ORAL DOSAGE FORM

POWDER

A powder is a formulation in which a drug powder is mixed with other powdered excipients to produce a final product for oral administration.

Powders have better chemical stability than liquids and dissolve faster than tablets or capsules because disintegration is not an issue.

This translates into faster absorption for those drugs characterized by dissolution rate-limited absorption.

POWDER

- Unpleasant tastes can be more pronounced with powders than with other dosage forms and can be a particular concern with in-feed powders, leading to variable ingestion of the desired dose.
- Drug powders are principally used prophylactically in feed or formulated as a soluble powder for addition to drinking water or milk replacer.
- Powders have also been formulated with emulsifying agents to facilitate their administration as liquid drenches.

PREMIX

A premix is a solid dosage form in which an active ingredient, such as a production enhancer or nutritional supplement, is formulated with excipients.

Premix products are mixed homogeneously with feed at rates (when expressed on an active ingredient basis) that range from a few milligrams to ~200 g/ton of feed.

The density, particle size, and geometry of the premix particles should match as closely as possible those of the feed in which the premix will be incorporated to facilitate uniform mixing.

PREMIX

The excipients present in premix formulations include:

-A liquid binding agent

-Diluents

-Caking in a premix formulation

-The dust

MEDICATED BLOCK

A medicated block is a compressed feed material that contains an active ingredient, such as a drug, anthelmintic, surfactant (for bloat prevention), or a nutritional supplement, and is commonly packaged in a cardboard box to feed to livestock.

Ruminants typically have free access to the medicated block over several days, and variable consumption may be problematic.

CAPSULE

- A capsule is an oral dosage form usually made from gelatin and filled with an active ingredient and excipients.
- Unlike other dosage forms, the capsule is strictly a unit dose container or, more precisely, a tasteless, easily administered and digested container for different materials such as powders, granules, pellets, emulsions, suspensions, or oils.

CAPSULE

- Capsules are mainly used for dogs and cats, but there are some vitamin and mineral supplement capsules formulated for cattle.
- There are three main treatment areas using capsules as the dosage form:

  **nutraceuticals,

  **vitamins and minerals, and

  **antimicrobials.

- Capsules are an effective means for deterring the taste and odor of an unpalatable drug substance. Other oral dosage forms of the drug might not be tolerated by an animal.
- The gelatin capsule will protect the contents from light, but not from oxygen or moisture. Hence, information on the stability and moisture sensitivity of the formulation should be obtained before selecting the gelatin shell (capsule) dosage form.

TABLETS AND BOLUSES

- A tablet consists of one or more active ingredients and numerous excipients and may be a conventional tablet that is swallowed whole, a chewable tablet, or a modified-release tablet.
- The physical and chemical stability of tablets is generally better than that of liquid dosage forms.

TABLETS AND BOLUSES

Solid dosage forms are less popular for animals because the administration of solid dosage forms can be time consuming and uncertain.

A dog or cat may not readily accept the tablet and one is forced to hide the tablet in the food.

The animal will be dosed on the basis of weight, the amount of drug given to a large animal such as a cow may be considerable.

TABLETS AND BOLUSES

- Drugs are given on the basis of weight or body surface area, be it for mammals, avian species, or humans.
- The amount of drug needed for a large mammal, such as a cow, or horse, tends to be stated in mg or g tablet per kg of body weight.

TABLETS AND BOLUSES

- A special tablet called a “**Bolus**” is commonly used to provide these large dosages. A bolus is nothing more than a very large tablet, which can range from 3 to 16 g or more.
- Boluses are capsule shaped or cylindrical because a round bolus would be unwieldy and difficult to administer or swallow.
- Boluses are administered by an apparatus called a balling gun, consisting of a barrel with a plunger that can hold one or more boluses.