



Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

EXPERIMENT NO: 8

Licorice: Liquorice : Glycyrrhiza: Sweet roots : Radix Liquiritiae

Latin name: *Glycyrrhiza glabra L.*- English, Spanish Licorice

Glycyrrhiza glandulifera L. - Russian Licorice

Glycyrrhiza violacea L. - Persian Licorice

Family: *Leguminosae*



Glycyrrhiza glabra



Fresh Licorice roots

- Perennial small trees.
- Fruit form legume.
- Colour: the roots outer surface brown or reddish brown while inner surface yellowish brown.
- Odor: weak, somewhat aromatic.
- Taste: sweet.

Chemical constituents

1. Glycoside –Saponin group: Glycyrrhizin 50 time sweeter than sucrose.
2. Flavonoids –Liquiritin & Isoliquiritin.
3. Proteins.
4. Sugars (glucose, sucrose).

Uses:

1. Expectorant.
2. Antihistaminic.
3. Flavoring agent for Aloe, Quinine, NH₄CL, Chocolates.
4. Anti-inflammatory activity –used in treatment of peptic ulcer seborrhea & mucous membranes ulcers.
5. Demulcent.
6. Soft drink.

Qualitative Tests

- 1) Powder + H₂O + KOH → red color
- 2) Powder + H₂O → persistent frothing
- 3) Powder + H₂SO₄ 60% → yellow color

N.B!

- Glycyrrhizin increases fluids and sodium retention and decreases potassium ,so a person with cardiac problems and hypertension must avoid Licorice

DRUGS:

Gingisan®:

Liquid & ointment (oral):

Teva Company

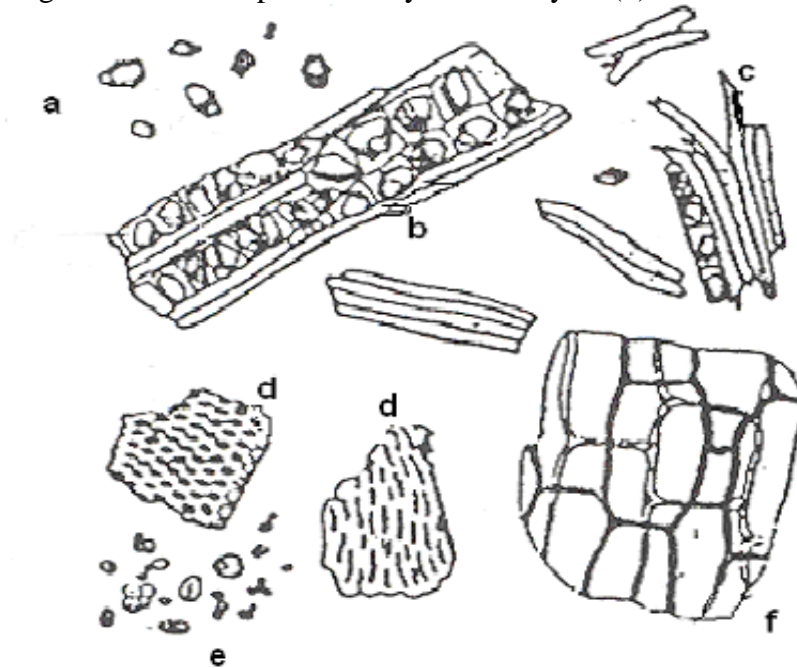
Chamomile flowers + Eucalyptus leaves + Licorice roots

Indications: gingivitis and stomatitis.

Microscopical examination

Key elements:

1. Sclerenchymal fibers(c).
2. Reticular vessels (d).
3. Cortical parenchyma (f).
4. Fragments from the pith with crystal cell layers (b).



- a) Ca-oxalate single crystals from the crystal cell layers.
- b) Fragments from the pith with crystal cell layers & subjacent yellowish sclerenchymal fibers.
- c) Sclerenchymal fiber fragments.
- d) Yellowish fragments of often very wide vessels with pit zones & areola thickened walls.
- e) Starch particles from the cortical & wood parenchyma of rounded or spindle to rod shape.
- f) Fragments of cells from cortical parenchyma.