

7.1. MISCELLANEOUS

7.1.1. Introduction

Following drugs are discussed below:

- 1) Liquorice,
- 2) Garlic,
- 3) Picrorrhiza,
- 4) Dioscorea,
- 5) Linseed,
- 6) Shatavari,
- 7) Shankpushpi,
- 8) Pyrethrum, and
- 9) Tobacco.

7.1.2. Liquorice

Liquorice is a perennial herb cultivated in the Mediterranean region and Central and South-West Asia for its sweet taproot (thus, also termed as **sweet root**). The plant give purple with white coloured flowers and its roots grow to a depth of 4 feet (1.2m).

Synonyms

Radix glycyrrhizae and Sweet liquorice.

Biological Source

Liquorice consists of subterranean dried peeled or unpeeled roots and stolon of different varieties of *Glycyrrhiza glabra*.

Family

Leguminosae

Occurrence and Distribution

On a large scale, liquorice is cultivated in Spain, Sicily, and Yorkshire (England). *G. glabra* var *violaceae* is found in Iran, while *G. glabra* var *glandulifera* is cultivated in Russia and is named the **Russian Liquorice**. In Asian continent, it is cultivated in India (sub-Himalayan tracts) and Baluchistan.

Organoleptic Evaluation

It is a perennial small tree (figure 7.1):

- 1) **Colour:** Externally greyish brown to dark brown, warty; internally tawny yellow.
- 2) **Taste:** Sweet and very slightly acid.
- 3) **Odour:** Weak and somewhat aromatic.
- 4) **Size:** Several feet in length, varying in thickness from ¼ inch to about 1 inch, longitudinally wrinkled.
- 5) **Shape:** Root is long, straight, nearly cylindrical, unpeeled pieces.
- 6) **Fruit:** Legume.



(a) Liquorice Root

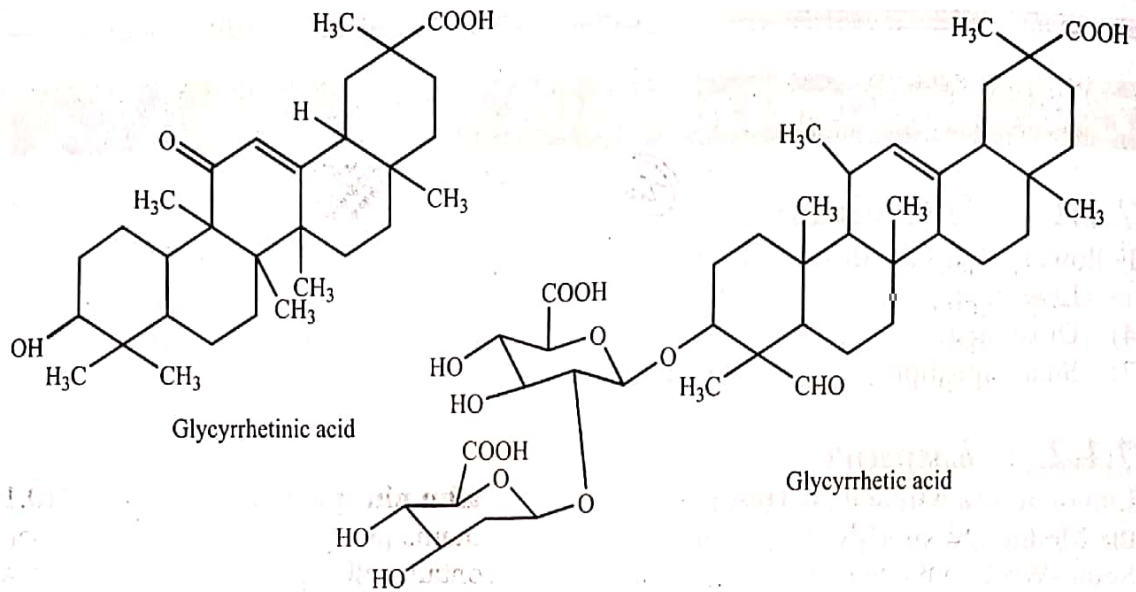


(b) *Glycyrrhiza glabra* Twig

Figure 7.1: Liquorice

Chemical Constituents

The main constituent of liquorice is **glycyrrhizin** (6-8%) which is 50 times sweeter than sucrose. It is extracted in the form of white crystalline powder consisting of calcium and potassium salt of glycyrrhizic acid. **Glycyrrhizic acid** on hydrolysis yields **glycyrrhetic acid**. It also contains two flavonoids, namely **liquiritin** and **isoliquiritin**.



Chemical Tests

- 1) On addition of 80% sulphuric acid to a section or powder of the drug, orange yellow colour is produced due to the transformation of liquiritin (flavone glycoside) to isoliquiritin (chalcone glycoside).
- 2) Powdered drug when reacts with water in the presence of KOH, gives a red colouration.

Therapeutic Efficacy

- 1) It is used as a sweetening agent and in bronchial problems like flu and coughs.
- 2) It is also used as an expectorant and demulcent.
- 3) It is also used in peptic ulcer and as an antispasmodic.
- 4) Externally, the root is used in the treatment of herpes and eczema.

7.1.3. Garlic

Garlic has been used for medical purpose even in ancient Egypt. It was used in the ancient times for treating leprosy. With time it gained popularity for relieving scurvy, ear aches, flatulence etc.

Synonyms

Lehsun, Rasun, Belluli, and Vallaippundu.

Biological Source

Garlic is bulbs of *Allium sativum* Linn. It contains not less than 0.2% of alliin on dried basis.

Family

Liliaceae

Occurrence and Distribution

Garlic is grown in Central Asia, Southern Europe, U.S.A., and India. In India, all the states are producers of garlic, which is cultivated as a spice or a condiment crop.

Organoleptic Evaluation

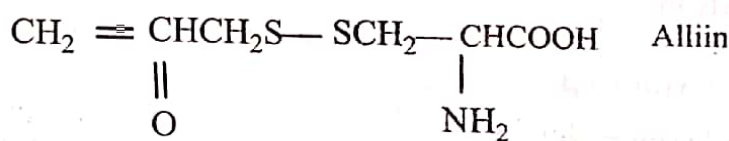
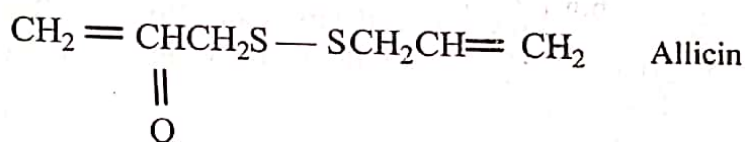
- 1) **Colour:** Bulbs are white to pink.
- 2) **Odour:** Characteristic and aromatic.
- 3) **Taste:** Aromatic and pungent.
- 4) **Size:** 1.5-2.5cm.
- 5) **Type:** Sub-globular compound bulb with several cloves, enclosed in a silky white or pinkish papery envelope of the skin (**figure 7.2**).
- 6) Cloves are attached to a flat, circular, hard axis with numerous thin wiry roots from its underside and short sub-cylindrical outgrowths from the upper surface.



Figure 7.2: Garlic Bulb

Chemical Constituents

Garlic bulbs contain **carbohydrates** (29%), **albumin** protein (50%), **fat** (0.1%), **mucilage**, and **volatile oil** (0.06-0.1%). It also contains phosphorus, iron, and copper. Its chief active constituent is the volatile oil which contains **allyl propyl disulphide**, **diallyl disulphide**, **alliin**, and **allicin**. Alliin gets converted into allicin by the enzymatic action of allinylase.

**Therapeutic Efficacy**

- 1) It is used as a carminative, aphrodisiac, expectorant, stimulant, and disinfectant for treating pulmonary conditions.
- 2) Its oil is used as an anthelmintic and rubefacient.
- 3) Its oil is also used in high blood pressure and atherosclerosis.
- 4) Allicin has antibacterial property.
- 5) When fresh it acts as a prophylactic against amoebic dysentery. (25)