

OCTOBER UNIVERISTY  
FOR MODERN SCIENCES AND ARTS  
جامعة أكتوبر للعلوم الحديثة والآداب

# ***Pharmacognosy***

PHG 112  
PG 102

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**Spring 2024**



# Faculty of **Pharmacy**

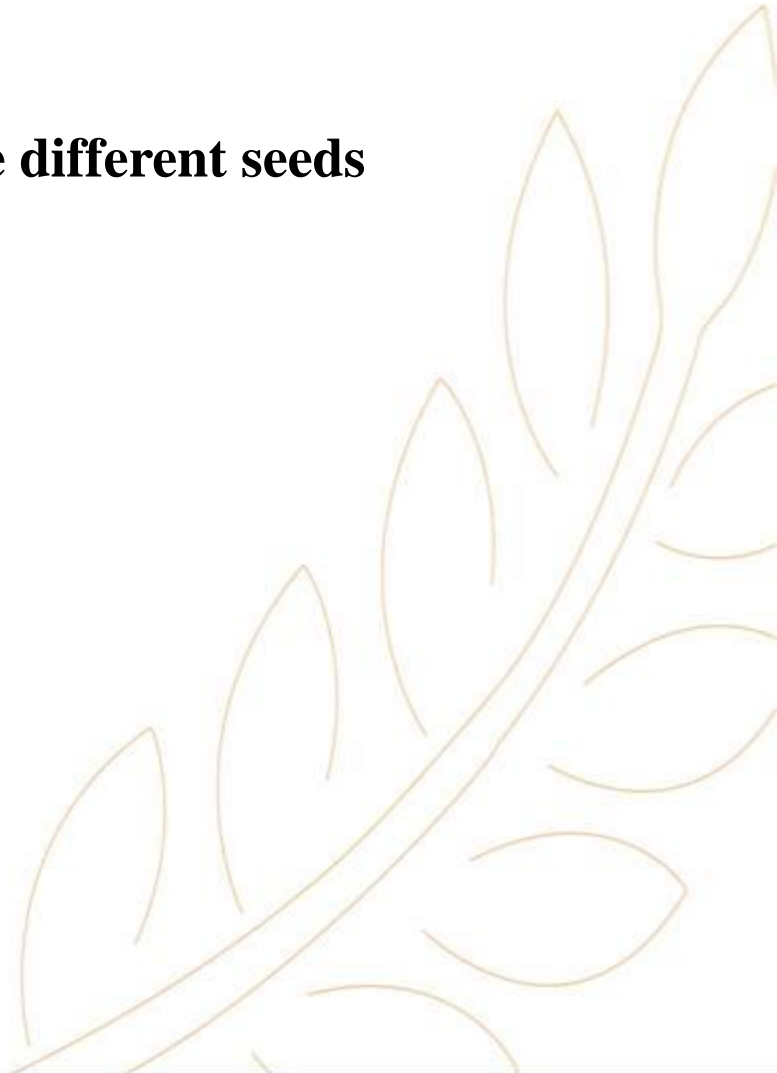
# Lecture 3






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

**Other important seeds**

- **-The chemical constituents & uses of the different seeds**



# Some Common Seeds

Name	Origin	Active constituents	Uses
<p><b>1-Colchicum</b></p>  <p style="text-align: center; margin-top: 10px;">  </p>	<p>Dried ripe seeds of Colchicum autumnale family Liliaceae</p>	<p>1- 0.2 0.8% of alkaloid colchicine                  2- 1% of fixed oil                  3- 5% glucose</p>	<p>1-It relieves the pain and inflammation of acute gout                  2- Plant hormone, it induces polyploidy                  3- Cytotoxic effect</p>
<p><b>2-Nigella seed</b></p> 	<p>The dried ripe seeds of Nigella sativa F. Ranunculaceae</p>	<p>Volatile oil ( 1.4 % )                  Thymoquinone, Carvone ,                  Fixed oil *Unsaturated fatty acids [ Oleic acid , Linoleic acid Δ3 , Linolenic acid Δ6 , Stearic acid ]*Saturated fatty acids [ Myristic acid , Palmitic acid].                  Protein ,Vitamins ( B 1,2,6 )                  Minerals ( Ca , Fe , Zn , Cu )</p>	<p>1-Treatment of respiratory tract conditions( Allergy , cough, colds , bronchitis , Flu , asthma)                  2- Support circulatory and immune system                  3- Decrease the probability of arteriosclerosis and prevents thrombosis, this is due to the presence of unsaturated fatty acids (Omega 3 &amp; Omega 6)                  4- Antioxidants, Cytotoxic, antiviral</p>

Name	Origin	Active constituents	Uses
<b>3-Calabar beans</b>	The dried ripe seeds of <i>Physostigma venenosum</i> F. Leguminosae	Alkaloids (physostigmine also known as eserine)	<ul style="list-style-type: none"> <li>- Contract the pupil, manage ocular pressure in glaucoma,</li> <li>- Reverse the toxicity of certain other drugs</li> <li>- Semi synthesis of rivastigmine used to treat dementia in Alzheimer disease</li> </ul>
<b>4-Pumpkin seed</b>	The dried ripe seeds of <i>Cucurbita pepo</i> , F. Cucurbitaceae	<ul style="list-style-type: none"> <li>-sterols (e.g. <math>\beta</math>-sitosterol, <math>\beta</math>-tocopherols)</li> <li>- triterpene (squalene), tetraterpene (<math>\beta</math>-carotene)</li> <li>- unsaturated fatty acids ( omega 6 &amp; omega 3)</li> </ul>	antiinflammatory, antiviral, analgesic in urinary disorders, anti-ulcer, antidiabetic and antioxidant

# Calabar beans



## Pharmaceutical preparations containing physostigmine (eserine)



Anticholium


Bi-miotic

## Antilirium



Pumpkin seed



Name	Origin	Active constituents	uses
<p><b>5-Evening primrose</b></p> 	<p><b>dried ripe seeds of <i>Oenothera biennis</i> F. Onagraceae</b></p>	<p><b>Protein(essential amino acids, containing sulphur) oil ( gamma-linolenic acid (GLA) Cellulose</b></p>	<ul style="list-style-type: none"> <li><b>-EPO is used for skin disorders such as eczema, psoriasis, and acne</b></li> <li><b>- It is also used for rheumatoid arthritis, weak bones</b></li> <li><b>- High cholesterol &amp; heart disease</b></li> </ul>





# Chia seed

**Chia seeds** are the edible seeds of *Salvia hispanica* a flowering plant in the mint family (Lamiaceae)

## Chemical constituents:

- Dietary fibres
- Protein ↘
- High amount of omega-3 fatty acids
- Vitamins ( A , B1& B3)
- Minerals; calcium, iron, magnesium, phosphorous



## Uses:

- Treatment of obesity
- Diabetes
- Hypertension
- Reducing cholesterol

## Side effects:

-When it is consumed in lots of quantities the body may find it difficult to digest it properly. One should stick to an ideal quantity of chia seeds in a day and not consume more. Consuming more of these tiny seeds can cause **diarrhea, bloating** and **stomach cramps**

-It is known that high levels of omega-3 fatty acids may increase the **risk of bleeding**. Therefore, it is advised to avoid taking chia seeds with foods or supplements rich in omega-3 fatty acids

# Quinoa

The seeds of *Chenopodium quinoa* Family Chenopodiaceae  
It is a flowering plant grown as a crop primarily for its edible seeds

## Chemical constituents:

- 1-One of the best vegetable sources of protein.Eessential amino acids such as lysine and methionine.
- 2- Large quantities of vitamins (thiamin,vitamin C) and minerals
- 3- High content of fibre, carotenoids
- 4-Terpenoids, flavonoids, phenolic acids, and steroids.



## Uses

- Treatment of Obesity.
- Diabetes.
- Celiac disease.  
↓
- Antioxidants.



Name	Origin	Active constituents	Uses
<b>-Castor seeds</b>	The dried ripe seeds of <i>Ricinus communis</i> , F. Euphorbiaceae.	1- Alkaloids: Ricinine 2- Ricin (a lectin that inhibits protein synthesis in animal cells and leads to cell death). 3- Fixed oil and protein.	1- The oil is a powerful purgative (the seeds are toxic). 2- Externally, the oil has been recommended for tinea, forms a light coloured odourless soap or in the form of pastes. 3-Castor oil provides hydration and conditions the hair since it's rich in ricinoleic acid and fatty acids, which serve as natural emollients for the hair.

### Side effects and toxicity:

The plant including the seeds contains an irritant substance named Ricin that poisons the blood.

N.B: One of the most potent natural toxins known. One seed can kill a child  
 The oil is safe because the poison remains in the seed where seeds themselves and the cake left after the expression of the oil are violently purgative.

**N. B.** Applying castor oil just once a month can boost hair growth up to five times the usual rate. It can moisturize a dry, irritated scalp. Castor oil's antibacterial and antifungal properties can reduce dandruff. It can help grow hair in other parts of the body, like the eyebrows and eyelashes



# Jojoba



Jojoba oil is extracted from the seeds of the Jojoba plant also known as the *Simmondsia chinensis* plant

Jojoba oil is rich in vitamins B, E, and C and minerals like copper and zinc

## **Benefits Of Using Jojoba Oil For Hair**

1. Moisturises Hair
2. Promotes Hair Growth & Thickness
3. Repairs Damage From Heat & Styling Tools
4. Maintains Scalp's Natural Balance
5. Controls Dandruff

# How To Use Jojoba Oil For Hair?

1. Direct Application
2. Mixing it With Other Products
4. Use it as a Hair Mask Ingredient



# Activities





The background is a dark blue gradient. On the left side, there are several overlapping, curved bands of varying shades of green, ranging from light lime to a darker forest green. On the right side, there is a faint, golden-brown outline of a laurel wreath, consisting of a central stem with several pointed leaves extending outwards.

# Faculty of **Pharmacy**



Established by Dr.Nawal El Degwi

October Univeristy for Modern Sciences and Arts

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Thank You!

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