

# *KruidMail*

2 maandelijks documentenmap over een gebruiksplant

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## *Althaea officinalis L.*

### *Echte heemst*

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  - Mrs. Grieve over *Malvaceae*.
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Monografie Herboristen Opleiding: *Althaea officinalis L.*

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#### ALGEMENE EN BOTANISCHE INFORMATIE

Familie: Malvaceae - Kaasjeskruidfamilie.

Naam: Guimauve (F.), Eibisch (D.), Marshmallow (E.).

Naamverklaring: Althaea (Grieks) = remedie, geneesmiddel.

Soorten: Althaea hirsuta - Ruige heemst,  
Malva alcea - Vijfdelig kaasjeskruid,  
Malva moschata - Muskuskaasjeskruid,  
Malva neglecta - Klein kaasjeskruid,  
Malva verticillata var. crispa - Dessertblad,  
Malva sylvestris - Groot kaasjeskruid,  
Malva sylvestris var. mauritanica.

Ecologie, teelt: Vaste plant groeit in vochtige weiden, rijk aan minerale zouten.  
Vermeerderen door zaaien en scheuren.

#### MATERIA MEDICA

##### *Althaeae radix, flos en folium*

*De bloem, het blad en vooral de wortel, waarvan de buitenste lagen zijn afgeschraapt (geschraapte wortel = Althaeae mundata radix) van Althaea officinalis, Malva sylvestris en Malva mauritanica.*

Oogst: Bladeren vóór de bloeitijd (juni, juli).  
Wortels oktober / november van bijwortels ontdaan, geschraapt en snel gedroogd (36 u bij 35°C). Soms witter gemaakt door extra schillen in ronddraaiend vat.  
Opbrengst in België vóór 1914: 75 ton (streek Lessines).  
Indeling soorten naar land van herkomst.  
Grote uitgezochte wortels werden Althaeae major rad. genoemd;  
bijwortels Althaeae minor radix.

Beschrijving: Kegelvormige wortel, 15-25 cm lang en 0,5-3 cm breed.  
Witachtig met overlans diepgegleufde oppervlakte, dikwijls met loshangende vezels.  
Hier en daar bruinachtige littekens van de afgeknipte bijwortels.  
Reuk: zwak maar kenmerkend.  
Smaak: flauw en slijmerig.

Bewaren: zéér droog, in goed gesloten vaten, buiten invloed van licht en insecten.

#### SAMENSTELLING

##### Radix

- \*\* Slijmstoffen 25-25 %, o.a. glucanen (gehalte hoogst in de herfst).
- \* Suikers 5-10 %.
- \* Zetmeel 10 %.
- \* Looistoffen 4 %.
- \* Vette olie 1,50 %.
- \* Mineralen 7 %: vooral P, Ca en Mg.
- \* Asparagine, betaïne, lecithine, phytosterine.

Nota: Stikstofhoudende stoffen ontleden gemakkelijk onder invloed van vocht (ammoniakgeur); daarom goed droog bewaren.

##### Folium - flos

- \* Slijmstof 6-10 % (hoogste gehalte in blad net vóór de bloei vooral arabinogalactanen - 1)

## FARMACOLOGIE

\*\* Verzachtend (emollientium), niet ? slijmoplossend:

- ontstekingswerend,
- hoestdempend,
- oplossend, rijpingbevorderend. (abces)

\*\* Gastro- en darmprotectivum.

## INDICATIES

### LUCHTWEGEN

- \*\* Slijmvliesirritatie van mond,  
keel en strottenhoofd o.a.:
- |                |     |
|----------------|-----|
| R./ Alth. rad. | 2,5 |
| Alc.           | 2   |
| Aqua           | 42  |
- stomatitis, faryngitis,  
- droge, irriterende hoest,  
- bronchitis.
- \* Doorkomen tanden bij baby's (verse of gedroogde wortel)
- \* Longaandoeningen: stoflong (?), emfyseem (?)

### SPIJSVERTERINGSSTELSEL

- \*\* Gastro-intestinale irritatie o.a.:
- |                      |
|----------------------|
| R./ Alth. rad. pulv. |
| Glyc. rad. pulv.     |
| Lactose q.s.p. 1 g   |
- maag-darmontsteking,  
- diarree,  
- gevoelige darmen met verstopping.
- dos.: 1-3 d. (Moatti, Leclerc)
- \* Proctitis (mac. 3 % als clysmata)

### HUID

- \* Huidontsteking o.a.: furunculose, abces,  
couperose (aanvullend cataplasma verse bloem inf. 15', 2 x d.)
- \* Droge huid ( thee als lotion, cosmetica) ook kruiden huid: Calendula e.a.

### NIERSTELSEL

- \* Blaasontsteking (?).
- \* Enuresis nocturna (bedwateren ?) ook kruiden urinewegen: Solidago

## RECEPTUUR EN BEREIDINGSWIJZEN

### ALTHAEA RADIX / FOLIUM / FLOS

Maceraat: Radix 30'/20 g 1 l / 1 theelepel per kop 3-4 daags

Infuus: Folium / flos 10'/20 g 1 l.

Pasta: Pulvis radix + honing, jam of pasta 5 g daags.

Species:

#### Mondspoelmiddel

R./ Althaeae fl.	25	<u>Ber.:</u> inf. 15', 50 g per 1 liter
Rubi fr. fol.	25	<u>Dos.:</u> mondspoeling 4 x d. na eten.
Juglandis fol.	50	<u>Ind.:</u> aften.

#### Althaea-siroop

R./ Alth. rad.	2,5	N. F. V: basis van hoestsiroopen.
Alc.	2	mac. 2 u, zeven, per 37 g filtraat
Aqua	42	63 g suiker toevoegen, even koken, afvullen in voorverwarmde fles

<u>Species pectorales</u>		Norv. V: borstkruiden bloemen
R./ Sambuci flos	15	
Tussilagin. fol.	15	
Alth. rad.	30	
Glycyrrhiz. rad.	30	<u>Ber.:</u> inf. 10', 2 koffiel./kopje.
Anisi fr.	5	<u>Dos.:</u> 2-4 kopjes daags

Species pectorales zijn opgenomen in zeer veel farmacopeën, o.a. : F. B. V  
R./ Althaeae flos + Malvae flos + Gnaphali fl. + Verbasci fl. in gelijke delen

C. F. 65

R./ Althaeae Flos + Malvae flos +Gnaphali flos +Verbasci flos +Viola flos +  
Tussilaginis flos + Papaver rhoeas flos in gelijke delen

Species ad cataplasmata DAB 6: species emollientes seu resolventes.

R./ Matric. cham. fl.	20	
Alth. pulv. fol.	20	
Malvae pulv. fol.	20	<u>Ber.:</u> mac. 30'/1 eetl./kop,
Lini pulv. semin.	20	decoct tot brij, warm opleggen.

R./ Agropyron rhiz.	33	
Althaeae rad.	33	In diuretische mengsels:
Glycyrrhizae rad.	33	Ontstekingremmend en verzachtend
(event. + Juniperi fr.)		<u>Ber.:</u> infuus. (!)

Siroop Dr. Belaiche

R./ Alth. Rad.	mac. 4 u, 50 g/1 l water met glaasje alcohol, zeven, decoct tot siroop met 250g suiker.
	<u>Ind.:</u> Hoest, slapeloosheid. (?)
	<u>Dos.:</u> 1 likeurglas 's avonds

- Nota's:
- Voor inwendig gebruik: meestal maceraat (alleen voor slijm).
  - Voor uitwendig gebruik: mag ook decoct (slijm + zetmeel).
  - Bereidingen zijn onverenigbaar met sterke alcohol, looistoffen en ijzerzouten (kunnen de slijmstoffen afbreken).

#### GESCHIEDENIS EN WETENSCHAPPELIJK ONDERZOEK

- Oudheid: Reeds melding van gebruik.
- Paracelsus: Tegen hoest.
- Albert de Grote (?): Oplossend, verzachtend. Gebruikt als siroop.

#### Malva

- Fuchsius: 'Voor Hoest, heesigheid ende Uit-teringhe.' Zowel wortel, blad als zaad in melk.
- Dodonaeus: 'Voor steken van spinnen, wespen, bijen en ander ongedierte.' (Vers blad.)
- Durantus: Oorpijn (sap).
- Ravelingius: 'Voor pijn in de darmen, nieren en blaas.' (Malva + Kamille + bier.)
- Galenus: 'Om harde gezwollen te vermurwen.' (Pap.)

Althea (Witte malve)

- Fuchsius: *'Voor het Graveel'*.
- Matthiolus: *'Voor Sinckinghe en dunne Catharren die op de borst vallen.'*
- Dodonaeus: *'Voor zware hoest'*. (Met melk.)

Referentie:

1 M.S. Karawya e.a.: *Planta med.* 20/14 - 1971.

TYPOLOGIE

Patiëntenbeeld: Lymfatische types

- Bij kinderen met slijmvliesandoeningen en ontstekingen van de luchtwegen (KNO).
- Bij ouderen vooral bij darmkwalen.
- Gevoelige, kwetsbare mensen met een gebrek aan lichamelijke en geestelijke afweerkracht (?)

Signatuur: - Zachte, viltige bladeren, groeiend langs water.  
- Zachte, weëig zoete, flauwe smaak.

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## Monografie Commission E: *Althaeae folium* / Marshmallow leaf / Heemstblad

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Latin Name: *Althaea officinalis*

Pharmacopeial Name: *Althaeae folium*

Other Names: *Althaea leaf*, *Althea leaf*

Overview

Marshmallow is a perennial herb native throughout damp areas of Europe and western Asia, naturalized in North America in salt marshes from Massachusetts to Virginia, now cultivated from western Europe to Russia (Karnick, 1994; Leung and Foster, 1996; Wichtl and Bisset, 1994). The material of commerce is harvested from cultivated plants mainly from Belgium, Bulgaria, Hungary, the former Yugoslavia, and the former U.S.S.R. (BHP, 1996; Wichtl and Bisset, 1994). The plant must be at least two years old before harvesting the roots (Bradley, 1992). In Germany, marshmallow is listed in Annex†1 of the German Federal Ordinance on the Conservation of Species (BArtSchV) and a permit is necessary for import or export of any wild-collected material (Lange and Schippmann, 1997).

Marshmallow has been used in traditional European medicines for more than two thousand years (Leung and Foster, 1996). Its therapeutic use was first recorded in the ninth century B.C.E.; it was widely used in Greek medicine (Bown, 1995). Its genus name *Althaea* comes from the Greek *altho*, to cure, and its order name, *Malvaceae*, is derived from the Greek *malake*, soft (Grieve, 1979). Its use in traditional Greek medicine spread to Arabian medicine and to traditional Indian Ayurvedic and Unani medicines. Early Arab physicians prepared a poultice with the leaves to suppress inflammation. The present day Ayurvedic Pharmacopoeia reports its actions as demulcent, diuretic, emollient, and vulnerary (Karnick, 1994).

In Germany, marshmallow root and leaf are both licensed as standard medicinal teas. The root is also used as a component of a few prepared cough tea and cough syrup medicines. In the United States, marshmallow is used as a component of dietary supplement antitussive and demulcent preparations. Marshmallow root and extract were formerly official in the United States Pharmacopeia and the National Formulary.

The approved modern therapeutic applications for marshmallow are supportable based on its history of use in well established systems of traditional medicine, on phytochemical investigations, and in vitro studies and in vivo experiments in animals.

Pharmacopeial grade marshmallow leaf must have a swelling index of not less than 12 and pass botanical identification by macroscopic and microscopic authentication (DAC, 1986; AB, 1981). The British Herbal Pharmacopoeia requires marshmallow leaf to be harvested before the flowering period, pass identification by thin-layer chromatography (TLC), and conform with additional quantitative standards, including water-soluble extractive not less than 15% (BHP, 1996).

Pharmacopeial grade marshmallow root, peeled or unpeeled, must have a swelling index of not less than 10, with the pulverized root, and pass macroscopic and microscopic authentication tests (DAB, 1997; AB, 1981; Ph.Eur.3, 1998; Wichtl and Bisset, 1994). The British Herbal Pharmacopoeia requires peeled marshmallow root to pass botanical identification by a TLC method, plus additional quantitative standards, including not less than 22% water-soluble extractive, calculated with reference to the oven-dried material (BHP, 1996). The Swiss Pharmacopoeia requires a swelling index of not less than 15 (Ph.Helv.VII, 1987; Wichtl and Bisset, 1994).

#### Description

Marshmallow leaf consists of the dried leaf of *Althaea officinalis* L. [Fam. Malvaceae], and its preparations in effective dosage. The preparation contains mucilage.

#### Chemistry and Pharmacology

Marshmallow leaf contains mucilage polysaccharides (6–9%) composed of arabinogalactans and galacturonorhamnans; flavonoids 8-hydroxyluteolin and 8-b-gentiobioside; phenolic acids; tannins; and volatile oil (List and H'rhammer, 1973–1979; Newall et al., 1996; Wichtl and Bisset, 1994).

The Commission E reported that it acts to alleviate local irritation.

The British Herbal Pharmacopoeia reported that it acts as a demulcent (BHP, 1996). Its major constituent is mucilage, which supports the reputed demulcent action (Newall et al., 1996).

#### Uses

The Commission E approved the internal use of marshmallow leaf for irritation of the oral and pharyngeal mucosa and associated dry cough.

The German Standard License for marshmallow leaf tea indicates its use to alleviate irritation of the mucous membranes of the mouth and throat and the gastrointestinal tract; and to ease irritation of the throat in bronchial catarrh (Wichtl and Bisset, 1994). It is used traditionally to treat respiratory catarrh and cough, and inflammation of the mouth and pharynx (Newall et al., 1996).

#### Contraindications

None known.

#### Side Effects

None known.

## Use During Pregnancy and Lactation

No restrictions known.

## Interactions with Other Drugs

Absorption of other drugs taken simultaneously may be delayed.

## Dosage and Administration

Unless otherwise prescribed: 5 g per day of cut leaf.

- ☐ Infusion: 1–2 g in 150 ml boiled water, two to three times daily.
- ☐ Cold maceration: 1–2 g in 150 ml cold water for 60 minutes stirring occasionally; strain and warm before drinking, two to three times daily.
- ☐ Fluidextract 1:1 (g/ml): 1–2 ml, two to three times daily.
- ☒ Tincture 1:5 (g/ml): 5–10 ml, two to three times daily.

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## Note

This material was adapted from The Complete German Commission E Monographs

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## Inhoudsstoffen van Heemst

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8-HYDROXY-DIOSMETIN-8-GLUCOSIDE Plant	MALVALIC-ACID Plant
ALPHA-L-ARABINOFURANOSYL Plant	MANGANESE Root 44 ppm
ALTHEIN Root 20,000 ppm	METHYL-PENTOSE Plant
ALUMINUM Root 680 ppm	MUCILAGE Root 62,000 - 350,000 ppm
ARABINOSE Plant	NIACIN Root
ASCORBIC-ACID Seed 1,640 ppm	NONA-SACCHARIDE Plant
ASH Root 80,000 ppm	P-COUMARIC-ACID Leaf
ASPARAGINE Root 10,000 - 20,000 ppm	P-HYDROXYACETIC-ACID Plant
BETA-CAROTENE Root	P-HYDROXYBENZOIC-ACID Plant
BETAINE Root 40,000 ppm	PARAFFIN Plant
BUTYRIC-ACID Plant	PECTIN Root 110,000 - 350,000 ppm
CAFFEIC-ACID Leaf	PENTOSANS Plant
CALCIUM Root 8,160 ppm	PHOSPHORUS Root 2,560 ppm
CALCIUM-PHOSPHATE Plant	PHYTOSTEROLS Root
CARBOHYDRATES Root 807,000 ppm	POTASSIUM Root 12,100 ppm
CHLOROGENIC-ACID Plant	PROTEIN Root 108,000 ppm; Seed 227,000 - 237,000 ppm
CHOLINE Plant	QUERCETIN Leaf
CHROMIUM Root 15 ppm	QUERCETIN-3-GLUCOSIDE Plant
COBALT Root 33 ppm	RIBOFLAVIN Root 0.5 ppm
D-GALACTOSE Plant	SALICYLIC-ACID Leaf
D-GALACTURONIC-ACID Leaf, Root	SCOPOLETIN Leaf
D-GLUCOSAMINES Plant	SCOPOLINE Plant
D-GLUCURONIC-ACID Leaf	SELENIUM Root
DODECASACCHARIDE Plant	SILICON Root 30 ppm
EO Root 500 - 15,000 ppm	SODIUM Root 1,370 ppm
ERUCIC-ACID Plant	SODIUM-BORATE Plant
FAT Root 5,000 ppm; Seed 128,000 - 172,000 ppm	SORBITOL Plant
FERULIC-ACID Plant	SUGAR Root 50,000 - 110,000 ppm
FIBER Root 83,000 ppm	SYRINGIC-ACID Leaf
GALACTURONIC-ACID Plant	STARCH Root 300,000 - 380,000 ppm
GALACTURONORHAMNOSE Plant	TANNIN Root 20,000 ppm
GLUCAN Plant	THIAMIN Root 1 ppm
GLUCOSAN Plant	TIN Root 29 ppm
HEMICELLULOSE Plant	URONIC-ACID Plant
HEXASACCHARIDE Plant	VANILLIC-ACID Leaf
HEXOSE Plant	WATER Root 892,000 ppm
L-ARABINAN Plant	XYLAN Plant
L-RHAMNOSE Leaf	XYLOSE Plant
LANOLIN Plant	ZINC Root
LECITHIN Root	ppm = parts per million / tr = trace
MAGNESIUM Root 5,180 ppm	
IRON Root 1,150 ppm	
KAEMPFEROL Leaf	
KAEMPFEROL-3-BETA-D Plant	
KAEMPFEROL-3-GLUCOSIDE Plant	

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## Althaeae radix monography WHO

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### Definition

Radix Althaeae consists of the dried roots of *Althaea officinalis* L. (Malvaceae)

(1–4).



## **Synonym**

*Malva officinalis* L. (5).

## **Selected vernacular names**

Altea, altee, althea, bardul khatmi, benefischi, bismalva-hibiscus, blanca malva, bon visclo, bourdon de St Jacques, Eibisch, Eibischwurzel, erva molle, guimauve, Heilwurz, hobbiza, Ibischwurz, khairi, khatmi, korzén prawóslazu, marshmallow, marshmallow root, malvaccioniu, malvavisco, marmolone, molotta, Moorish mallow, orvosiziliz gyökér, racine d'althée, racine de guimauve, Sammetpappel, sauvage, Schleimwurzel, suzmool, sweet weed, white mallow, wymote (3, 6–8).

## **Geographical distribution**

Indigenous to western Asia and Europe, and is naturalized in the United States of America (9, 10). Roots are obtained from commercially cultivated plants that are at least 2 years old and harvested in the autumn (6, 10).

## **Description**

A perennial herb with erect, woody stems, 60–120 cm high. Leaves alternate, ovate to slightly cordate, serrate, velvety, large, occasionally 3-lobed. Flowers pale pink, axillary, the calyx of each surrounded by a 6–9 cleft involucre. Fruit a set of cocci united into a ring (11).

## **Plant material of interest: dried roots**

### ***General appearance***

Cylindrical or tapering, slightly twisted roots, up to 2 cm thick, with deep longitudinal furrows. Outer surface greyish-brown, bearing numerous rootlet scars. Fracture externally fibrous, internally rugged and granular; section shows a thick, whitish bark with brownish periderm, separated by a well-marked, brownish cambium from the white xylem; stratified structure of the bark and radiate structure of xylem become more distinct when moist. Peeled root has greyish-white finely fibrous outer surface; cork and external cortical parenchyma absent (2).

### ***Organoleptic properties***

Odour: faint, aromatic; taste: mucilaginous (1).

### ***Microscopic characteristics***

Phloem with numerous long, thin-walled, non-lignified fibres arranged in tangential groups alternating with groups of sieve tissue, with a ground tissue of thin-walled parenchyma; xylem containing reticulate or scalariform thickening and bordered pits accompanied by lignified tracheids, a small amount of lignified parenchyma and occasional small groups of fibres with only the middle lamella lignified; xylem and phloem transversed by numerous non-lignified medullary rays, mostly uniseriate; majority of parenchyma cells of the phloem and medullary rays contain abundant small starch grains which are mostly simple, spherical to ovoid, occasionally 2–3 compound, with a well-marked circular or slit-shaped hilum; some of these parenchyma cells contain cluster crystals of calcium oxalate 20–40µm in diameter, while others exist as idioblasts containing mucilage (1).

### ***Powdered plant material***

Brownish-grey (unpeeled root) or whitish (peeled root). Fragments of colourless, mainly unlignified, thick-walled fibres with pointed or split ends; fragments of reticulate or scalariform thickening and bordered pits; cluster crystals of calcium oxalate about 20–35µm, mostly 25–30µm, in diameter; parenchyma cells containing mucilage; fragments of cork with thin-walled, tabular cells in the powdered material from the

unpeeled root. Numerous starch grains, 3–25mm in diameter, with occasionally a longitudinal hilum; starch grains mostly simple, a few being 2–4 compound (2).

#### **General identity tests**

Macroscopic and microscopic examinations (1, 2).

#### **Purity tests**

##### ***Microbiology***

Tests for specific microorganisms and microbial contamination limits are as described in the WHO guidelines on quality control methods for medicinal plants (12).

##### ***Foreign organic matter***

Not more than 2% of brown, deteriorated drug and not more than 2% of cork in the peeled root (2).

##### ***Total ash***

Not more than 6% in the peeled root and not more than 8% in the unpeeled root (2).

##### ***Acid-insoluble ash***

Not more than 3% in the peeled root (1).

##### ***Water-soluble extractive***

Not less than 22% (1).

##### ***Loss on drying***

Not more than 12% (2).

##### ***Swelling index***

Not less than 10 (2).

##### ***Pesticide residues***

The recommended maximum limit of aldrin and dieldrin is not more than 0.05 mg/kg (2). For other pesticides, see the *European pharmacopoeia* (2), and the WHO guidelines on quality control methods for medicinal plants (12) and pesticide residues (13).

##### ***Heavy metals***

For maximum limits and analysis of heavy metals, consult the WHO guidelines on quality control methods for medicinal plants (12).

##### ***Radioactive residues***

Where applicable, consult the WHO guidelines on quality control methods for medicinal plants (12) for the analysis of radioactive isotopes.

##### ***Other purity tests***

Chemical, sulfated ash and alcohol-soluble extractive tests to be established in accordance with national requirements.

##### **Chemical assays**

Not less than 10% total mucilage in the peeled root as determined by gravimetric analysis (14).

##### **Major chemical constituents**

The mucilage content ranges from 10 to 20% and consists of a mixture of acidic galacturonorhamnans, neutral glucans and neutral arabinogalactans (6, 8, 9, 15–17).

#### **Medicinal uses**

##### ***Uses supported by clinical data***

None.

##### ***Uses described in pharmacopoeias and in traditional systems of medicine***

As a demulcent for symptomatic treatment of dry irritable coughs and irritations of oral and pharyngeal mucosa and as an emollient for wounds and dry skin (8, 18–23). Also used in cough mixtures to mask the bitter or pungent taste of other drugs (16).

***Uses described in folk medicine, not supported by experimental or clinical data***

Treatment of asthma, cystitis, dysentery and irritations of the gastric mucosa (7).

**Pharmacology**

***Experimental pharmacology***

The demulcent effects of Radix Althaeae are due to its high content of polysaccharide hydrocolloids, which form a protective coating on the oral and pharyngeal mucosa, soothing local irritation and inflammation(24).

**Anti-inflammatory activity**

A polysaccharide fraction (500mg/ml) isolated from a root extract had anticomplement activity in human serum in vitro (25). Aqueous extracts of the roots stimulated phagocytosis, and the release of oxygen radicals and leukotrienes from human neutrophils in vitro (26). The aqueous extract also induced the release of cytokines, interleukin-6 and tumour necrosis factor from human monocytes in vitro, thereby exhibiting anti-inflammatory and immunostimulant activity (26). Intraperitoneal administration of isolated mucilage polysaccharides to mice (10 mg/kg body weight) induced a 2.2-fold increase in the phagocytic activity of macrophages as measured by the colloidal carbon clearance test (27). However, intragastric administration of an 80% ethanol extract of the roots to rats (100 mg/kg body weight) did not inhibit carrageenan-induced footpad oedema (28). Weak inhibition (17%) of mucociliary transport in isolated, ciliated epithelium of the frog oesophagus was demonstrated after treatment of the isolated tissues with 200 ml of an aqueous root macerate (6.4 g/140 ml) (29).

**Antitussive activity**

Intragastric administration of a polysaccharide fraction, isolated from an aqueous root extract, to cats (50 mg/kg body weight) suppressed the intensity and the frequency of coughs induced by mechanical irritation of laryngopharyngeal and tracheobronchial mucosa (30). The antitussive activity of this polysaccharide fraction (50 mg/kg body weight) was as effective as Syrupus Althaeae (1.0g/kg body weight), and more effective than prenoxidiazine (30 mg/kg body weight) (30).

***Clinical pharmacology***

None.

**Contraindications**

No information available.

**Warnings**

No information available.

**Precautions**

***Drug interactions***

Simultaneous administration of Radix Althaeae may delay the absorption of other drugs (8).

***Other precautions***

No information available on general precautions or precautions concerning drug and laboratory test interactions; carcinogenesis, mutagenesis, impairment of fertility; teratogenic and non-teratogenic effects in pregnancy; nursing mothers; or paediatric use. Therefore, Radix Althaeae should not be administered during pregnancy or lactation or to children without medical supervision.

**Adverse reactions**

No information available.

## Dosage forms

Peeled or unpeeled, broken, chopped or powdered crude drug (1, 2) and galenical preparations thereof. Store in a well-closed container, protected from light (2).

## Posology

(Unless otherwise indicated)

For dry cough, oral or pharyngeal irritation: 0.5–3.0 g of crude drug as an aqueous, cold macerate (14, 19, 20, 31) or 2–8 ml of syrup (20, 22, 32), which may be repeated up to a daily dose of 15 g of crude drug. For gastric irritation: 3–5g of crude drug as an aqueous, cold macerate up to three times daily (19, 20, 31).

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**Professionele teelt van *Althaea officinalis***

<b>ALTHAEA OFFICINALIS L. NAME UND BOTANIK</b>	
<p><b>EIBISCH, HEILWURZ</b></p> <p><i>Althaea officinalis</i> L. -</p> <p>Malvaceae (Malvengewächse) -</p> <p>Mehrjährig</p>	
<b>BIOLOGIE</b>	
<b>Aufkommen:</b>	Aus Kultur, selten aus Wildsammlung Der Großteil der Droge stammt aus Osteuropa
<b>Wuchshöhe:</b>	Bis 1,8 m
<b>Blütezeit:</b>	Juni bis September
<b>ANBAU</b>	
<b>Standortansprüche:</b>	Insgesamt keine besonderen Ansprüche, witterungsbeständig, geringe Auswinterungsgefahr. Günstig / Anforderungen: tiefgründige, humose Sandböden mit mäßiger Feuchtigkeit bei Wurzelgewinnung unbedingt siebfähige, unkrautarme Böden Ungünstig / Einschränkungen: kein Anbau auf schweren und staunassen Böden
<b>Anbauhinweise:</b>	ein- bis zweijähriger Anbau
<b>Sorten:</b>	Erfurter                      deutsche Sorte Roussalka                    bulgarische Zuchtsorte - hoher Wuchs, hoher Ertrag, hoher Schleimgehalt (20%) Ansonsten hauptsächlich Landsorten
<b>Fruchtfolge:</b>	selbstunverträglich    Anbaupausen von mind. 4 Jahren zu allen Malvengewächsen Vorfrucht                    Hackfrüchte am besten (kein Mais, Gefahr von Herbizidrückständen)

<p><b>Saat / Pflanzung:</b></p>	<p>Anbau als Direktsaat oder Pflanzung:</p> <p><b>a. Direktsaat</b></p> <p>Eignung für Blatt- oder Krautgewinnung</p> <p>Aussaattermin April</p> <p>Aussaat Anfang Aug. führt zu höheren Erträgen im Folgejahr; allerdings Gefahr von Auswinterungsverlusten</p> <p>TKG 1,6 - 3,5 g</p> <p>Aussaatstärke 8 - 10 kg/ha (4,5 - 6 kg/ha geschälter Samen)</p> <p>Saattiefe ca. 1 cm</p> <p>Reihenabstand 42-50 x 30 cm</p> <p>Schnitte Ein Schnitt pro Jahr bei mehrjähriger Nutzung möglich</p> <p><b>b. Pflanzung von Jungpflanzen (2 Alternativen)</b></p> <p>Eignung für Wurzelproduktion</p> <p>Beregnung bei der Pflanzung ist vorteilhaft</p> <p><b>Anzucht im Saatbeet:</b></p> <p>Aussaat im Freilandsaatbeet ab April</p> <p>Menge 50 g Teilfrüchte / 100 m<sup>2</sup> Saatbeet</p> <p>Aufgang 2-3 Wochen</p> <p>Verpflanzung ab Juni (Wuchshöhe von 8 - 10 cm)</p> <p><b>Vorkultur in Paperpots, Erdpresswürfel oder Breitsaat (mit nachherigem Pikieren):</b></p> <p>Aussaat ab Ende Februar unter Glas</p> <p>Abdeckung mit Substrat, bis zur Keimung auf 20 - 25 °C halten</p> <p>Pflanztermin ab Ende April</p> <p>Reihenabstand 42 / 62,5 cm</p> <p>Pflanzabstand in der Reihe: 25-30 cm</p> <p>Pflanzenanzahl 60-80.000 Pfl./ha</p> <p>Ernte noch im selben Jahr</p> <p><b>c. Anbau von Wurzelteilen</b></p> <p>Zerteilung der Wurzelstücke nach der Ernte: Wurzelteile sollten 1 oder 2 Knospen und ein Stück Wurzelstock von &gt; 3cm Länge umfassen</p> <p>Alternativ: gehäckselte Wurzelstöcke (5 - 10 cm lang) werden in 10 cm Tiefe abgelegt und angewalzt</p>
<p><b>Pflege:</b></p>	<p>Pflanzenschutz:</p> <p>Anwendung chemischer Mittel entsprechend dem Zulassungsstand</p> <p>regelmäßige Bestandeskontrolle</p> <p>Krankheiten, Schädlinge:</p> <p>Malvenrost <i>Puccinia malvacearum</i> (nicht so schädigend wie bei Malve)</p> <p>Malvenflohkäfer (Lochfraß an Blättern), Raupen der Malvenmotte (Ausfressen des Samenkranzes), Blattläuse (Saugschäden an Blättern), Spinnmilben, Zikaden</p>

<b>Düngung:</b>	<p>In Abhängigkeit vom Anbauverfahren und Ernteprodukt:</p> <p>Im Herbst ist eine Stallmistgabe angebracht</p> <p>Richtwerte zum                      100 kg N/ha, möglichst als Teilgaben  Nährstoffbedarf:                      40 - 70 kg P<sub>2</sub>O<sub>5</sub>      120 (bis 180) kg K<sub>2</sub>O (Kalidünger kann chloridhaltig sein)</p> <p>bei Wurzelnutzung:                      mehr Kaliumdüngung  bei Krautnutzung:                      erhöhte N-Gaben; insg. 100-140 kg N/ha (nach jedem Schnitt in gesplitteten Einzelgaben)</p>	
<b>Ernte, Aufbereitung, Erträge:</b>	<p>Ernte                      <b>Wurzeln (Haupternteprodukt)</b>  produkt:</p> <p>Ernte                      Zeitpunkt der Wurzelernte in Abhängigkeit vom  zeitpunkt:                      Anbauverfahren: Wurzelernte so spät wie möglich, da  der Schleimgehalt der Wurzeln bis Winteranfang  ansteigt  Bei  Frühjahrsanbau                      Ernte Ende Okt./Anfang Nov. des  selben Jahres  bei Sommeranbau  Ernte im Folgejahr</p> <p>Ernte  methode:                      Laub tief abschlagen, dann Rodung der Wurzeln mit  Schwingsieb-, Siebkettenroder oder  Kartoffelvollernter (25 - 30 cm Tiefgang)</p> <p>Auf-                      Wurzeln gründlich waschen, in 3 - 10 cm große  bereitung:                      Stücke teilen. Das früher übliche Schälen der Wurzel  ist wegen hohen Arbeitsaufwandes kaum noch üblich</p> <p>Trocknung                      Trocknung bei ca. 35-45 °C, bis Wurzeln leicht  brechen (6% Restfeuchte), was bis zu 75 Stunden  dauern kann. Beschleunigung und Schonung der  Wurzeln durch Trocknung kleinerer Stücke.</p> <p>Lagerung:                      nie feucht lagern (Schimmelpilzgefahr), nicht in  Kunststoffsäcken</p> <p>Erträge:                      Wurzeldroge (geschälte Wurzelware):  aus                      40-50 dt/ha  Frühjahrsplfg.  aus Aussaat                      30-33 dt/ha</p>	<p><b>Kraut: Blätter, Blüten (Nebenernteprodukt)</b></p> <p>Anfang Juli (blühendes Kraut)</p> <p>Wegen zu hohen Zeitaufwands (Handarbeit) ist reine Blatt- bzw. Blütenernte kaum mehr üblich, die Ernte des blühenden Krauts hingegen kann mechanisiert werden</p> <p>Häckseln des Ernteguts, vor und nach dem Trocknen Entfernen der Stängel mittels Windsichter</p> <p>Kann wegen der Schleimstoffe lange dauern, und mit Temperaturen von 40-50°C beschleunigt werden</p> <p>Im ersten Jahr Krauterträge von 80-100 dt/ha, im zweiten Jahr 100-120 dt/ha Frischmaterial (75% Eintrocknungsverluste)</p>

## NUTZUNG

**als Heilpflanze  
(Pharmazie,  
Volksheilkunde):**

**Verwendung:**

**Wurzel**

Die von den äußeren Rindenschichten durch Schälen befreite und getrocknete Wurzeln wurden früher, zu Pulver verrieben, als weiche Pastillen bei Halsentzündungen und Husten verabreicht. Sie sind damit Vorgänger der beliebten "Marshmallows", die diese Kräuterauszüge allerdings nicht mehr enthalten.

**Blatt- und  
Blütendroge**

Werden für Tees verwendet. In Frankreich werden die jungen Triebe und frischen Blätter zu Frühlingsalaten verarbeitet um die Nieren anzuregen (dem gleichen Zweck dient auch ein Sirup aus den Wurzeln der Pflanze).

**Wirkung:**

hustenlindernd, schleimlösend (aber nicht auswurfördernd), Verwendung bei entzündlichen Reizzuständen des Rachenraumes

**Hauptinhaltsstoffe:**

Schleimstoffe, Pektin, Stärke, Zucker, Gerbstoffe.

Wertbestimmende Stoffe sind Schleim und Pektin

geschälte Wurzel 10-15 % Schleim, 11 % Pektin, 37 % Stärke (Schleimzellen sind im Rinden- und Holzparenchym lokalisiert)

Blätter und  
Blüten 6-9 % Schleim

Qualitätsparameter: Wurzeldroge muß von weißer Farbe und frei von holzigen und korkigen Bestandteilen sein



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## Tabernaemontanus over Althaea

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### VON EIBISCH



Der Eibischwurtz werden auch etliche Geschlecht erfunden/ auss dem vorgestalten [1.] ist ersichtlich der gemeine Eibisch/ welcher ein dicke/ glatte/ weisse/ schlüpffferige Wurtzel hat/ mit viel Nebenwürtzlein/ auss welchen lange/ runde Stengel [so uber Ehlen hoch] wachsen/ welche holtzecht seyn/ mit wollichten/ weichen/ äschenfarben Blettern besetzt/ anzugreifen wie ein Sammet:zwischen den Blettern und Stengeln/ wachsen weisse [oder weissrohte] Rösslein oder Blumen herfür/ nach welchen der Same folget wie an den Bappeln/ [einem Kässlein gleich.]

### Von den Namen

Eybisch so auch wol Heilwurtz oder Hilffwurtz möchte genennet werden/ weil es Lateinisch heisset: ALTHAEA/ IBISCUS/ MALVAUISCUS/ BISMALVA.

### Innerlicher Gebrauch

Es haben die Bappeln unnd Eibisch ein Natur/ derohalben was von Bappeln im vorigen Capitel geschrieben/ soll auch von der Ybisch verstanden werden.

Es meldet LOBELIUS/ dass die Apothecker zu Venedig den Schleytm auss der Wurtzel/ MUCCAGO genennet/ mit Zucker etwas hart sieden/ und Küchlein darauss machen/ welche zu den dünnen und scharpffen Flüssen dess Haupts gar dienstlich seyn.

Es wirdt auch diss Kraut wider das brennende Harnen gebraucht/ mit Süssholtz in Gerstenwasser gesotten/ oder in süssem Wein/ unnd darvon getruncken: die Wurtzel auff solche Art gebraucht/ lindert die Schmetzen der Blasen.

Die Bletter in Milch gesotten/ und also warmb getruncken/ vertreibet ein jeden Husten: welches der Same kräftiger thut/ unnd macht wol ausswerffen/ sonderlich so man Kirchenhysop und Süssholtz darmit in Wein oder Wasser kocht/ und ein wenig Honig darzu thut.

HYPPOCRATES hat den Verwundten/ wider den hefftigen Durst/ auss mangel dess Geblüts/ ein Tranck mit Eibischwurtzeln in Wasser gesoten/ geordnet.

### Eusserlicher Gebrauch

Es schreibet DIOSCORIDES/ dass die Wurtzel in Wein oder Honigwasser gesotten/ nützlich gebraucht werde/ wieder die Wunden/ wider die Geschwülst und Geschwähr/ so man STRUMAS nennet/ wider die Geschwären hinder den Ohren/ unnd andere Beulen und Apostemen/ wieder die hitzige Geschwülste der Brust: Dessgleichen auch zu den gespannen Nerven oder Sennadern/ dann sie zertheile/ zertreibe/ erweyche/ koche/ zeitige und heyle zu.

Der trucken Samen klein zerstoßen/ mit Essig gesotten/ darmit an der Sonnen geschmiert/ oder nach dem Badt/ heylet die unreyne aussätzige Haut.

Der Samen in Oel erweicht/ darmit die Stich und Verletzung der giftigen Thier/ auch der Hornüssen und Bienen/ bestrichen/ soll es heylen.

Die Bletter ein wenig mit Oel bestriecken/ pflegt man in die Wunden zu legen/ dessgleichen auch auff den Brand vom Feuer/ Wasser oder dessgleichen brennenden Dingen beschehen.

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## Mrs Grieve 'A Modern Herbal' over Kaasjeskruiden

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### MALLOWS

- \* Mallow, Marsh
- \* Mallow, Blue
- \* Mallow, Musk
- \* Mallow, Dwarf
- \* Mallow, Tree Sea

The large and important family of Mallows are most abundant in the tropical region, where they form a large proportion of the vegetation; towards the poles they gradually decrease in number. Lindley states that about a thousand species had been discovered, all of which not only contain much mucilage, but are totally devoid of unwholesome properties. Besides the medicinal virtues of somany species, some are employed as food; the bark of others affords a substitute for hemp; the cotton of commerce is obtained from the seed vessels of yet other species, and many ornamental garden flowers are also members of this group, the Hibiscus and our familiar Hollyhock among the number.

### MALLOW, MARSH

Common Marshmallow

(*Althaea officinalis* LINN.)

---Synonyms---Mallards. Mauls. Schloss Tea. Cheeses. Mortification Koot.

(French) Guimauve.

---Parts Used---Leaves, root, flowers.

---Habitat---Marsh Mallow is a native of most countries of Europe, from Denmark southward. It grows in salt marshes, in damp meadows, by the sides of ditches, by the sea and on the banks of tidal rivers.

In this country it is local, but occurs in most of the maritime counties in the south of England, ranging as far north as Lincolnshire. In Scotland it has been introduced.

---Description---The stems, which die down in the autumn, are erect, 3 to 4 feet high, simple, or putting out only a few lateral branches. The leaves, shortly petioled, are roundish, ovate-cordate, 2 to 3 inches long, and about 1 1/4 inch broad, entire or three to five lobed, irregularly toothed at the margin, and thick. They are soft and velvety on both sides, due to a dense covering of stellate hairs. The flowers are shaped like those of the common Mallow, but are smaller and of a pale colour, and are either axillary, or in panicles, more often the latter.

The stamens are united into a tube, the anthers, kidney-shaped and one-celled. The flowers are in bloom during August and September, and are followed, as in other species of this order, by the flat, round fruit called popularly 'cheeses.'

The common Mallow is frequently called by country people, 'Marsh Mallow,' but the true Marsh Mallow is distinguished from all the other Mallows growing in Britain, by the numerous divisions of the outer calyx

(six to nine cleft), by the hoary down which thickly clothes the stems, and foliage, and by the numerous panicles of blush-coloured flowers, paler than the Common Mallow.

The roots are perennial, thick, long and tapering, very tough and pliant, whitishyellow outside, white and fibrous within.

The whole plant, particularly the root, abounds with a mild mucilage, which is emollient to a much greater degree than the common Mallow. The generic name, *Althaea*, is derived from the Greek, *althe* (to cure), from its healing properties. The name of the order, *Malvaceae*, is derived from the Greek, *malake* (soft), from the special qualities of the Mallows in softening and healing.

Most of the Mallows have been used as food, and are mentioned by early classic writers in this connexion. Mallow was an esculent vegetable among the Romans, a dish of Marsh Mallow was one of their delicacies. The Chinese use some sort of Mallow in their food, and Prosper Alpinus stated (in 1592) that a plant of the Mallow kind was eaten by the Egyptians. Many of the poorer inhabitants of Syria, especially the Fellahs, Greeks and Armenians, subsist for weeks on herbs, of which Marsh Mallow is one of the most common. When boiled first and fried with onions and butter, the roots are said to form a palatable dish, and in times of scarcity consequent upon the failure of the crops, this plant, which fortunately grows there in great abundance, is much collected for food.

In Job XXX. 4 we read of Mallow being eaten in time of famine, but it is doubtful whether this was really a true mallow. Canon Tristram thinks it was some saline plant; perhaps the Orache, or Sea-Purslane.

Horace and Martial mention the laxative properties of the Marsh Mallow leaves and root, and Virgil tells us of the fondness of goats for the foliage of the Mallow.

Dioscorides extols it as a remedy, and in ancient days it was not only valued as a medicine, but was used, especially the Musk Mallow, to decorate the graves of friends.

Pliny said: 'Whosoever shall take a spoonful of the Mallows shall that day be free from all diseases that may come to him.' All Mallows contain abundant mucilage, and the Arab physicians in early times used the leaves as a poultice to suppress inflammation.

Preparations of Marsh Mallow, on account of their soothing qualities, are still much used by country people for inflammation, outwardly and inwardly, and are used for lozenge-making. French druggists and English sweetmeat-makers prepare a confectionary paste (*Pâét, de Guimauve*) from the roots of Marsh Mallow, which is emollient and soothing to a sore chest, and valuable in coughs and hoarseness. The 'Marsh Mallows' usually sold by confectioners here are a mixture of flour, gum, egg-albumin, etc., and contain no mallow.

In France, the young tops and tender leaves of Marsh Mallow are eaten uncooked, in spring salads, for their property in stimulating the kidneys, a syrup being made from the roots for the same purpose.

---Cultivation---Marsh Mallow used always to be cultivated in gardens on account of its medicinal qualities. It is said to have been introduced by the Romans.

It can be raised from seed, sown in spring, but cuttings will do well, and offsets of the root, carefully divided in autumn, when the stalks decay, are satisfactory, and will grow of their own accord.

Plant about 2 feet apart. It will thrive in any soil or situation, but grows larger in moist than in dry land, and could well be cultivated on unused ground in damp localities near ditches or streams.

---Parts Used---Leaves, root and flowers. The leaves are picked in August, when the flowers are just coming into bloom. They should be stripped off singly and gathered only on a fine day, in the morning, after the dew has been dried off by the sun.

---Constituents---Marsh Mallow contains starch, mucilage, pectin, oil, sugar, asparagin, phosphate of lime, glutinous matter and cellulose.

---Medicinal Action and Uses---The great demulcent and emollient properties of Marsh Mallow make it useful in inflammation and irritation of the alimentary canal, and of the urinary and respiratory organs. The dry roots boiled in water give out half their weight of a gummy matter like starch. Decoctions of the plant, especially of the root, are very useful where the natural mucus has been abraded from the coats of the intestines, The decoction can be made by adding 5 pints of water to 1/4 lb. of dried root, boiling down to 3 pints and straining: it should not be made too thick and viscid. It is excellent in painful complaints of the urinary organs, exerting a relaxing effect upon the passages, as well as acting curatively. This decoction is also effective in curing bruises, sprains or any ache in the muscles or sinews. In haemorrhage from the urinary organs and in dysentery, it has been recommended to use the powdered root boiled in milk. The action of Marsh Mallow root upon the bowels is unaccompanied by any astringency.

Boiled in wine or milk, Marsh Mallow will relieve diseases of the chest, constituting a popular remedy for coughs, bronchitis, whooping-cough, etc., generally in combination with other remedies. It is frequently given in the form of a syrup, which is best adapted to infants and children.

## RECIPES

### Marsh Mallow Water

'Soak one ounce of marsh mallow roots in a little cold water for half an hour; peel off the bark, or skin; cut up the roots into small shavings, and put them into a jug to stand for a couple of hours; the decoction must be drunk tepid, and may be sweetened with honey or sugar-candy, and flavoured with orange-flower water, or with orange juice. Marshmallow water may be used with good effect in all cases of inveterate coughs, catarrhs, etc.' (Francatelli's Cook's Guide.)

For Gravel, etc.

'Put the flower and plant (all but the root)of Marsh Mallows in a jug, pour boiling water, cover with a cloth, let it stand three hours - make it strong. If used for gravel or irritation of the kidney, take 1/2 pint as a Tea daily for four days, then stop a few days, then go on again. A teaspoonful of gin may be added when there is no tendency to inflammation.' (From a family recipe-book.)

The powdered or crushed fresh roots make a good poultice that will remove the most obstinate inflammation and prevent mortification. Its efficacy in this direction has earned for it the name of Mortification Root. Slippery Elm may be added with advantage, and the poultice should be applied to the part as hot as can be borne and renewed when dry. An infusion of 1 OZ. of leaves to a pint of boiling water is also taken frequently in wineglassful doses. This infusion is good for bathing inflamed eyes.

An ointment made from Marsh Mallow has also a popular reputation, but it is stated that a poultice made of the fresh root, with the addition of a little white bread, proves more serviceable when applied externally than the ointment. The fresh leaves, steeped in hot water and applied to the affected parts as poultices, also reduce inflammation, and bruised and rubbed upon any place stung by wasps or bees take away the pain, inflammation and swelling. Pliny stated that the green leaves, beaten with nitre and applied, drew out thorns and prickles in the flesh.

The flowers, boiled in oil and water, with a little honey and alum, have proved good as a gargle for sore throats. In France, they form one of the ingredients of the Tisane de quatre fleurs, a pleasant remedy for colds.

---Preparations and Dosage---Fluid extract leaves. 1/2 to 2 drachms.

Common Marshmallow

### **MALLOW, BLUE**

Botanical: *Malva sylvestris* (LINN.)

---Synonym---Common Mallow.

---Parts Used---Flowers, leaves.

The Common or Blue Mallow is a robust plant 3 or 4 feet high, growing freely in field, hedgerows and on waste ground. Its stem is round, thick and strong, the leaves stalked, roundish, five to seven lobed, downy, with stellate hairs and the veins prominent on the underside. The flowers are showy, bright mauve-purple, with dark veins. When they first expand in June, the plant is handsome, but as the summer advances, the leaves lose their deep green colour and the stems assume a ragged appearance.

Cattle do not appear to be fond of this plant, every part of which abounds with a mild mucilage.

---Medicinal Action and Uses---The use of this species of Mallow has been much superseded by Marsh Mallow, which possesses its valuable properties in a superior degree, but it is still a favourite remedy with country people where Marsh Mallow is not obtainable. The roots are not considered of much value compared with those of the Marsh Mallow, and as a rule the leaves and flowers are used only, mainly externally in fomentations and poultices. The infusion has been a popular remedy for coughs and colds, but the internal use of the leaves has fallen into disuse, giving place to Marsh Mallow root, though they are still employed as a decoction for injection, which, made strong, cures strangury and gravel.

The foliage when boiled, forms a wholesome vegetable. The seeds, or 'cheeses,' are also edible.

A tincture of the flowers, which turn blue in fading, forms a very delicate test for alkalis.

The flowers were used formerly on May Day by country people for strewing before their doors and weaving into garlands.

---Preparation and Dosage---Fluid extract, 1/2 to 2 drachms.

### **MALLOW, MUSK**

Botanical: *Malva meschata*

---Parts Used---Leaves, root, flowers.

The Musk Mallow is not an uncommon plant in dry pastures and in hedgerows. It grows 2 feet high, with round, thick, erect stems, somewhat hairy, often purplespotted. The foliage is light-green, the lower leaves kidney-shaped, five to seven lobed, those on the stem finely divided into numerous narrow segments. The handsome rose-coloured flowers are three times the size of the Common Mallow, crowded towards the summit of the stem. It emits from its leaves a faint, musky odour, especially in warm weather, or when drawn through the hand.

This Mallow is not common in Kent and other counties, but in Essex it is very abundant.

The root is white and is the part used. It has the same virtues as the Common Mallow, but is not quite as strong, and the leaves have similar properties.

### **MALLOW, DWARF**

Botanical: *Malva rotundifolia*

---Part Used---Leaves.

---Habitat---The Dwarf Mallow is self-fertilizing, while the other kinds are insect-visited. It is common in most parts of Europe, including Britain, and in Western Asia. In Egypt, especially upon the banks of the Nile, it is extensively cultivated and used by the natives as a pot-herb.

The Dwarf Mallow, a smaller variety than any of the other wild Mallows, is easily distinguishable by its prostrate stems and pale lilac flowers. Its leaves are heart-shaped and have also sometimes been used medicinally.

### **MALLOW, TREE SEA**

Botanical: *Lavatera arborea*

---Part Used---Herb.

The velvety leaves of the Sea Tree Mallow, a tall, handsome plant growing 5 or 6 feet high, on sea cliffs, on many parts of the coast, are used for sprains, steeped in hot water and laid on the injured spot.