



Lecture title: Digestive System

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Summary:

Digestive System

1. Mouth

- ❑ Chicken don't have lips. There are no teeth, they instead have a beak.
- ❑ A small bit of saliva is added as the food moves from the mouth into the esophagus.
- ❑ A **Beak** is a perfect tool for picking up feed in crumble or pellet form, small grains, grass, or insects.
- ❑ Chickens are **Omnivores** – they can eat meat (grubs and worms) and vegetation (grass, weeds and other plants).



2. Esophagus

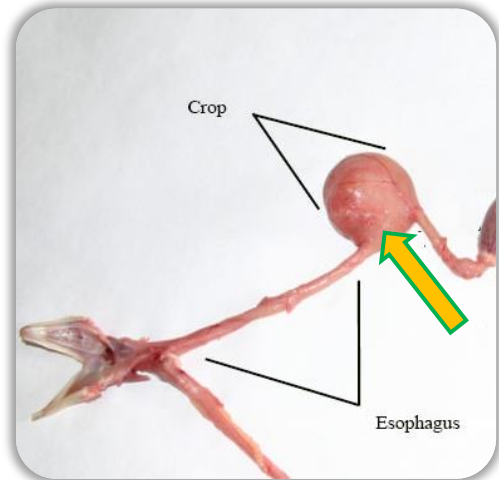
- ❑ **Esophagus:** is a tube like structure that extends from **mouth to proventriculus**.
- ❑ It helps to carry the feed from mouth towards proventriculus, major secretion is mucous.





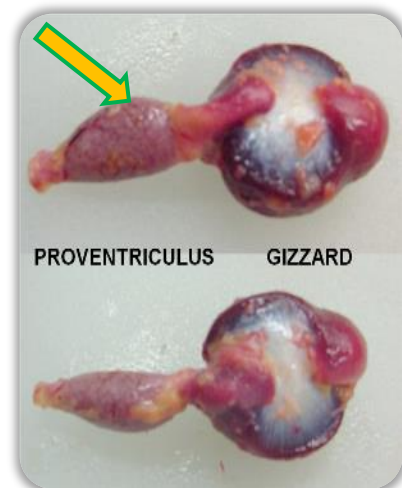
3. Crop

- ❑ An expandable compartment located at the base of the chicken's neck, which serves as a **temporary storage**.
- ❑ Food can be kept for up to 12 hours, where it **softens**, thereby moisturizing ingested water and saliva.



4. Proventriculus

- ❑ It is called (**The true stomach**) of the bird, because it contains **glands** that secrete **enzymes**.
- ❑ Responsible for the **production of gastric juice**. Here, the food is further mixed with more enzymes to assist the **breakdown of the food**.



5. Gizzard

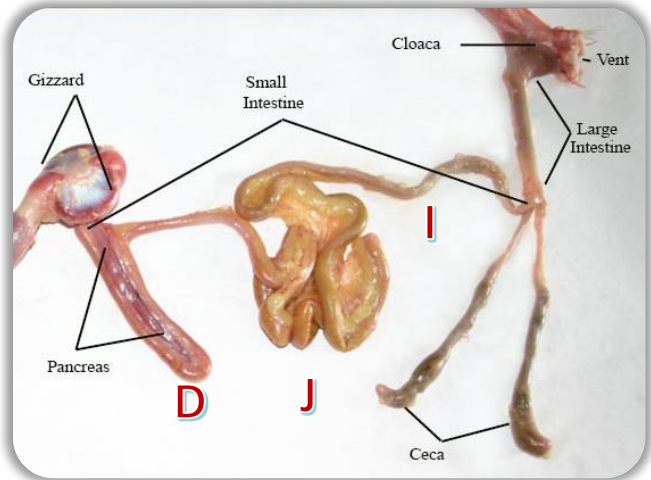
- ❑ It's called (**The muscular stomach**), it consists of two pairs of **thick powerful muscles** capable of **crushing and grinding** the feed particle.
- ❑ This process is aided by the presence of **grit or gravel** which birds normally consume them to aid the physical breakdown of feed particles.





6. Small intestine

- ❑ The **small intestine** consists of the:
 1. Duodenum,
 2. Jejunum,
 3. Ileum.
- ❑ In an adult chicken, it is almost (1.5M) in length.

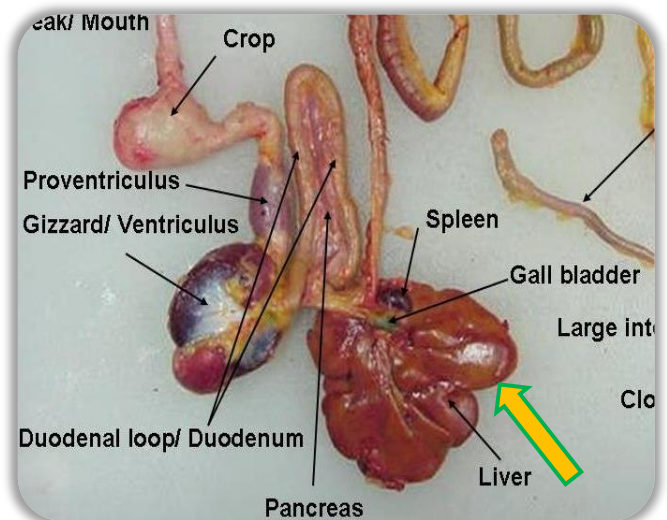


The small intestine has a number of very important functions:

1. Produces a number of enzymes involved in the digestion process.
2. Site of much of the digestion of the food.
3. Site of much of the absorption of food.

7. Liver

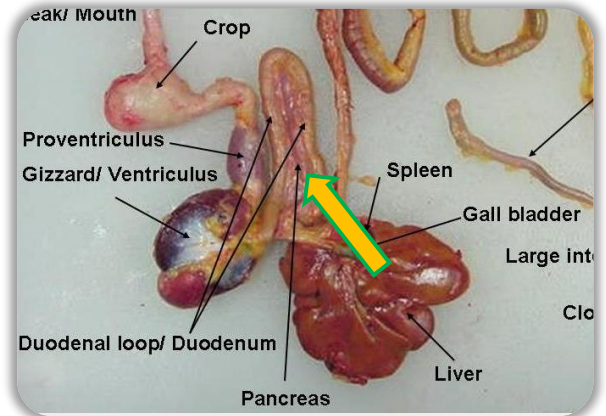
- ❑ The **liver** is a bi-lobed organ that lies (below) and (in rear of) the heart and is closely associated with the Proventriculus and the spleen.
- 1. **There are a number of functions that are performed by the liver:**
- 2. **Bile formation:** Bile is involved in the digestion of fats to fatty acids.
- 3. **The metabolism** of Carbohydrate, Lipids and protein.
- 4. **Storage of glycogen, fat and fat-soluble vitamins** e.g. vitamin A.





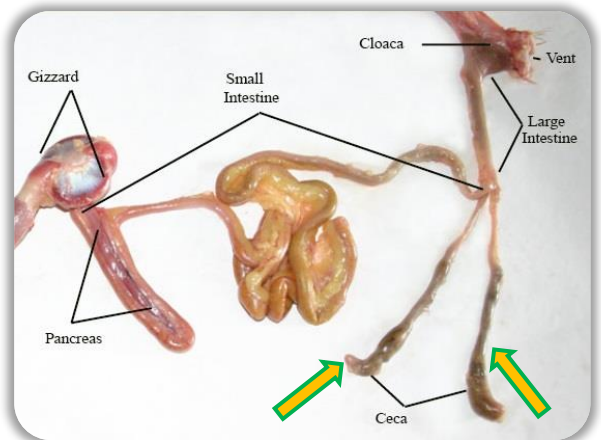
8. Pancreas

- ❑ **Pancreas** is located in a **folded loop** in the small intestine known as the **duodenum**. In the middle of this loop is the pancreas, which **secretes enzymes** capable of hydrolyzing protein, carbohydrates, and fats.
- ❑ The Pancreas also **secretes insulin** to regulate sugar metabolism.



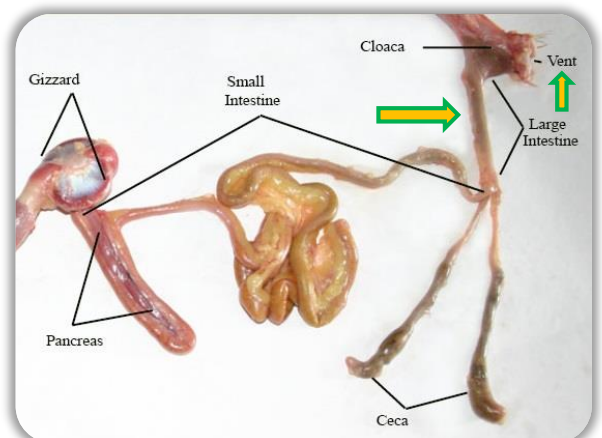
9. Ceca

- ❑ **Two pouches**, located between the small and large intestine.
- ❑ Where **bacteria** help **break down undigested food** throughout the **fermentation process** that happen in ceca, and **absorbed extra nutrition from their meal**.



10. Large intestine:

- ❑ The **large intestine** is short (10-15cm.) and extends from the small intestine to the cloaca, which **absorbs water** and **dries out indigestible foods**.
- ❑ This portion is commonly called the **(Colon)**.



11. Cloaca:

