

Herbs vs. Spices

We often use the words herb and spice interchangeably. Herbs and spices both come from plants. Salt is not a spice or an herb. It is a mineral. Herbs and spices are both used to add flavor and aroma to food. Both are most potent when fresh but can be saved by drying. While there are similarities, there are also subtle differences between spices and herbs.

Herbs are obtained from the leaves of herbaceous (non-woody) plants. They are used for savory purposes in cooking and some have medicinal value. Herbs are often used in larger amounts than spices. Herbs originated from temperate climates such as Italy, France and England. Herb is a word used to define any herbaceous plant that dies down at the end of the growing season and may not refer to its culinary value at all.

Spices are obtained from roots, flowers, fruits, seeds or bark. Spices are native to warm, tropical climates and can be woody or herbaceous plants. Spices are often more potent and stronger flavored than herbs; and because of this they are used in smaller amounts. Some spices are used not only to add taste, but also as a preservative.

Some plants produce both herbs and spices. The leaves of *Coriandrum sativum* are the source of cilantro (herb from leaves) and coriander (spice from seeds). Dill is another example. The seeds are a spice and the dill weed is an herb derived from the plant's stems and leaves.

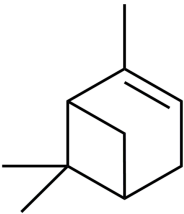
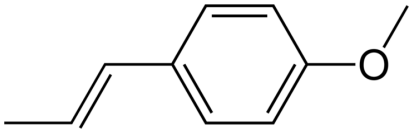
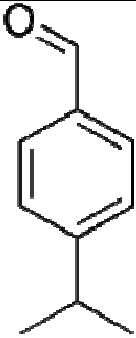
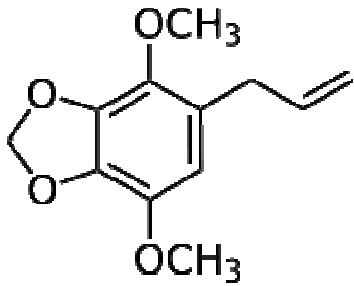
Examples of Herbs

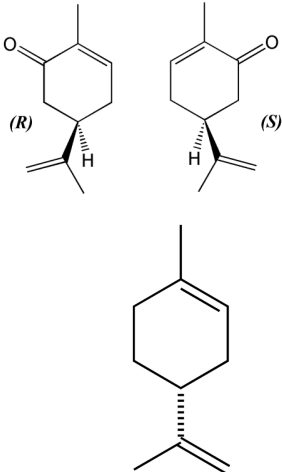
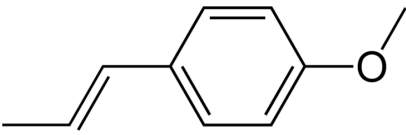
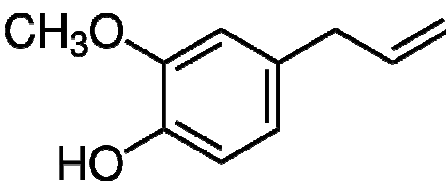
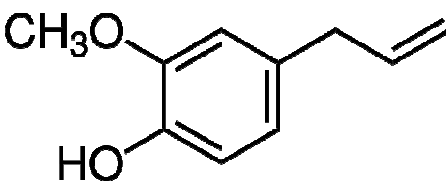
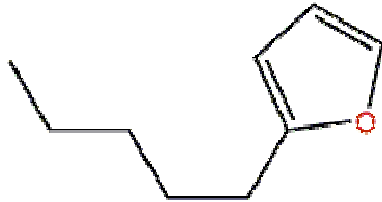
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Sage
Oregano
Parsley
Marjoram
Basil
Chives
Rosemary
Tarragon
Mint
Dill

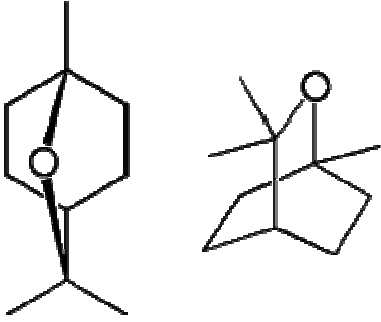
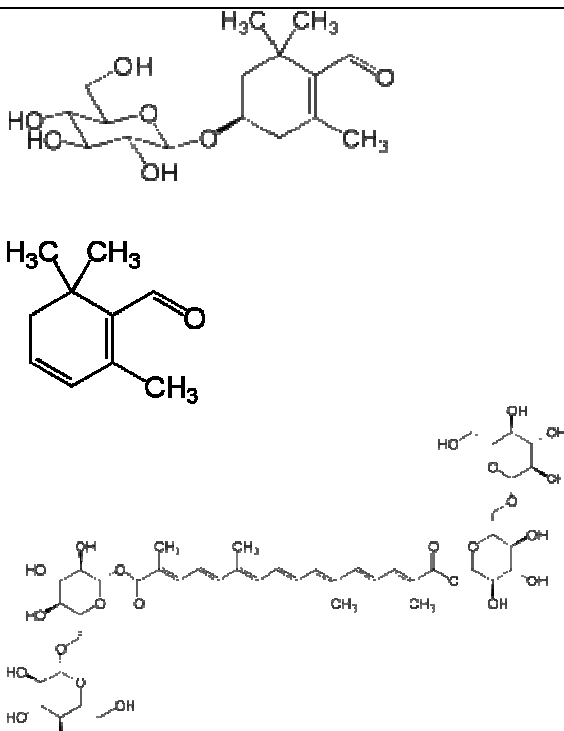
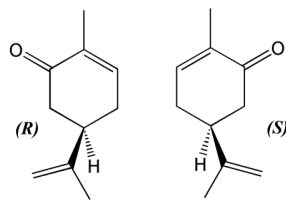
Examples of Spices

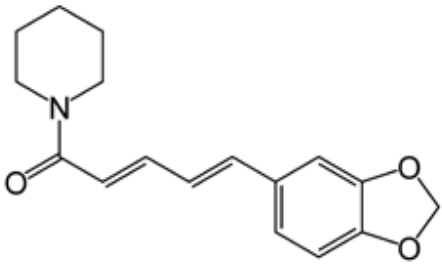
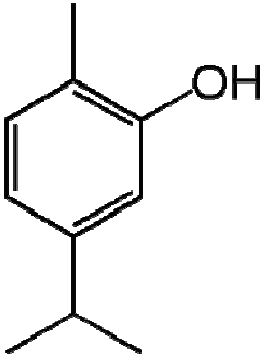
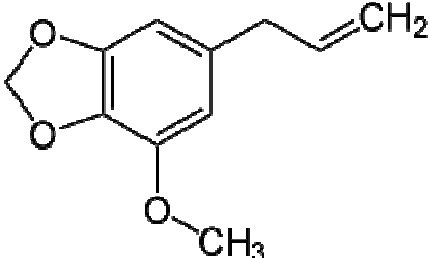
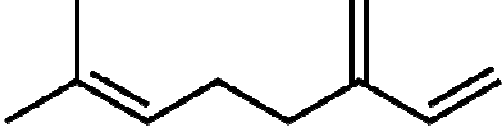
Cinnamon - bark of the cinnamon tree
Ginger - root
Cloves - flower bud
Saffron - stigma (female reproductive part) of saffron crocus
Nutmeg - seed
Vanilla - undeveloped fruit of an orchid
Cumin

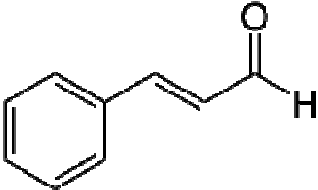
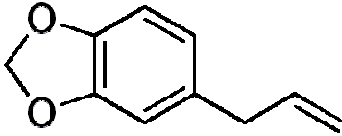
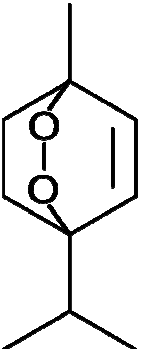
Volatile compounds in spices and herbs

A		<p>Fenugreek</p> <p>Fenugreek is used both as a herb (the leaves) and as a spice (the seed). It is frequently used in curry. Fenugreek seeds are a rich source of the polysaccharide galactomannan. Other bioactive constituents of fenugreek include mucilage, volatile oils, and alkaloids such as choline and trigonelline.</p> <p>Fenugreek is frequently used in the production of flavoring for artificial maple syrups. The taste of toasted fenugreek is additionally based on substituted pyrazines. By itself, fenugreek has a bitter taste.</p>
B		<p>Coriander Seeds</p> <p>The dry fruits are known as <i>coriander seeds</i> or <i>coriandi seeds</i>. In some regions, the use of the word <i>coriander</i> in food preparation always refers to these seeds (as a spice), rather than to the plant itself. The seeds have a lemony citrus flavour when crushed, due to the presence of the terpenes linalool and pinene. It is also described as warm, nutty, spicy, and orange-flavored. They are usually dried but can be eaten green.</p>
C		<p>Fennel</p> <p>Fennel contains anethole.</p>
D		<p>Cumin</p> <p>Cumin is the dried seed of the herb <i>Cuminum cyminum</i>, a member of the parsley family. Cumin seeds resemble caraway seeds, being oblong in shape, longitudinally ridged, and yellow-brown in colour.</p> <p>Cumin's distinctive flavour and strong, warm aroma is due to its essential oil content. Its main constituent and important aroma compound is cuminaldehyde (4-isopropylbenzaldehyde).</p>
E		<p>Celery</p> <p>In temperate countries, celery is also grown for its seeds. Actually very small fruit, these "seeds" yield a valuable volatile oil used in the perfume and pharmaceutical industries. They also contain an organic compound called apiole.</p>

F		<p>Caraway</p> <p>The fruits, usually used whole, have a pungent, anise-like flavor and aroma that comes from essential oils, mostly carvone and limonene. They are used as a spice in breads, especially rye bread. Rye bread is denser because the limonene from the caraway fruits has yeast-killing properties.</p>
G		<p>Aniseed</p> <p>Anise is an herbaceous annual plant growing to 3 ft (0.91 m) tall. The fruit is an oblong dry schizocarp, 3 - 5 mm long. It is these seedpods that are referred to as "aniseed".</p> <p>Aniseed contains anethole, a phytoestrogen.</p>
H		<p>Allspice</p> <p>Ground allspice is not, as some people believe, a mixture of spices. Rather, it is the dried fruit of the <i>Pimenta dioica</i> plant. The fruit is picked when it is green and unripe and traditionally dried in the sun. When dry, the fruits are brown and resemble large brown peppercorns. The whole fruits have a longer shelf life than the powdered product and produce a more aromatic product when freshly ground before use. Volatile oils found in the plant contain eugenol.</p>
I		<p>Cloves</p> <p>These are the aromatic dried flower buds of a tree in the family Myrtaceae. Cloves are native to Indonesia and India and used as a spice in cuisine all over the world. The compound responsible for the cloves' aroma is eugenol. It is the main component in the essential oil extracted from cloves, comprising 72-90%. Eugenol has pronounced antiseptic and anaesthetic properties.</p>
J		<p>Poppy Seeds</p> <p>Poppyseed oil is an edible oil from poppy seeds with no narcotic properties. The primary aroma compound responsible for its flavor is 2-pentylfuran which has a characteristic buttery, green bean-like odor.</p>

K		<p>Rosemary</p> <p>This is a woody, perennial herb with fragrant evergreen needle-like leaves. It is native to the Mediterranean region. It is a member of the mint family Lamiaceae, which also includes many other herbs.</p> <p>Rosemary contains a number of potentially biologically active compounds, including antioxidants such as carnosic acid and rosmarinic acid. Other bioactive compounds include caffeic acid, ursolic acid, betulinic acid, rosmaridiphenol, and rosmanol.</p> <p>The essential oil of rosemary contains eucalyptol. Eucalyptol is a colorless liquid. Eucalyptol is also known by a variety of synonyms: 1,8-cineol, 1,8-cineole, limonene oxide, cajepulol, 1,8-epoxy-p-menthane, 1,8-oxido-p-menthane, eucalyptol, eucalyptole, 1,3,3-trimethyl-2-oxabicyclo[2,2,2]octane, cineol, cineole.</p>
L		<p>Saffron</p> <p>This is a spice derived from the dried stigma of the flower of the saffron crocus (<i>Crocus sativus</i>), a species of crocus in the family Iridaceae. The flower has three stigmas, which are the distal ends of the plant's carpels. Together with its style, the stalk connecting the stigmas to the rest of the plant, these components are often dried and used in cooking as a seasoning and coloring agent. Saffron has been the world's most expensive spice by weight for decades.</p> <p>Saffron is characterized by a bitter taste and an iodoform- or hay-like fragrance; these are caused by the chemicals picrocrocin and safranal. It also contains a carotenoid dye, crocin, that gives food a rich golden-yellow hue.</p>
M		<p>Orange Peel (Zest)</p> <p>The outer-most layer of the rind can be grated or thinly veneered to produce zest. Zest is popular in cooking because it contains the oil glands. Sweet orange oil consists of about 90% d-Limonene (R enantiomer).</p>

N		<p>Black pepper (<i>Piper nigrum</i>)</p> <p>This is a flowering vine in the family Piperaceae, cultivated for its fruit, which is usually dried and used as a spice and seasoning. The fruit, known as a peppercorn when dried, is a small drupe five millimetres in diameter, dark red when fully mature, containing a single seed. P Black pepper is produced from the still-green unripe berries of the pepper plant. The berries are cooked briefly in hot water, both to clean them and to prepare them for drying. The heat ruptures cell walls in the pepper, speeding the work of browning enzymes during drying. The berries are dried in the sun or by machine for several days, during which the pepper around the seed shrinks and darkens into a thin, wrinkled black layer. Once dried, the spice is called <i>black peppercorn</i>.</p> <p>Piperine is the alkaloid responsible for the pungency of black pepper. It has also been used in some forms of traditional medicine and as an insecticide.</p>
O		<p>Oregano</p> <p>The subspecies of oregano <i>Origanum vulgare</i> is an important culinary herb. It is particularly widely used in Greek, Spanish and in Italian cuisine. It is the leaves that are used in cooking, and the dried herb is often more flavourful than the fresh. Carvacrol is present in the essential oil of <i>Origanum vulgare</i>, oil of thyme, oil obtained from pepperwort, and wild bergamot.</p>
P		<p>Nutmeg</p> <p>Nutmeg is the actual seed of the tree <i>Myristica fragrans</i>, an evergreen tree indigenous to the Banda Islands in the Moluccas of Indonesia, or Spice Islands. In low doses, nutmeg produces no noticeable physiological or neurological response. Large doses can be dangerous (potentially inducing convulsions, palpitations, nausea, eventual dehydration, and generalized body pain) Nutmeg contains myristicin, a weak monoamine oxidase inhibitor.</p>
Q		<p>Bay Leaf (Laurel)</p> <p>Refers to the aromatic leaf of the Bay Laurel (<i>Laurus nobilis</i>, Lauraceae). Fresh or dried bay leaves are used in cooking for their distinctive flavor and fragrance. Myrcene may be obtained from the essential oil of the bay leaf. It is an olefinic natural organic monoterpene hydrocarbon.</p>

R		<p>Cinnamon</p> <p>This spice is from the inner bark of a tropical evergreen tree, harvested during the rainy season when pliable and then dried into curls sold as sticks or ground into a powder. These trees are the natural source of cinnamon, and the essential oil of cinnamon bark is about 90% cinnamaldehyde.</p>
S		<p>Sassafras</p> <p>The root-bark contains a heavy and a light volatile oil, camphorous matter, resin, wax a decomposition product of tannic acid called sassafrid, tannic acid, gum, albumen, starch, lignin and salts. Sassafrid bears some analogy to cinchonic red. The bark yields from 6 to 9 per cent of oil, of which the chief constituent is safrol (80 per cent). It is one of the heaviest of the volatile oils.</p>
T		<p>Epazote</p> <p>A Mexican herb that has a very strong taste and sometimes has a gasoline or perfume type odor. It has been used in Mexican cuisine for thousands of years dating back to the Aztecs who used it for cooking as well as for medicinal purposes. Although epazote is poisonous in large quantities, it has been used in moderation to help relieve abdominal discomfort (gassiness) that can come from eating beans. It has become a distinct flavor in Mexican cuisine and is now used to season a variety of dishes including beans, soups, salads and quesadillas. The older leaves have a stronger flavor and should be used sparingly. Younger leaves have a milder, yet richer flavor.</p> <p>Epazote essential oil contains up to 70% ascaridole.</p>