ASPCA Animal Poison Control at 888-426-4435. Fees may apply for consultations from both organizations.