Lecture 6

Medicinal Plant

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Classification of medicinal and aromatic plants

- Medicinal plants are classified in many ways:

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:

a) Medicinal herbs

b) Culinary herbs

c) Aromatic herbs

d) Ornamental herbs

1- According to the usage

A. Medicinal Herbs

- Have curative powers and are used in making medicines because of their healing properties like milk thistle (*Silybum marianum*) and basil (*Ocimum basilicum*)

B. Culinary Herbs

- probably the mostly used as cooking herbs because of their strong flavors like mint (*Mentha spicata*), parsley (*Petroselinum crispum*)

1- According to the usage

C. Aromatic Herbs

- Have some common uses because of their pleasant smelling flowers or foliage. Oils from aromatic herbs can be used to produce perfumes, toilet water, and various scents.
- For example: mint, rosemary (*Rosmarinus officinalis*), basil etc

1- According to the usage

D. Ornamental Herbs

- Used for decoration because they have brightly colored flowers and foliage like lavender (*Horwoodia dicksoniae*) and chive (*Allium schoenoprasum*)

2- According to the active constituents

- The herbs are divided into five major categories:

A. Aromatic (volatile oils),

B. Astringents (tannins)

C. Bitter (phenol compounds, saponins, and alkaloids)

D. Mucilaginous (polysaccharides)

E. Nutritive (foodstuffs)

2- According to the active constituents

A. Aromatic (volatile oils)

- the name is a reflection of the pleasant odor that many of these herbs have.
- They are used extensively both therapeutically and as
- flavorings and perfumes.
- Aromatic herbs are divided into two subcategories:

a) Stimulant herbs, increase energy and activities of the body, or its parts or organs, and most often affect the respiratory, digestive, and circulatory systems. E.g. fennel (*Foeniculum vulgare*), ginger (*Zingiber officinale*), garlic (*Allium sativum*), lemon grass (*Cymbopogon citratus)*

2- According to the active constituents

A. Aromatic (volatile oils)

b) Nerving Herbs are often used to heal and soothe the nervous system, and often affect the respiratory, digestive, and circulatory systems as well.

- They are often used in teas or in encapsulated form, e.g. catnip (*Nepeta cataria*)

2- According to the active constituents

B. 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.

2- According to the active constituents

C. Bitter Herbs

- Named due to the presence of phenols and phenol glycosides, alkaloids, or saponins,
- Divided into four subcategories:

1. Laxative herbs
2. Diuretic herbs
3. Saponin- containing herbs
4. Alkaloid containing herbs

2- According to the active constituents

C. Bitter Herbs

1. Laxative Bitter herbs include, antipyretic, hypotonic, blood purifier.

- For example: yucca, barberry, Gentian.

2- According to the active constituents

C. Bitter Herbs

2. Diuretic Herbs

- Induce loss of fluid from the body through the urinary system. The fluids released help cleanse the vascular system, kidneys, and liver.
- They are antibiotic, antipyretic, and antiseptic, and blood purifier.

For example: milk thistle (Silybum marianum) and parsley.

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2- According to the active constituents

C. Bitter Herbs

3. Saponin-containing Herbs

- Known for their ability to produce frothing, and effectively dissolve the cell membranes of red blood cells and disrupt them. They are alterative, antispasmodic, cardiac stimulant, and increased longevity in nature.
- For example: alfalfa, yucca and ginseng,

2- According to the active constituents

C. Bitter Herbs

4. Alkaloid containing herbs

- (See Lecture 3)

2- According to the active constituents

D. Mucilaginous (polysaccharides)

- Contain polysaccharides which give these herbs a slippery, mild taste that is sweet in water.
- All plants produce mucilage in some form to store water and glucide as a food reserve
- Since most mucilage are not broken down by the human digestive system, but absorb toxins from the bowel and give bulk to the stool, these herbs are most effective topically as poultices, and are also used topically in the digestive tract.
- When used as extracts, they have a demulcent action on the throat

2- According to the active constituents

D. Mucilaginous (polysaccharides)

- They eliminate the toxins from the intestinal system, help in regulating it and reduce the bowel transit time.
- They are antibiotic, demulcent, and detoxifier in nature.
- For example: Marshmallow (*Althaea officinalis*) and Aloe vera.

2. According to the active constituents

E. Nutritive (foodstuffs)

- They are true foods and provide some medicinal effects as fibber, mucilage, and diuretic action.
- But most importantly they provide the nutrition of protein, carbohydrates, and fats, plus the vitamins and minerals that are necessary for adequate nutrition.
- **For example:** apple, asparagus, banana, barley grass, broccoli, cabbage, carrot, lemon, oat straw, onion, orange, papaya, pineapple, red clover

3. According to the period of life.

- Herbs also can be classified as

a) Annuals Herbs
b) Biennials Herbs
c) Perennials Herbs

a) Annuals Herbs

- complete their life cycle in one year; start them from seed, include: fennel, marjoram, parsley, anise, basil, borage, chamomile

3. According to the period of life.

- Herbs also can be classified as

b) Biennials Herbs

- Plants which live two season and bloom in the second season only. Include: caraway (*Carum carvi*).

c) Perennials herbs

- grow for more than one season and include sweet marjoram, parsley, mint, sage, thyme and chives.

4. According to their taxonomy

- Plants are grouped together basic on the clear similarity of morphological characteristics
- (See Lecture 5)



THANKS
FOR
LISTENING