

Pharmacognosy

PHG 112
PG 102

Professor Mahitab Helmy
Associate Professor Dr Soumaya Saad Zaghloul
Dr Ibrahim Ezz

Spring 2025



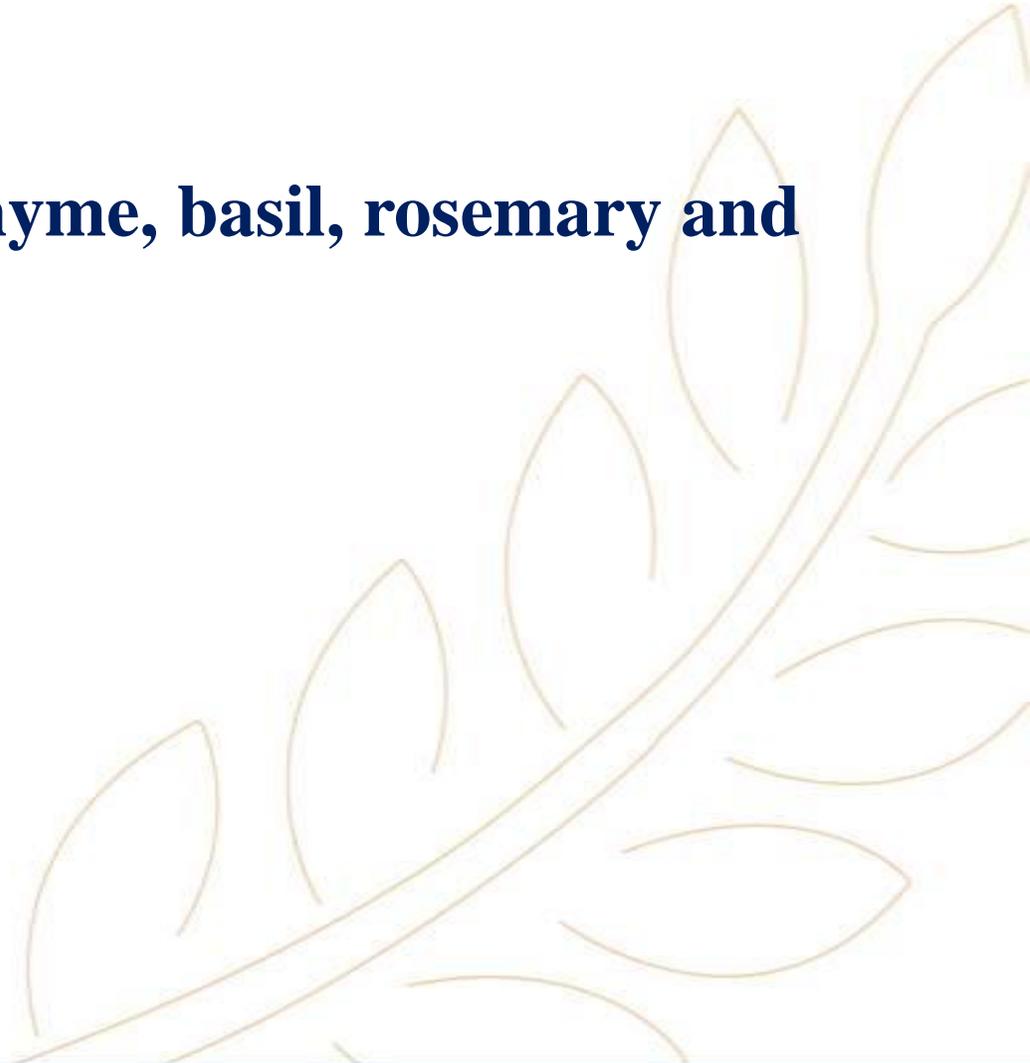
Faculty of **Pharmacy**

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



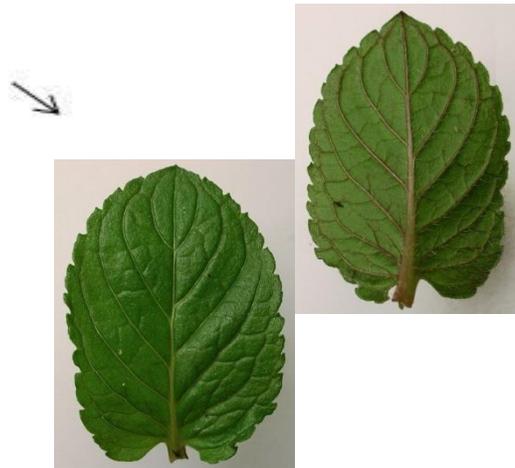


Herbs Having Nutraceutical Applications



PEPPERMINT HERB

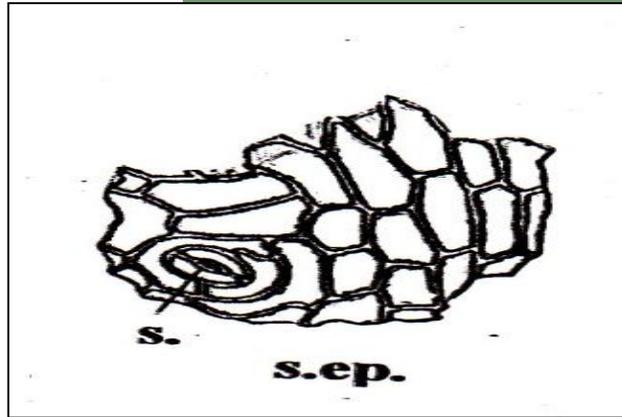
Origin: Is the dried leaves and flowering tops of *Mentha piperita* F. Labitae



Powder:

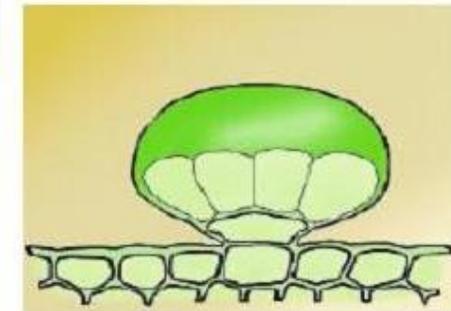
Odour :aromatic
Taste: aromatic
with cold sensation

Epidermal cells
of the leaf with
diacytic stomata.

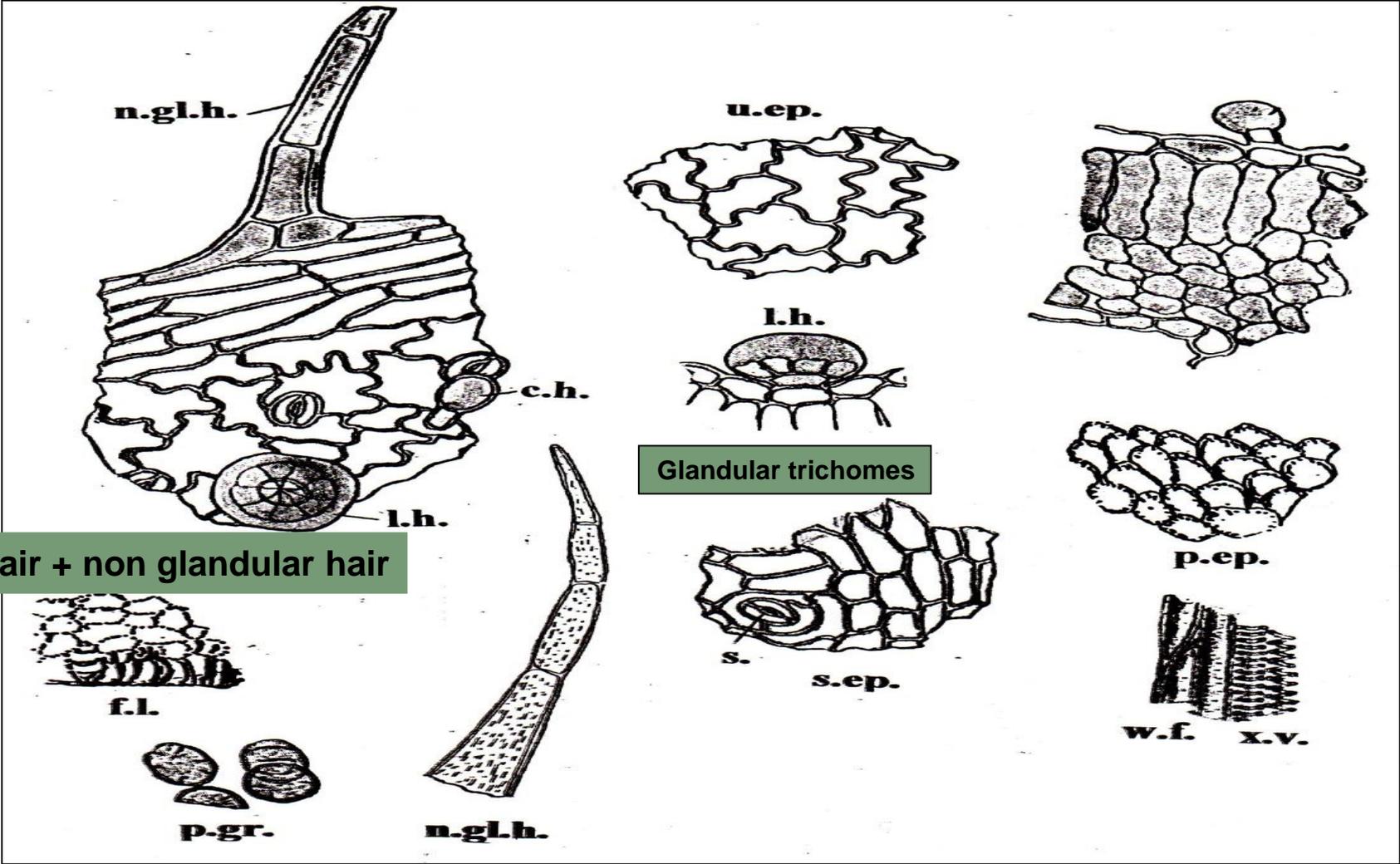


Multicellular,
uniseriate non
glandular
trichomes and
glandular
labiateous hairs
and unicellular
stalk unicellular
head hairs

Smooth
spherical pollen
grains



Powdered Mentha



Labiaceous hair + non glandular hair



**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



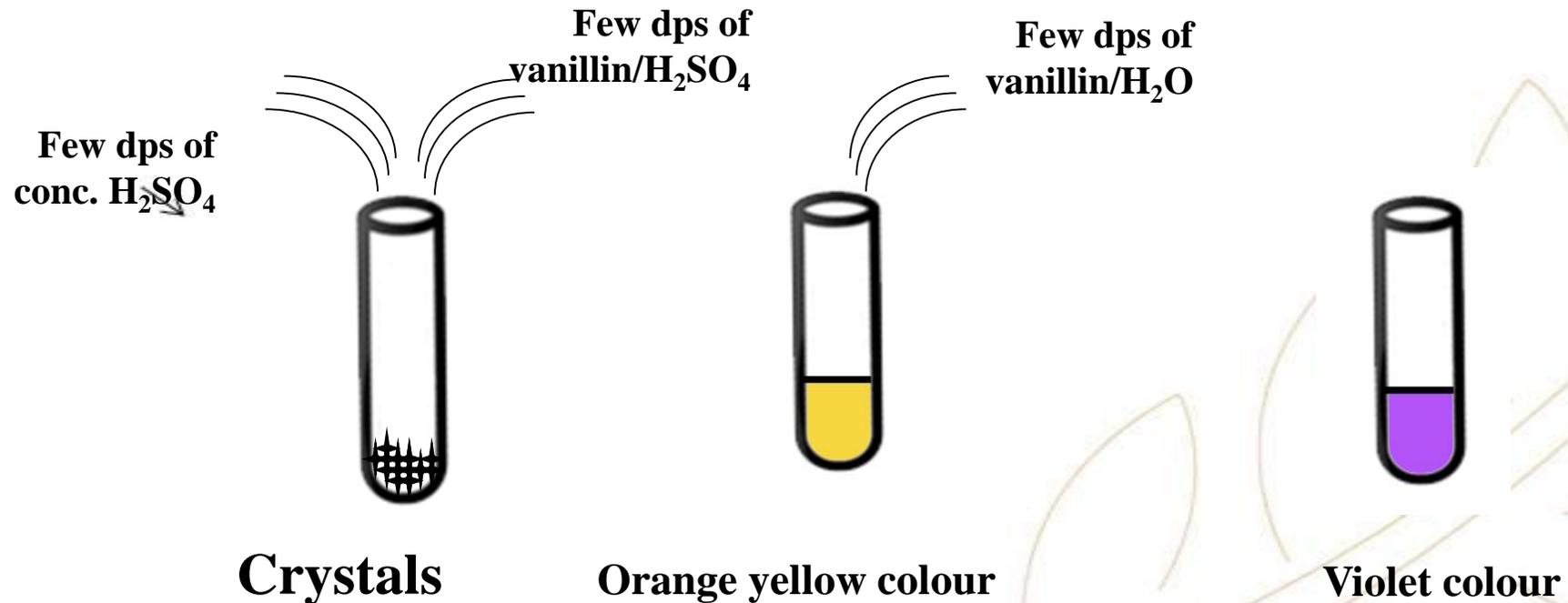
cigarette



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.



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 $HNO_3 \rightarrow$ deep bluish green

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



Copyright © NParks Flora&FaunaWeb



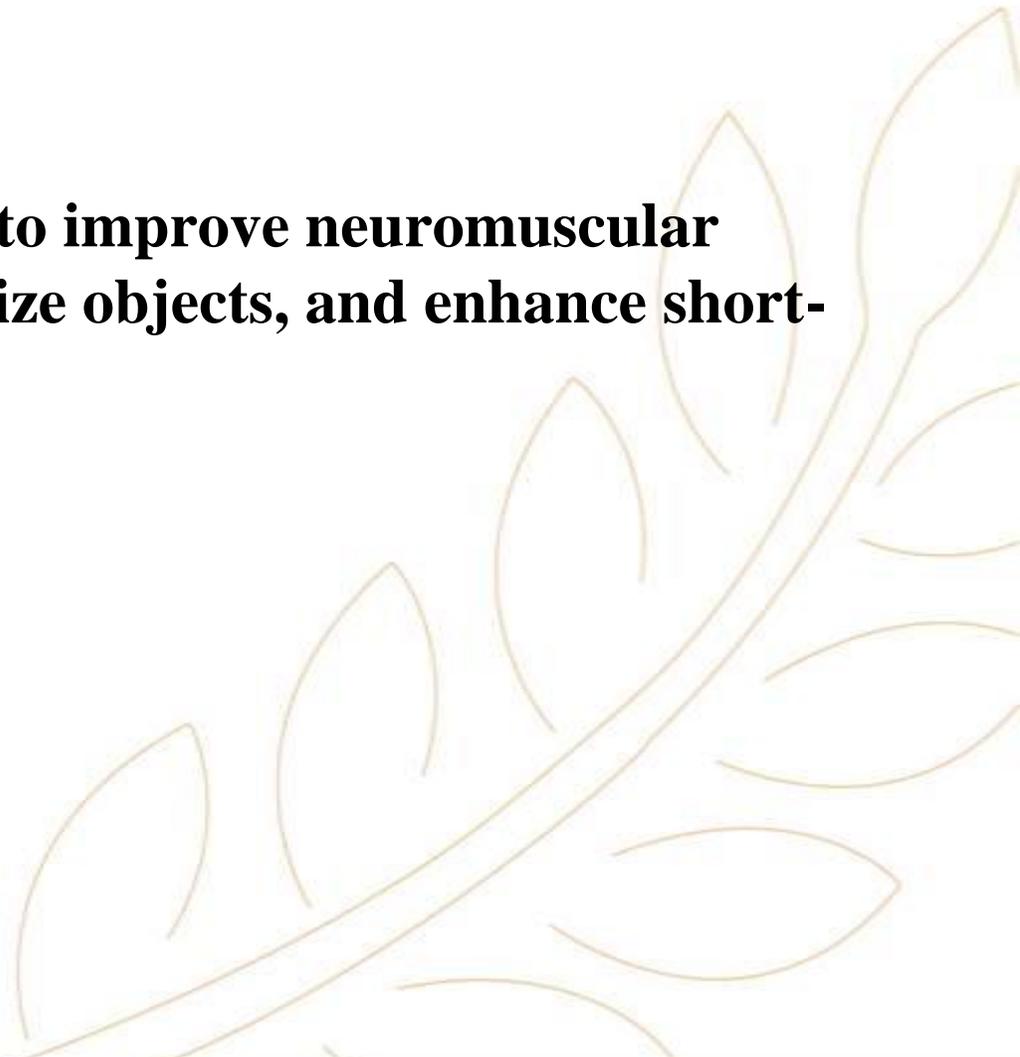
**ACTIVE
CONSTITUENTS**

**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 enhance short-term memory**
 - **A great wound healing ability**
 - **Antiinflammatory effect**
 - **Combat anxiety, depression and insomnia**
 - **Aid in weight loss.**
- 
- A decorative graphic of a branch with several leaves, rendered in a light brown or tan outline style, is positioned on the right side of the slide, extending from the middle to the bottom.



Herbs Having Nutraceutical and Cosmeceutical Applications



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

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





Herbs Lacking Any Nutraceutical and Cosmeceutical Applications



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!

THE FIRST BRITISH HIGHER EDUCATION IN EGYPT

26th July Mehwar Road Intersection with Wahat Road, 6th of October City, Egypt
Tel: 00238371113 Postal code: 12451 Email: info@msa.edu.eg
Hotline: 16672 Website: www.msa.edu.eg