

EVALUATION OF CRUDE DRUGS

B.PHARM 4TH SEM

Anju Singh
Assistant Professor
School Of Pharmaceutical
Sciences

Drug evaluation may be defined as the determination of identity, purity and quality of a drug.

Identity – identification of biological source of the drug.

Quality – the quantity of the active constituents present.

Purity – the extent of foreign organic material present in a crude drug.

- **Importance of evaluation of crude drugs:**
 - Determination of Biochemical variation in the drugs
 - Identification of deterioration due treatment and storage
 - Reporting Substitution and adulteration, as result of carelessness, ignorance and fraud

1. Organoleptic (Morphological) Evaluation

- This refers to drug evaluation by means of organs of sense and includes other sensory organs like color, odour, taste, size, shape and texture.
- It includes the study of morphology and other sensory characters.

S.NO:	CHARACTER	DRUG EXAMPLE
1	Brown colour	Cinnamon
2	Aromatic odour	Umbelliferous fruits
3	Sweet taste	Liquorice
4	Fractured surface	Cinchona
5	Wavy shape	Rauwolfia
6	7 to 8mm width 25 to 60 mm length (size)	Senna leaf



(a) Study of Morphology

- It includes the visual examination of drug.

S.NO	PART OF DRUG	EXAPLE
1	BARK	KURCHI
2	UNDERGROUND	TURMERIC,ZINGER
3	LEAVES	DIGITALIS
4	FLOWERS	SAFFRON
5	FRUITS	FENNEL
6	SEEDS	NUX-VOMICA
7	RESIN	ASAFOETIDA
8	WOOD	SANDAL WOOD
9	GUMS	ACACIA
10	ENTIRE DRUG	ERGOT



1- Shape and size.

Flowers:

Floral parts: stigmas, corollas, anther, ovary, receptacle.

Leaves and leaflets:

Length, width, apex, margin, base, venation,
the texture of the leaf and the hairs in upper and lower surface.
The feel of the surface described as soft, hairy smooth.

Bark:

The barks occur in three shapes:

- Flat or curved pieces.
- Single quill.
- Double quills.

ii- Barks have two surfaces, an outer and inner.

iii- The inner surface is usually lighter in color than the outer surface

2- Odor and taste.

Odor:

1- distinct 2- indistinct
aromatic-balsamic,- spicy



Taste:

- 1) Acidic (sour)
- 2) Saccharine (sweet): indicates sugar or sugar like substances e.g., liquorice.
- 3) Saline (salty)
- 4) Alkaline
- 5) Bitter: indicates presence of substances such as bitter principle e.g., glycoside, alkaloids.
- 6) Tasteless
- 7) Distinctive sensations to the tongue
 - I. Mucilaginous and oily (soft feeling) e.g., linseed.
 - II. Astringent indicates presence of tannin.
 - III. Pungent (warm biting sensation) e.g., ginger.
 - IV. Acrid (irritant sensation) e.g., Aconite, coca.
 - V. Nauseous (those tending to excite vomiting), Ipecac.

3- Color and external markings.

1- White: e.g., starch,

2- Pale yellow: e.g., ginger, squill, white pepper.

3- Deep yellow: e.g., peeled liquorice.

4- Light pale brown e.g., nux-vomica, fennel.

5- Dark brown: e.g., cloves buds.

6- Dark reddish brown: cinchona.

7- Red: (brick red). e.g., cinnamon bark inner portion

8- Pale green e.g., lobelia.

9- Greenish brown: most of the leaf herbs.