

Classification of Medicinal and Aromatic Plants

Classification of medicinal plants is organized in different ways depending on the criteria used.

In general, medicinal plants are arranged according to their active principles in their storage organs of plants, particularly roots, leaves, flowers, seeds and other parts of plant.

Medicinal plants are classified in many ways

Some of them are

1. According to the usage
2. According to the active constituents
3. According to the period of life
4. According to their taxonomy

1. According to the usage

The herbs are classified in four parts: Medicinal herbs, culinary herbs, Aromatic herbs, Ornamental herbs.

A. Medicinal Herbs

Medicinal herbs have curative powers and are used in making medicines because of their healing properties.

B. Culinary Herbs

Culinary herbs are probably the mostly used as cooking herbs because of their strong flavours like mint, cinnamon, basil.

C. Aromatic Herbs

Aromatic herbs have some common uses because of their pleasant smelling flowers or foliage. Oils from aromatic herbs can be used to produce perfumes, cosmetic, toothpaste, soap, beverage, and food industries. For e.g. clove, rosemary, basil, saffron, thyme, cumin etc.

D. Ornamental Herbs

Ornamental herbs are used for decoration because they have brightly coloured flowers and foliage like lavender, chives.

2. According to the active constituents

The herbs are divided into five major categories: Aromatic (volatile oils), Astringents (tannins), Bitter (phenol compounds, saponins, and alkaloids), Mucilaginous (polysaccharides), and Nutritive (food stuffs).

A. Aromatic (volatile oils)

The name is a reflection of the pleasant odour that many of these herbs have. They are used extensively both therapeutically and as flavourings and perfumes. Aromatic herbs are divided into two subcategories: stimulants and nerviness. E.g. fennel, ginger, garlic.

B. Astringent Herbs

Astringent herbs have tannins, which have the ability to precipitate proteins, and this "tightens," contracts, or tones living tissue, and helps to halt discharges. They affect the digestive, urinary, and circulatory systems, and large doses are toxic to the liver. They are analgesic, antiseptic. For example: peppermint, red raspberry.

C. Bitter Herbs

Bitter herbs are named because of the presence of phenols and phenol glycosides, alkaloids, or saponins, and are divided into four subcategories: laxative herbs (barberry), diuretic herbs (parsely), saponin containing herbs (alfafa), and alkaloid-containing herbs (poppy family).

D. Mucilaginous Herbs

Mucilaginous herbs derive their properties from the polysaccharides they contain, which give these herbs a slippery, mild taste that is sweet in water. For e.g. liquorice root, aloe-vera, flaxseeds, chia seeds.

E. Nutritive Herbs

These herbs derive both their name and their classification from the nutritive value they provide to the diet. For e.g. apple, banana, broccoli, cabbage, carrot, cauliflower, onion, orange, pineapple.

3. According to the period of life

A. Annual herbs: - complete their life cycle in one year; start them from seed (Annuals bloom one season and then die) Annual herbs include (Basil, Chamomile, Saffron).

B. Biennial herbs: - are plants which live two seasons and bloom in the second season only (Biennials live for two seasons, blooming the second season only. Once established) and include (Fennel, Lavender, Rosemary).

C. Perennial herbs: - grow for more than one season perennials live over winter and bloom each season) and include (Parsley, Mint, Thyme).

4. According to their taxonomy

Most of the medicinal and aromatic plants belong to the following families

A. Medicinal plants of the Compositae family

The Compositae family, also known as the Daisy family, contains the highest number of medicinal plants as compared to other families. Medicinal plants belonging to this family include the chamomile.

B. Medicinal plants of the Labiatae family

A very important medicinal plant family is the Labiatae family, also known as the mint family. Plants in this family are herbs or shrubs often with an aromatic smell. They are common in the Mediterranean countries for the fact that some of them produce a high amount of essential oil that enables them to survive the hot summer season. Some examples from this family include lavender, mints, thyme and rosemary.

C. Medicinal plants of the Umbelliferae family

The Umbelliferae or carrot family consists of plants with a characteristic umbrella-arranged fruit. These plants usually produce an essential oil, an asset to survive during

the hot summer days. In fact the oil has a cooling effect on the plant. Some examples from this family include wild carrot (*Daucus carota*), fennel (*Foeniculum vulgare*), anise (*Pimpinella anisum*),

D. Medicinal plants of the Leguminosae family

The Leguminosae or pea family consists of large number of plants, both native and naturalised, that have been cultivated for fodder, food and ornamental purposes. Amongst these plants, those with medicinal virtues include white and red clovers (*Trifolium repens* and *pratense*), alfalfa (*Medicago sativa*).

E. Medicinal plants of the Rosaceae family

A large of species in Rosaceae or rose family, have a medicinal value. Most of these are trees or shrubs with variable characteristics. This family is popular for its edible and juice fruit shrubs and trees. Some examples of this family include rose (*Rosa gallica*), wood strawberry (*Fragaria moschata*), peach, almond and apricot (*Prunus persica*, *amygdalus* and *armeniaca*).

F. Medicinal plants of the Rutaceae and Solanaceae families

The Rutaceae or rue family is a small family that consists of cultivated fruit trees and medicinal herbs. Plants in this family include orange (*Citrus aurantium*), lemon (*Citrus limon*), grapefruit (*Citrus paradisi*).

G. Medicinal plants of the Cruciferae family

The Cruciferae or cress family is characterised by plant that have flowers with cross-like petals. This family groups a large group of medicinal plants that include Black mustard (*Brassica nigra*), White mustard (*Sinapis alba*), Wild radish (*Raphanus raphanistrum*).

H. Medicinal plants of the Liliaceae family

The Liliaceae or lily family is composed of large number of plant with medicinal virtues. Most of these are herbs and rarely shrubs. Examples from this plant family include Aloe (*Aloe vera*), Garlic (*Allium sativum*), Garden onion (*Allium cepa*), Meadow saffron (*Colchium autumnale*).

I. Medicinal plants of the Caryophyllaceae and Boraginaceae families

The Caryophyllaceae or pink family group plants that usually have four to five petalled flowers that are usually white or pink in colour. Examples from this family include sandwort (*Arenaria serpyllifolia*), common chickweed (*Stellaria media*), sand spurrey (*Spergularia rubra*), nail wort (*Paronychia argentea*), smooth rupture-wort (*Herniaria glabra*), viscid sandwort (*Alsine tenuifolia*).

J. Medicinal plants of the Ranunculaceae and Papaveraceae families

The Ranunculaceae or buttercup family is characterised by showy flowers that usually have 5 petals. Examples from this family include pheasant's eye (*Adonis annuus*), lesser celandine (*Ranunculus ficaria*), poppy anemone (*Anemone coronaria*), love in the mist (*Nigella damascena*), short-spurred larkspur (*Delphinium staphysagria*), larkspur (*Delphinium ajacis*), traveller's joy (*Clematis vitalba*), evergreen traveller's joy (*Clematis cirrhosa*).

K. Medicinal plants of the Malvaceae and other families

The Malvaceae or mallow family groups those plants that have five-petalled flowers and a nutlet-like fruit. Examples include cotton (*Gossypium herbaceum*).



