

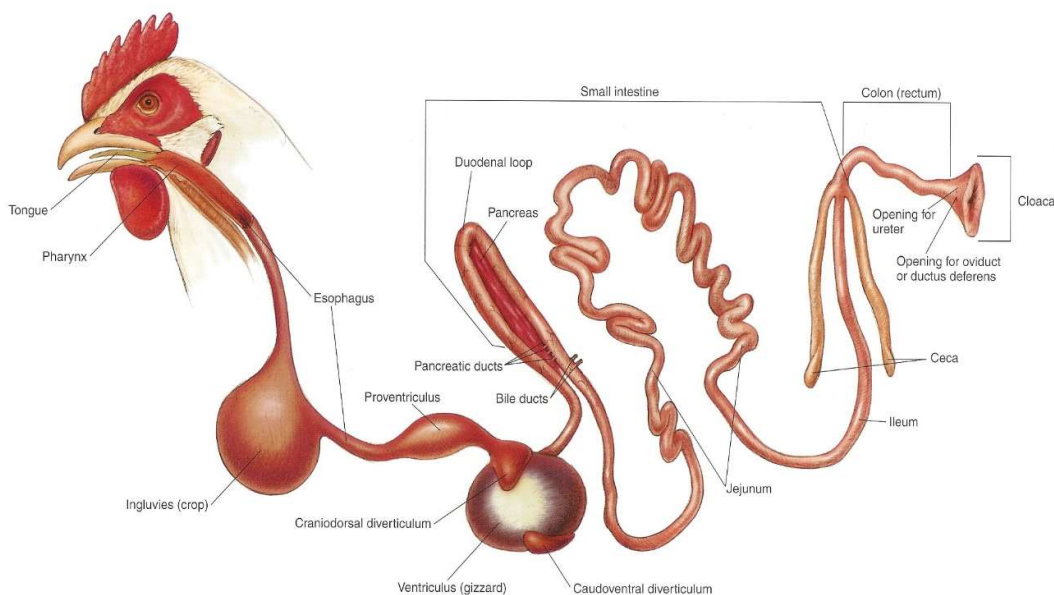
Three (3) basic types of digestive systems:

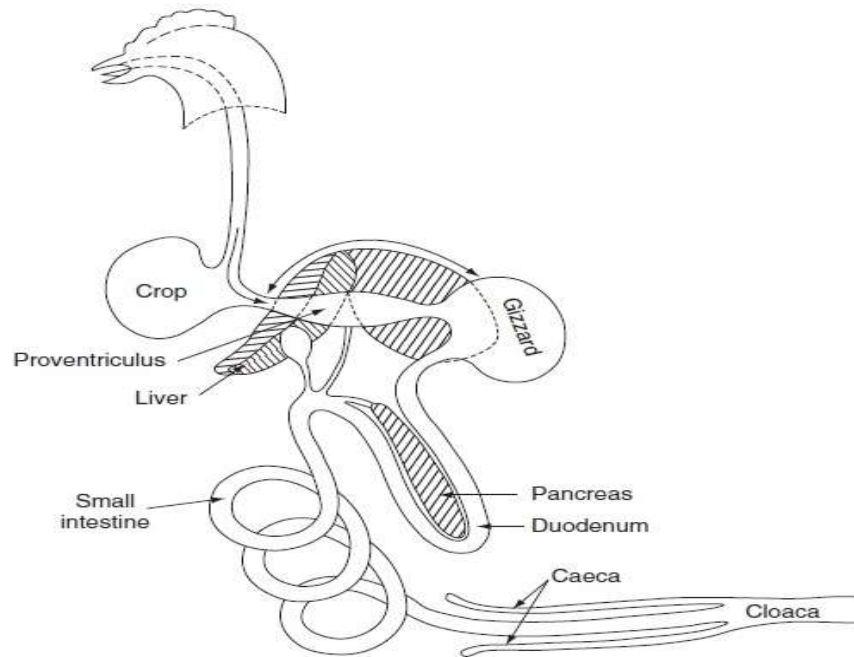
- ▶ **Monogastric** – simple stomach.
- ▶ **Ruminant** – multi-compartmented stomach.
- ▶ **Poultry** – simple stomach, but very large and complex large intestine

Introduction:

- Digestion- the process of breaking feed down into simpler substances that can be absorbed by the body.
- Digestive System- the parts of the body involved in chewing and digesting feed.
- Absorption- the process of taking digested parts of the feed into the bloodstream.

The Parts and Purpose of Digestive System of Poultry





1- Mouth

Tongue

Beak: chickens, as with most birds, obtain feed with the use of their beak. Food picked up by the beak enters the mouth. As previously mentioned, chickens don't have teeth so they are not able to chew their food. The mouth does contain glands which secrete saliva which wets the feed to make it easier swallow. The saliva also contains some enzymes which start the digestion of the food eaten. The chicken's tongue is then use to push the feed to beak of the mouth so it can be swallowed.

Taste buds

2- Esophagus

The esophagus is flexible tube that connects the mouth with the rest of the digestive tract carries food from the mouth to the crop and from the crop to the proventriculus

3- Crop

crop is an out-pocketing of the esophagus and is located just outside the body cavity in the neck region. Any swallowed feed and water is stored in the crop until it is time to pass it on the rest of the digestive tract. When the crop is empty, or nearly empties its send hunger signal to the brain so that the chicken will eat more. Although salivary glands of the mouth secrete the digestive enzyme amylase very little digestion actually take place in the crop it is primarily temporary storage pouch.

Function: Foodstuffs moisten and softened also temporary storage of food.

4- Proventriculus

The esophagus continues past the crop to connect the crop to the Proventriculus. The Proventriculus (also known the true stomach) in the glandular stomach where digestion begins.

Function: uses acids and digestive enzymes to breakdown food.

5- Gizzard

The gizzard is part of the digestive tract unique to birds. It is often referred to as the mechanical stomach. It is made up of two sets of strong muscles which act as the birds teeth. Consumed feed and the digestive juices from the salivary glands and the proventriculus pass in to the gizzard for grinding, mixing, and mashing. When allowed to free range, chickens will typically eat small stones. These stones remain in the gizzard until they become ground into pieces small enough to pass through to the rest of the digestive tract.

Gizzard has a thick lining which protects the muscles from the acidic condition of the digest a coming from the proventriculus.

6- Small Intestines

It is Three sections:

- Duodenum
- Ileum
- Jejunum

Function: absorption of nutrients from food.

7- Ceca

Two ceca that are terminal pouches.

Function: fermentation of any leftover food particles/ water absorption.

8- Colon

Large intestine

Function: Further water absorption

9- Cloaca

Also known as the vestibule.

Function: responsible for expulsion of feces and urine through the vent.

• **Liver**

Multi-lobed organ

Functions:

- Produce bile to digest fats (stored in the gall bladder).
- Detoxification
- Store fat and fat-soluble vitamins (i.e., A, D, E, K)
- Metabolize fats, carbohydrates, and proteins that are in the diet.

• **Pancreas**

Function: Produces insulin, useful in carbohydrate digestion.