

Pharmaceutical aids

The compounds which are therapeutically inert or have little therapeutic value but are used in manufacturing or compounding of various pharmaceutical dosage forms such as tablet, capsule, syrup, etc.

These compounds are obtained from various sources such as plants, animals, minerals and purely synthetic origin.

Pharmaceutical aids are classified as

1. Diluent: Cinnamon water, Peppermint water, Glucose, Lactose.
2. Disintegrating agents: Starch, Microcrystalline - Cellulose, Psyllium husk.
3. Emulsifying agents & suspending agents
=> Acacia
Agar, Tragacanth, Gelatin, Sodium alginate
Guar gum.
4. Flavouring agents = Cardamom, clove, Fennel
Cinnamon.
5. Lubricants: Cocoa butter, Castor oil, Talc
6. Sweetening agents: Glycyrrhiza, Honey.

7. Ointment bases: Bees wax, Lanolin.

8. Colour = Cochineal, Carmame, Turmeric, Saffron, Chlorophyll, Indigo

9. Adsorbents = Kaolin, Pectin

10. Vehicles = Arachis oil, Olive oil.

Honey or Mel

Biological source = Honey is a saccharine sub. deposited by bees, *Apis mellifica* Linn & other species of *Apis*. It is a member of Apidae family and order Hymenoptera.

Morphology ⇒ Honey is a thick clear syrupy liquid. It is yellow or reddish-brown in colour having sweet taste. The colour depends on the type of flowers nectar used in its preparation.

Chemical constituents: Honey consists chiefly a mixture of dextrose & levulose.

	Water
Vitamins	Sucrose (1.1 - 4.4%)
Amino acid	Dextrin (0.06 - 1.24)
Proteins	volatile oil
Colouring matters	Pollen grains enzymes

Used - used as an important component of
linctus & cough mixture

- sweetening agent
- demulcent
- mild laxative
- bactericidal
- antiseptic
- also used as a vehicle in fumigative
& Linn preparations.

ARACHIS OIL OR PEANUT OIL

Biological source: Arachis oil is obtained by
expression of seeds, kernels
of *Arachis hypogaea* Linn. This is a member
of papilionaceae (leguminosae) family.

Morphology: Arachis oil is a pale yellow
to greenish yellow non drying oil
containing nutty odour and bland taste. At
low temperatures, clouds are formed in the
oil. On exposure to air the oil becomes
rancid. The oil is generally soluble in organic
solvents.

Chemical constituents:

- Glycerides of fatty acid (linoleic, arachidic,
palmitic, oleic & stearic acid)
- Carotenoid pigments like β carotene & lutein
- seed contain \rightarrow protein, starch, water, thiamine
- cholesterol, β sitosterol, stigmasterol, β -sitosterol

soluble oil

solvent for vit A, vit D

blood clotting time is longer

it is an antioxidant in various

like apple, pears, strawberries, mango, orange, etc.

STARCH

Biological source - starch of plants are made of polysaccharide granules. These are obtained from various grains of

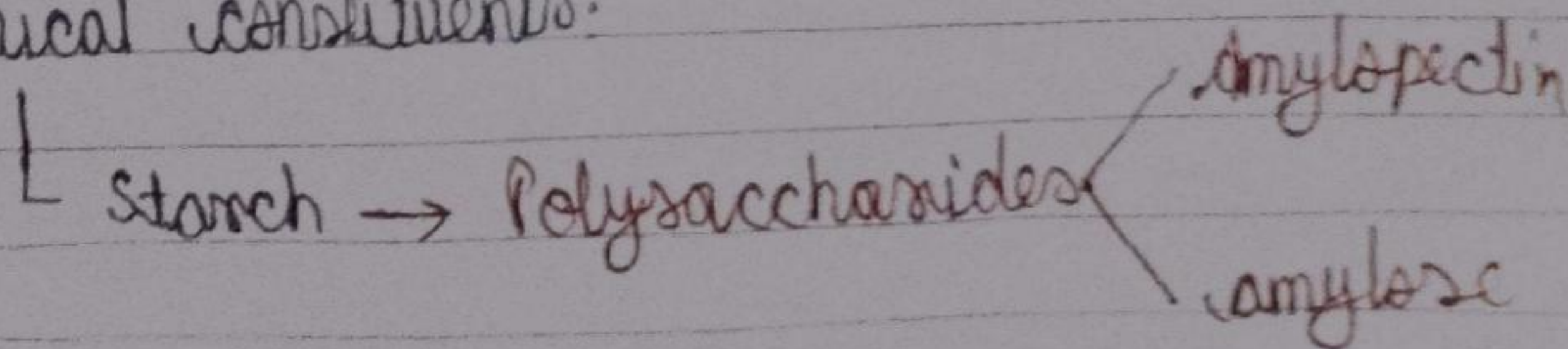
- (1) Maize, *Zea mays*
- (2) Wheat, *Triticum aestivum*
- (3) Rice, *Oryza sativa*
- (4) Oats, *Avena sativa*

these grains are member of a family Gramineae. starch is also obtained from the tubers of potato i.e. *Solanum tuberosum* Linn. (Solanaceae)

Morphology - starch is found in irregular angular masses or in form of white powder. It is insoluble in cold water and forms a colloidal sol on boiling.

Variety	Size (um)	Form	Hilum & striation
1. Wheat	2-45	Smaller granules are globular while larger granules are lenticular	Hilum centrally ⊕, seldom cleft
2. Potato	3-110	Simple granules hatchet, wedge or mussel shaped	Hilum in the form of a point at the narrower & of the granule & eccentric
3. Rice	2-10	Polyhedral with sharp angles Compound granules are ⊕	Hilum minute centrally pointed striations are ⊖
4. Maize	3-25	Polyhedral with blunt angles or rounded	Hilum - triangular - has distinct & centrally pointed

Chemical constituents:



Amylopectin - It is the main constituent of most of the starches (80%) & ⊕ in outer parts of granules. It is insoluble in water

Amylose \Rightarrow Most starches contain 20% amylose.
It contains straight chained D-glucose unit & \oplus in inner part of the granules.
It is soluble in water.

use

- mild astringent
- nutritive
- demulcent
- protective
- absorbent

- Externally use

- skin emollient
- absorbent
- dusting powders
- ointments

- used as an antidote in the treatment of iodine poisoning
- also use as a tablet disintegrating agent & diluent

Olive Oil (Salad oil)

Biological source. Olive oil is a fixed oil obtained by expression from *persea* of the ripe fruits of *Olea europaea* Linn. This is a member of Oleaceae family.

Morphology => Lanolin is a pale yellow tenacious, mass having characteristic odour, & bland taste. It is insoluble in water but sol. in chloroform & others.

Chemical constituents => The main constituents of wool fat are cholesterol & ischolesterol, camphobic, lanopalmitic, oleic & other fatty acid.

It also contains aliphatic alcohols such as cetyl, ceryl & camphobyl alcohols

Uses: Lanolin is used as absorption ointment base. It is a common ingredient used as an emollient base in ointments & cream preparations.

Beeswax

Biological source: Beeswax is separated from the honeycomb of the hive bee, *Apis mellifica* and other species of *Apis* by purification. The hive bee is the member of *Apidae* family.

Morphology \Rightarrow Beeswax is a yellow to yellow-brown or white soft plastic solid mass. It contains honey like odour. It breaks with granular structure. It is insoluble in water but sol. in chloroform, carbon tetrachloride, benzene, ether, carbon-disulphide, hot alcohol & volatile oils.

Chemical constituents \Rightarrow Beeswax mainly contains myricyl myristate (myricyl palmitate) - 80% free cerotic acid & small quantity of melissyl stearate, melissic acid, hydrocarbons, higher alcohols & ceroleine.

Uses. Beeswax is used in the preparation of cosmetics, suppository bases, ointment cerates, wax paper, candles, shoe polishes, molding of artificial fruits.