

## **Bed 01 Field of application: respiratory tract**

### **Chamomile**

#### **Classification:**

Chamomile, botanical name *Matricaria chamomilla*, is a plant species in the daisy family (Asteraceae).

#### **Usage:**

Chamomile is mainly used as a tea or inhalation for diseases of the upper respiratory tract, gastritis and skin and mucous membrane inflammations.

#### **Action:**

Major component is an essential oil, chamomile oil. Its main effective component is (-)- $\alpha$ -bisabolol. This terpene hydrocarbon has anti-inflammatory, antibacterial and skin-soothing effects.

#### **Trivia:**

In 1987, it was the first plant to be named Medicinal Plant of the Year by the Verband Deutscher Drogisten (VDD)

In 2002, the Verband der Heilkräuterfreunde Deutschlands e.V. proclaimed it medicinal plant of the year.

### **Echinacea**

#### **Classification:**

Coneflower, botanical name *Echinacea purpurea*, is a plant species in the daisy family (Asteraceae).

#### **Usage:**

In coneflower, the juice of the aerial parts of the plant or the preparation is used as a tea. The coneflower is said to have an immunostimulant effect. However, this is controversial as studies have come to different conclusions.

#### **Action:**

The postulated immune system stimulant effect is said to occur because components of coneflower act on the body's own cannabinoid receptors. These so-called CB2 receptors mediate immunomodulatory but not psychomimetic effects.

#### **Trivia:**

The name Echinacea is derived from the ancient Greek echínos, meaning sea urchin. It refers to the towering, spiny spreading leaves of the inflorescence.

### **- Cowslip**

#### **Classification:**

Cowslip, also called primrose, botanical name *Primula veris*, is a plant species in the primrose or Primulaceae family.

#### **Usage:**

Extracts of cowslip are used mainly for mucous (productive) cough and cold.

#### **Action:**

The flowers of cowslip contain small amounts of saponins, flavonoids, carotenoids and traces of essential oils.

The roots contain so-called triterpene saponins, which have a mild irritant effect on the gastric mucosa. As a result, the associated nerve fibers stimulate the mucous membrane in the bronchi to produce more mucus. Thus, the secretion is thinned and expectoration is facilitated. The irritation of the gastric mucosa also explains the side effects: Stomach pain and nausea.

#### **Trivia:**

The Stiftung Naturschutz Hamburg named cowslip flower of the year 2016.

### **- Mullein**

#### **Systematics:**

Mullein, botanical name *Verbascum thapsus*, belongs to the brownroot family (Scrophulariaceae).

#### **Usage:**

Flowers and leaves of mullein are used as a tea for mucous (productive) cough and cold.

**Action:**

The plant contains so-called saponins. The word element "sapo" means soap. Saponins have an emulsifying effect, they liquefy mucus, which can thus be removed more quickly, i.e. coughed up. Many saponins also have antibacterial and antifungal effects.

**Trivia:**

Hildegard von Bingen mentions mullein as a remedy for a "sad heart."

In 1999, the Verband der Heilkräuterfreunde Deutschlands e.V. proclaimed mullein the medicinal plant of the year.

**- Sage**

**Classification:**

True sage, botanical name *Salvia officinalis*, is a plant species in the labiates family (Lamiaceae).

**Usage:**

The leaves and flowers are used raw or cooked as a spice. They are said to have a digestive effect, which is why they are used with heavy, fatty dishes.

Fresh or dried leaves are used as a tea against inflammation of the mouth and throat, and against excessive sweating.

**Action:**

Many essential oils, terpenes and tannins, are responsible for the effects of sage.

**Trivia:**

The name *Salvia* comes from the Latin *salvare*, which means to heal.

The seeds (clauses) of two *Salvia* species native to California and Mexico are called chia and are eaten.

**- Anemone (toxic!)**

**Classification:**

Wood anemone, also called anemome, botanical name *Anemone nemorosa*, is a plant species in the Ranunculaceae family.

**Usage:**

All parts of the anemone are toxic, which is why the plant is no longer used today. In the past it was used internally against chronic cough, but this causes stomach problems. Since it was also said to have an effect against rheumatism, the plant juice was applied externally to the joints. Today, this application is also rejected, as it leads to skin irritation and allergic reactions.

**Action:**

The main active ingredient of the bush anemone is protoanemonin, which is converted to anemonin when dried. Both substances act against RNA synthesis of bacteria and fungi. In addition, the plant contains other unknown toxins. In humans, protoanemonin and anemonin damage the liver and cause negative long-term effects. Therefore, the plant should not be used internally.

**Trivia: -**

**- Iceland moss**

**Classification:**

Iceland moss, botanical name *Cetraria islandica*, is a form of shrub lichen.

**Usage:**

Icelandic moss is used as a tea against dry cough, inflammation of the mouth and throat, stomach and intestinal mucosa, nausea and temporary loss of appetite.

**Action:**

Therapeutically effective components of Iceland moss are bitter agents, lichen acids, iodine, mucilage (lichenin) and vitamins A, B1 and B12. The lichen acids are said to have mild antibacterial effects.

**Trivia:**

The EU Committee for Herbal Medicinal Products classified lichen islandicus as a traditional herbal medicinal product in November 2014. Approved indications include relief of dry cough and inflammation of the mouth and throat, and temporary loss of appetite.

#### **- Thyme**

##### **Classification:**

Thyme, botanical name *Thymus vulgaris*, is a plant species in the Lamiaceae family.

##### **Usage:**

In addition to its well-known use as a spice, thyme is dried and infused as a tea or used as thyme oil to treat bronchitis and whooping cough.

##### **Action:**

The main ingredient for the effect is the essential oil. It contains the monoterpenes thymol and carvacrol as well as p-cymene, borneol and linalool. The essential oil has several effects in the bronchi. It loosens viscous secretions, increases the beating frequency of cilia, and relaxes cramped bronchial smooth muscles. Since thymols and carvacrols inhibit cyclooxygenase, thyme oil also has an anti-inflammatory effect.

##### **Trivia: -**

#### **- Fennel**

##### **Classification:**

Fennel, botanical name *Foeniculum vulgare*, is the only plant species of the genus *Foeniculum* within the umbellifer family (Apiaceae).

##### **Usage:**

Fennel bulbs are eaten as a vegetable. The fruits of fennel are mistakenly called fennel "seeds" and used as a spice. They are also infused as tea to treat respiratory problems such as productive cough and digestive problems we used spasmodic discomfort of the gastrointestinal tract.

##### **Action:**

The fruits contain essential oils with antibacterial properties. The oils contain silicic acid, mineral salts, starch, vitamins A, B and C. Fennel also contains methyl eugenol and estragole. Oral ingestion has been shown to pose a cancer risk in animal studies. The German Federal Institute for Risk Assessment and the EU's Scientific Committee on Food therefore recommend that both substances be consumed only in small amounts. Pregnant women, infants and young children should avoid fennel tea.

##### **Trivia:**

Hippocrates already recommended fennel. Hildegard von Bingen knew fennel to loosen phlegm. Fennel was named medicinal plant of the year 2009.

#### **- Nasturtium**

##### **Classification:**

Nasturtium, sometimes also called indian cress, botanical name *Tropaeolum majus*, is a plant species in the nasturtium family (Tropaeolaceae).

##### **Usage:**

Fresh or dried vegetative plant parts of nasturtium are used against inflammation of the upper respiratory tract.

##### **Action:**

Nasturtium contains mustard oils, ascorbic acid, flavonoids and carotenoids. The mustard oils have virustatic, bacteriostatic and antifungal effects.

##### **Trivia:**

In 2013, the Studienkreis Entwicklungsgeschichte der Arzneipflanzenkunde proclaimed it the medicinal plant of the year.

#### **- Lady's Mantle**

##### **Classification:**

Lady's mantle, botanical name *Alchemilla vulgaris*, is a plant species in the rose family (Rosaceae).

**Usage:**

Young leaves are eaten as a vegetable. In medicine, the whole herb, that is, everything except the root, is used. It has been proven effective against mild non-specific diarrhea caused by gastrointestinal germs. It is also used as traditional remedy against inflammation of the mouth and throat. There is no evidence for its efficacy as a diuretic, antispasmodic, cardiac stimulant, or in female disorders.

**Action:**

Lady's mantle contains tannins, predominantly agrimoniin, and flavonoids. The tannins alter the structure of proteins, causing the upper layers of tissue to contract and solidify. This imparts an astringent (contracting) effect on the skin and mucosa, making it more difficult for bacteria to penetrate and inflame the intestinal mucosa.

**Trivia:**

The botanical name is derived from the term alchemy, meaning little alchemist. The trivial name refers to the fact that the pleated leaves resemble the mantles of medieval depictions of Mary.

**- Mint**

**Classification:**

Peppermint, botanical name *Mentha x piperita*, is a plant species in the Lamiaceae family.

**Usage:**

Mints are used fresh or dried, internally and externally, for inflammation of the respiratory tract, cramping complaints in the gastrointestinal tract and gallbladder and biliary tract, and for migraine headaches.

**Action:**

The effect of mints is mainly based on essential oils, which include menthol, but also tannins, bitter substances, flavonoids, enzymes and valeric acid. Menthol activates the cold menthol receptor, causing a cool sensation on the skin and mucous membranes, although the body temperature remains unchanged. Menthol is therefore used externally (e.g., in ointments) to treat minor burns or itching, such as after insect bites. Because of its effect on the receptors in the nasal mucosa, breathing seems to be facilitated. In addition, menthol blocks voltage-dependent sodium channels, giving it a local anesthetic (numbing) effect. Menthol also activates GABA<sub>A</sub>, as well as (albeit weakly) κ-opioid receptors, which explains the mild central depressant effect.

**Trivia:**

In 812, mints were part of Charlemagne's plant collection. The last chapter of his 'Capitulare de villis' lists 89 plants and medicinal herbs that were intended to improve the basic medical care of the population. These included Polei mint (*Mentha pulegium*), Water mint (*Mentha aquatica*), Spike mint (*Mentha spicata*) and Ross mint (*Mentha longifolia*).

In 2004, the Studienkreis Entwicklungsgeschichte der Arzneipflanzenkunde proclaimed it the medicinal plant of the year.

Eight different species of mint are part of the Chirality artwork on the Campus Berlin-Buch.

Information can be found here (<https://www.campusart.berlin/en/sk/chiralitaet>)

**- Columbine (toxic!)**

**Classification:**

The common columbine, botanical name *Aquilegia vulgaris*, is a plant species in the Ranunculaceae family.

**Usage:**

The columbine is not suitable for self-treatment, it is toxic. In traditional remedy it is used against mouth and mucous membrane irritations, liver and gall bladder ailments, and menstrual cramps.

**Action:**

Prussic acid, prussic acid glycoside, magnoflorin, myristic acid and linoleic acid.

**Trivia:**

The German name "Akelei" comes from the Latin "aquila" meaning eagle. The spur of the columbine is curved similar to the beak and talons of an eagle.