

Pharmacognosy

PHG 112
PG 102

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Faculty of Pharmacy

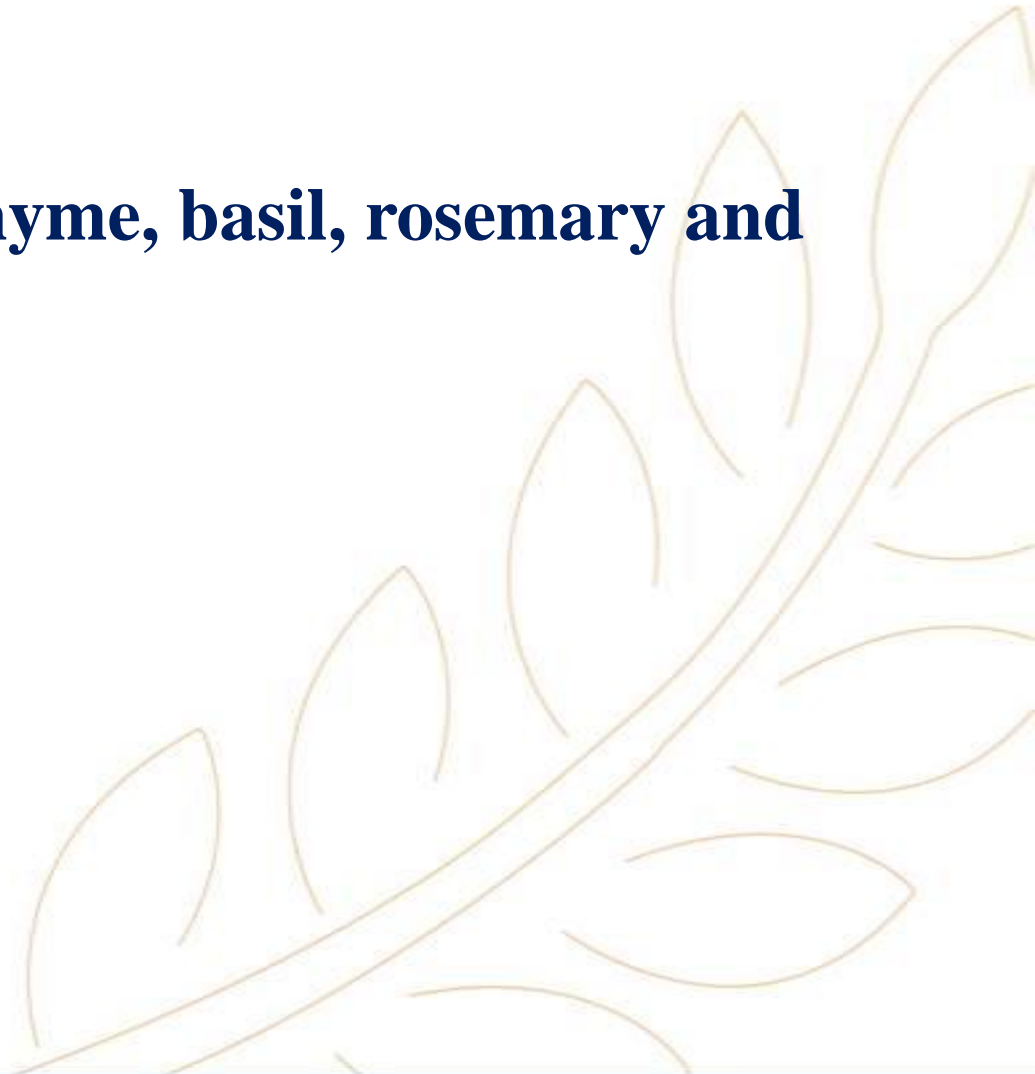


Lecture 8



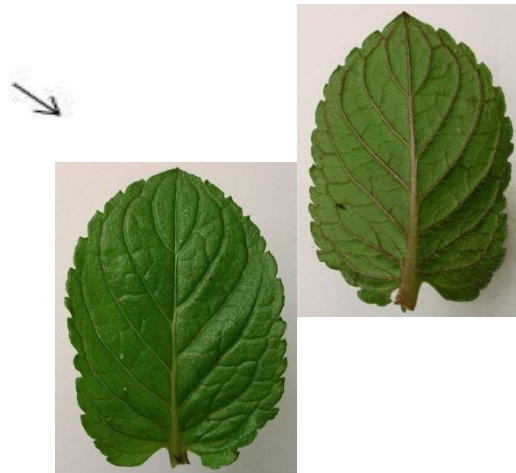
By the end of the lecture, students should be able to demonstrate knowledge of:

Herbs containing volatile oils *e.g.* mentha, thyme, basil, rosemary and artemisia

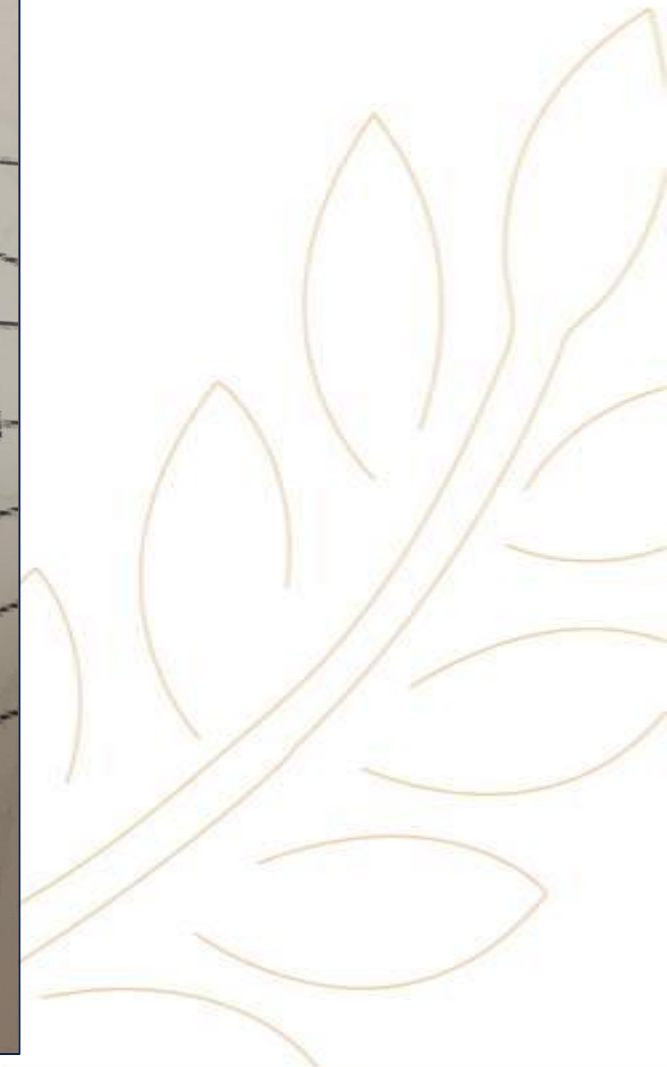
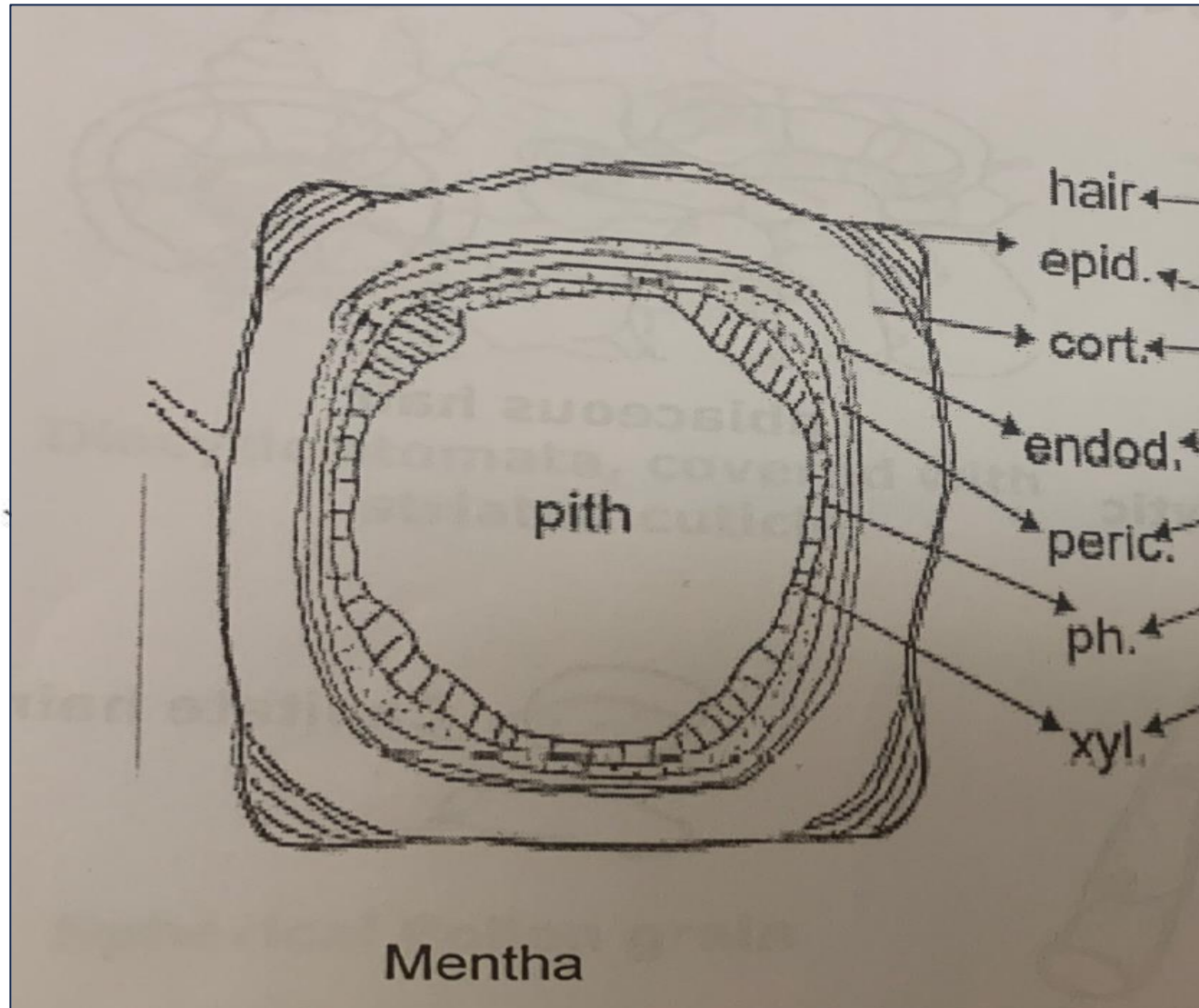


PEPPERMINT HERB

Origin: Is the dried leaves and flowering tops of *Mentha piperita* F. Labitae



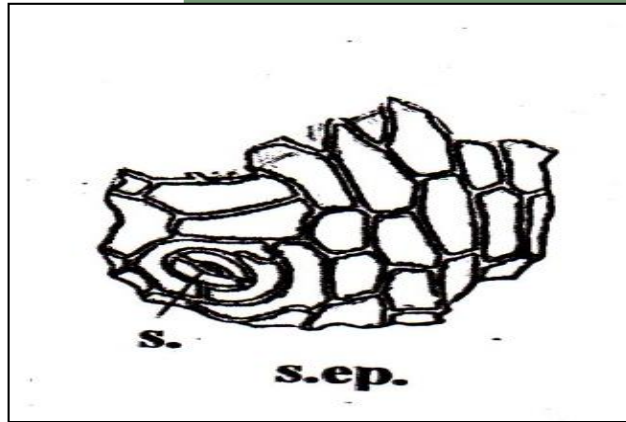
T.S of Mentha Herb:



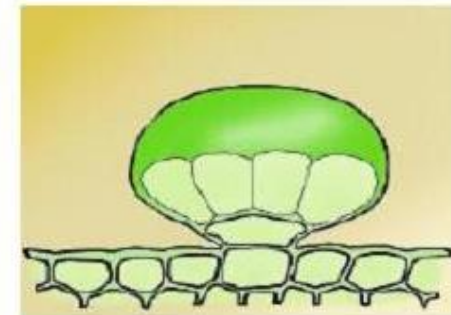
Powder:

Odour :aromatic
Taste: aromatic
with cold sensation

Epidermal cells
of the leaf with
diacytic stomata.



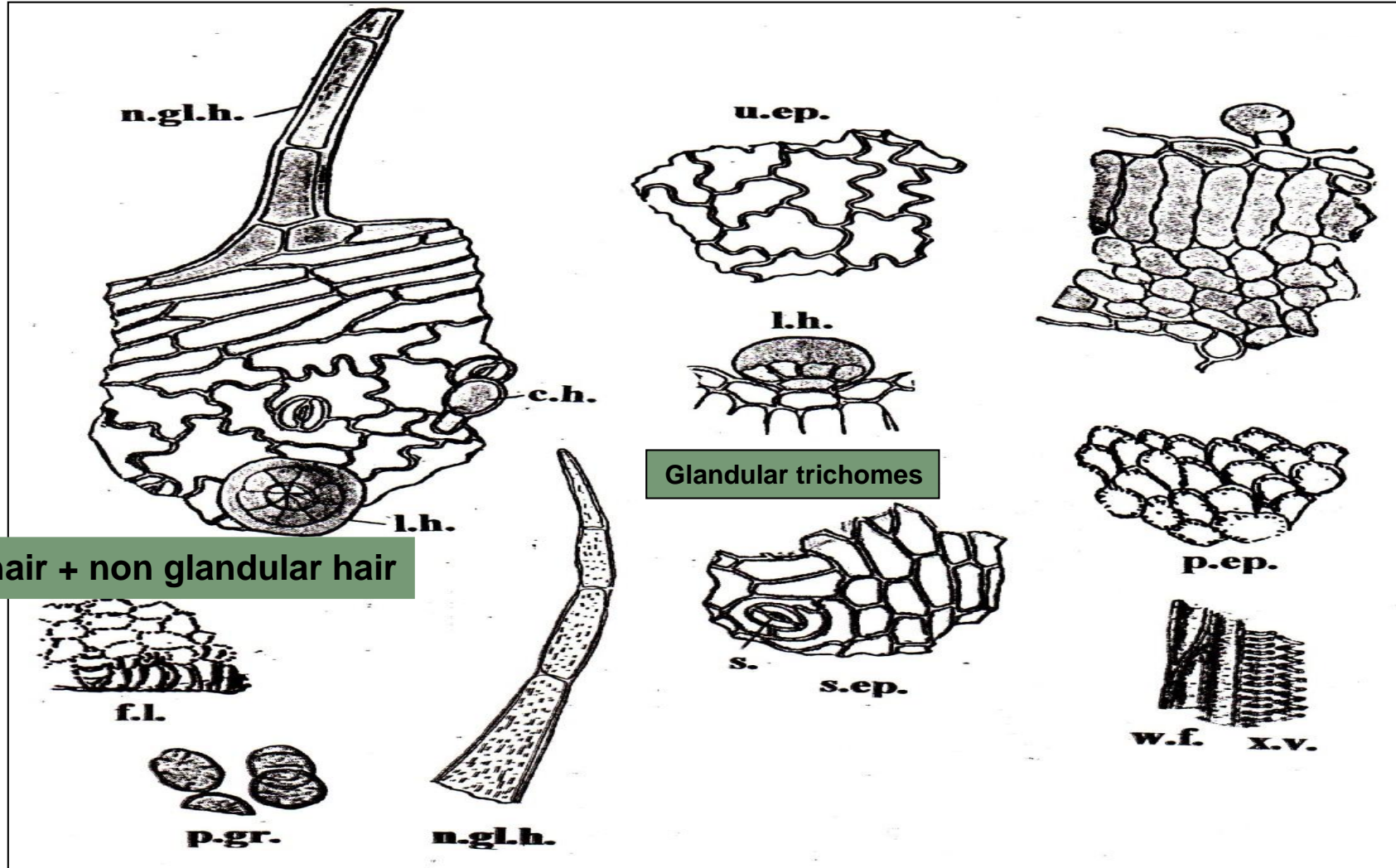
Multicellular,
uniseriate non
glandular
trichomes and
glandular
labiateous hairs
and unicellular
stalk unicellular
head hairs



Smooth
spherical pollen
grains



Powdered Mentha



Labiaceous hair + non glandular hair

Glandular trichomes

**ACTIVE
CONSTITUENTS**

**1- Volatile oil mainly
menthol, menthyl acetate,
menthone & menthyl
isovalerinate**

2- Tannins

3- Flavonoids

USES:



- Local action: antipruritic, mild local anesthetic and antiseptic
- Systemic action: carminative and gastric sedative
- Flavouring agent



Candies &
chewing
gums



mouth washe



tooth paste

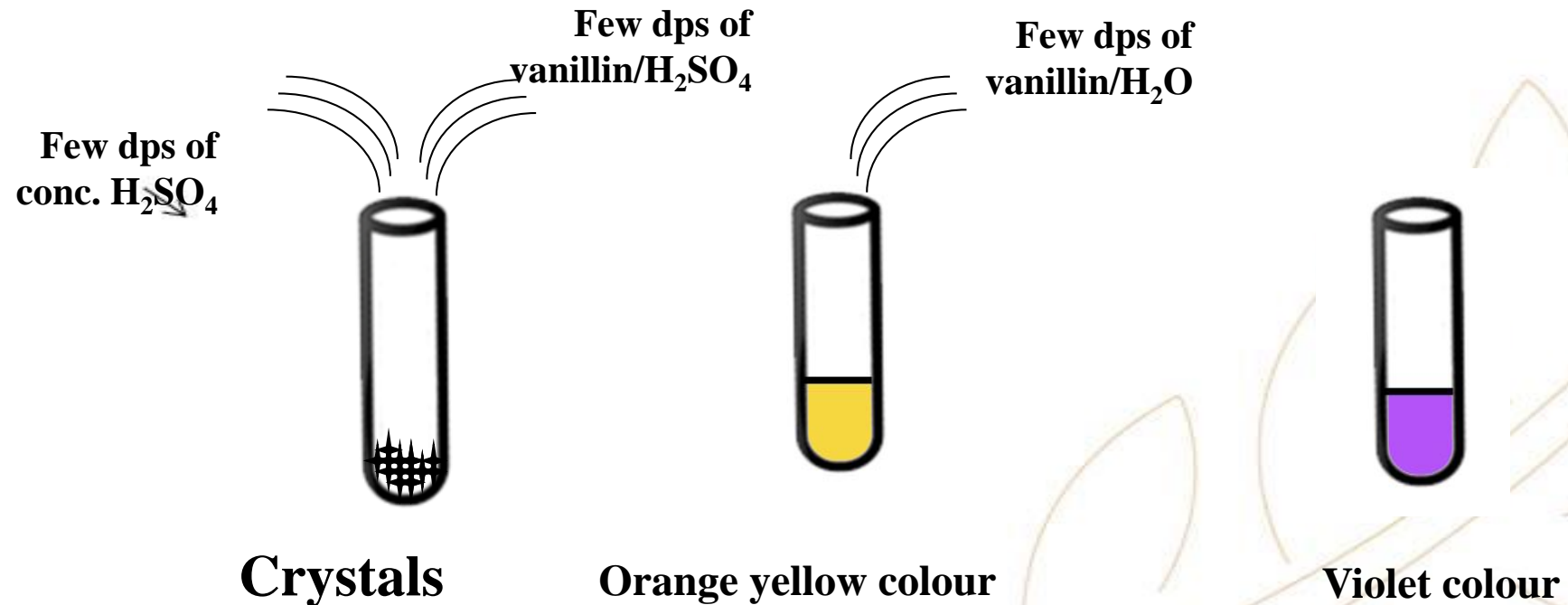


cigarette

CHEMICAL TEST

1- Oil with a mixture of glacial acetic acid and nitric acid give **blue colour** change to **golden yellow** when heating on water bath

2-



Thyme herb

Thyme is the dried leaves and flowering tops of *Thymus vulgaris* Family Labiatae.



Thymus sp.
©Kazuo Yamasaki



Odour :aromatic

Taste: aromatic

pungent.

**The herb is short,
grayish brown
and hairy**

Active

Constituents

Volatile oil

Thymol,Carvacrol

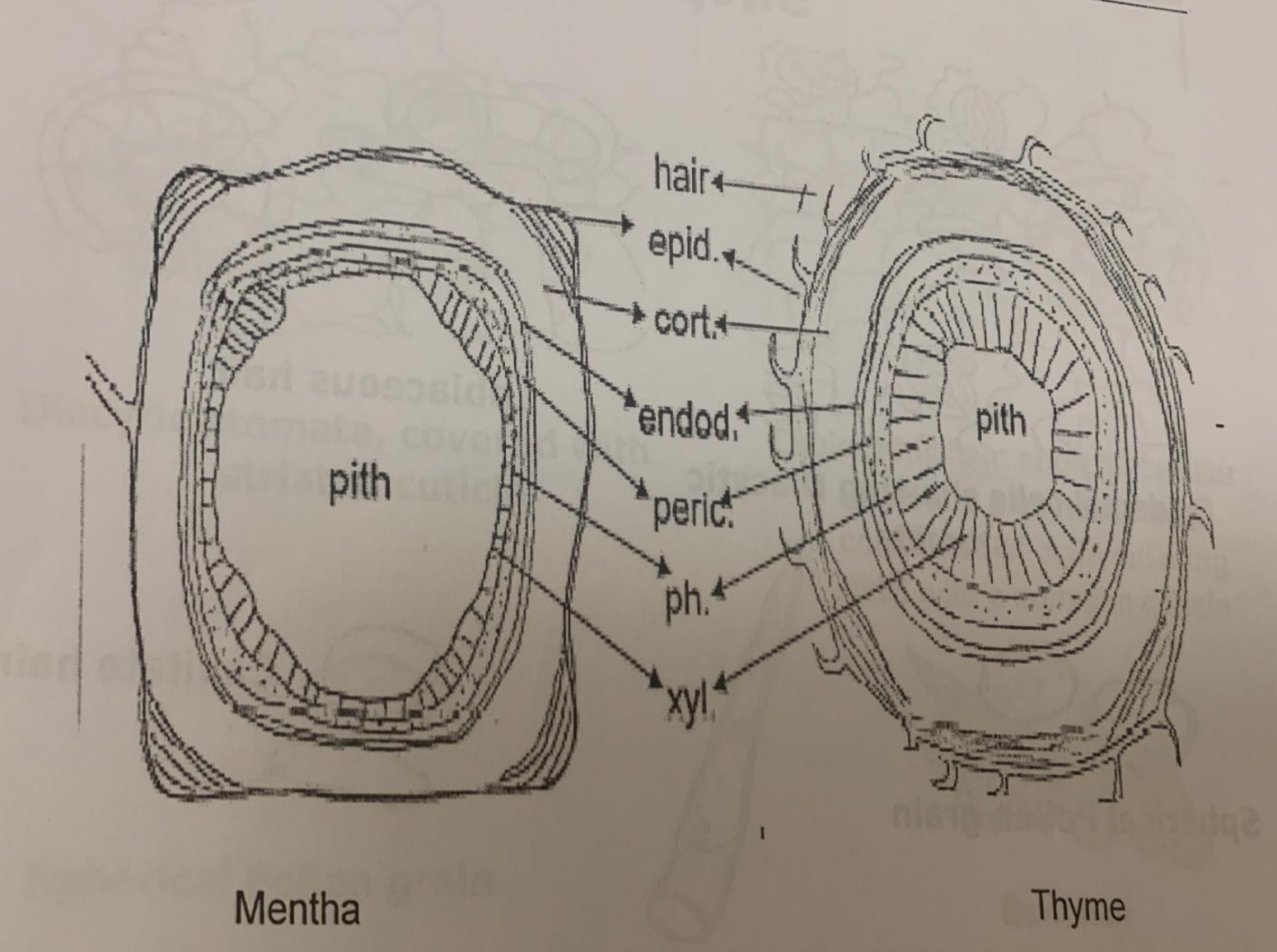
Linalool,Broneol

and Bornylacetate.

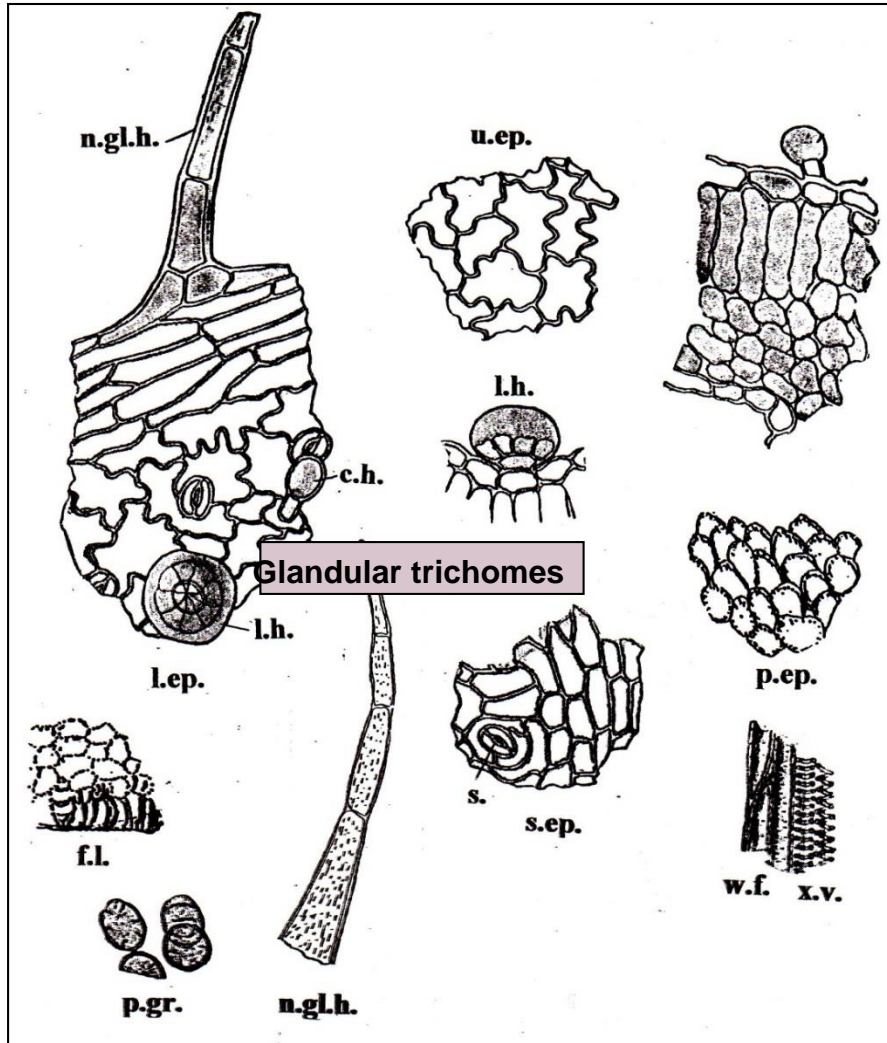
Chemical test

**Thymol crystals + 1 ml glacial acetic acid + 6 drops conc H_2SO_4
+ 1 drop HNO_3 → deep bluish green**

T.S of Mentha & Thyme Herb:



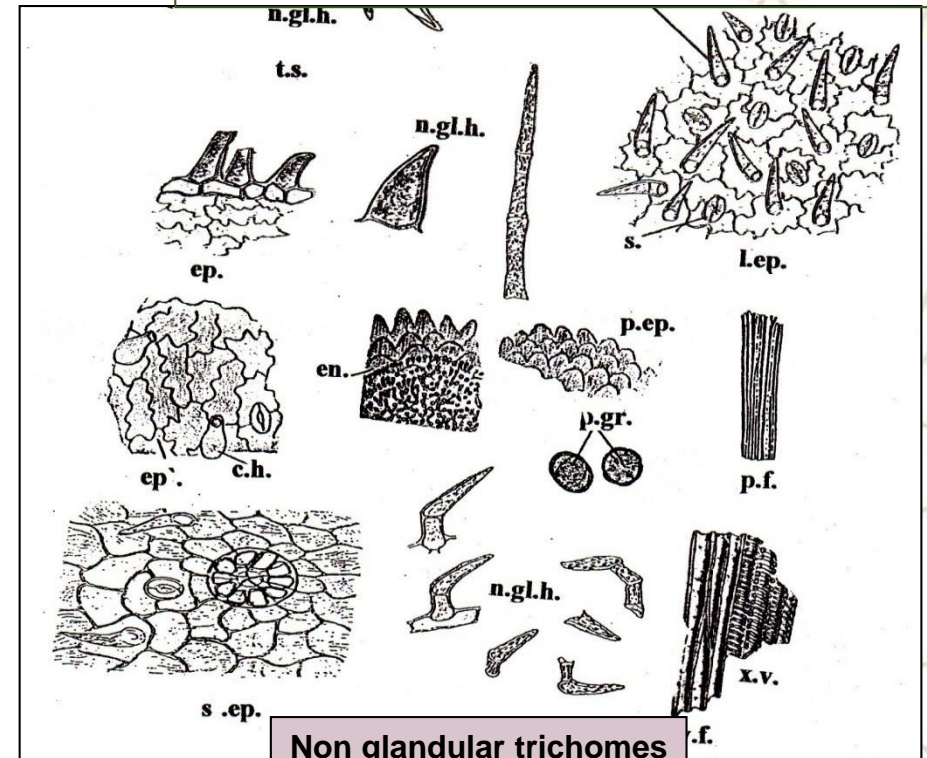
Powdered Mentha



Labiaceous hair + non glandular hair

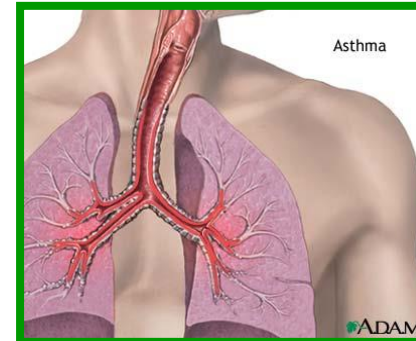
Powdered Thyme

Non glandular hairs are present on both surfaces being uniseriate sharply pointed often bent near the base as well as labiaceous hairs.



Non glandular trichomes (bent hair)

USES



1- Used for bronchitis, whooping cough and upper respiratory tract infections.

2- The oil is used as carminative, antispasmodic

3- Flavouring agent and antiseptic in mouth washes, toothpaste and creams

4- Antifungal for skin infection



Sweet basil (ocimum) herb

The dried leaves and
flowering tops of
Ocimum basilicum L.
Family Labiatae



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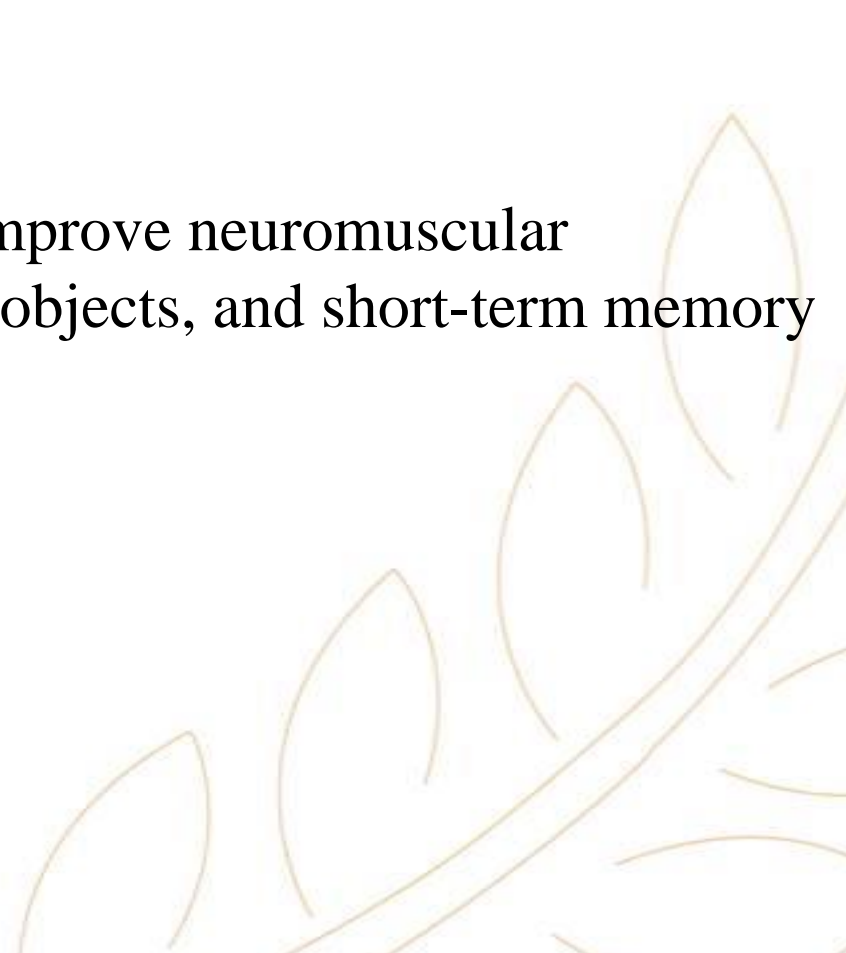
**ACTIVE
CONSTITUENTS**

**1- Volatile oil mainly
linalool, eugenol, geranial,
methyl eugenol, 1,8-
cineole, and other
compounds.**

2-Tannins

**3- Flavonoids &
phenolic acids**

USES

- Antiviral activity toward SARS-CoV-2. due to its monoterpenes and flavonoids
 - Antibacterial
 - Leaf extract administered orally had the potential to improve neuromuscular coordination, active behavior, the ability to recognize objects, and short-term memory
 - A great wound healing ability
 ↓
 - Antiinflammatory effect
 - Combat anxiety, depression and insomnia
 - Aid in weight loss.
- 
- A decorative graphic on the right side of the slide, consisting of a light brown branch with several stylized, pointed leaves. The leaves are arranged in a fan-like pattern, extending from the bottom right towards the top right of the slide.

Rosemary Herb

The dried leaves and flowering tops of
Rosmarinus officinalis L.
Family Labiatae



**ACTIVE
CONSTITUENTS**

1- Volatile oil mainly 1,8-cineole, α -pinene, α -terpineol, verbenone, limonene, bornyl acetate, terpinolene and camphor

2-Tannins

**3- Flavonoids
& phenolic
acids**

USES

- Antioxidants and anti-inflammatory compounds
- Enhancing memory and concentration & prevent brain aging
- Antioxidant and anti-inflammatory in the treatment of diabetes mellitus and its complications

AS A COSMECEUTICAL

- Rosemary helps to balance sebum
- Protect skin cells from damage
- Acts against UV-induced and pollution-induced skin aging and against cutaneous inflammation.
- Stimulates hair growth and reduce hair fall. It also helps to reduce scalp inflammation.



Artemisia herb

The dried leaves and flowering
tops of

Artemisia annua L.

Family Asteraceae



**ACTIVE
CONSTITUENTS**

**1-Volatile oil mainly
Monoterpenes such as
Artemisia ketone, camphor,
camphene, borneol, a-pinene,
and 1,8-cineole
sesquiterpenes; such as
Germacrene A**

2-Artemisinin

3- Coumarin

USES

- Artemisinin is well established for the treatment of malaria, including highly drug-resistant strains
- Anti viral against SARS-CoV-2 and its rapidly evolving variants
- Anti inflammatory
- Anti cancer
- It is considered as a promising component to be used in wound healing applications



Activity





IN EGYPT SINCE 1996
Established by Dr.Nawal El Degwi
October University for Modern Sciences and Arts
جامعة أكتوبر للعلوم الحديثة والآداب

Thank You!

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