



The Chicken Digestive System

The chicken digestive tract is like other monogastric (single stomach) animals, such as the pig, horse, and dog, but also has its own unique differences. The most notable include the lack of teeth, crop, proventriculus, ventriculus (aka gizzard), ceca, and cloaca. So, let's take a trip down the avian gastrointestinal tract beginning at the mouth.

Chickens do not have teeth. Therefore, there is no mastication (aka chewing). They simply swallow their food whole. The food passes down the esophagus and into the crop. The crop is simply a storage facility and very little digestion has occurred up to this point. Once the crop is full, food begins to pass into the proventriculus. This is the chicken's glandular stomach where food is exposed to gastric juices, hydrochloric acid, and digestive enzymes. The gizzard is the masticatory organ for the chicken. Its thick, muscular walls grind feedstuffs into smaller particles which further enhances digestibility.

From the gizzard, food travels to the small intestine which consists of the duodenum, jejunum, and ileum. Once through the duodenum, digestion of protein, fat, starch, and sugar is largely complete. As such, the jejunum and ileum are primary sites of absorption for these nutrients. Any undigested

food now enters ceca; a pair of organs with a function like that of the cecum found in other monogastrics (or single stomach) animals. The ceca house a vast microbiome of bacteria, yeast, protozoa, and fungi capable of digesting structural carbohydrates such as cellulose and hemicellulose (aka fiber). Although not to the degree as its monogastric brethren, the energy produced from fermentative digestion in the ceca accounts for up to 15% of the chicken's daily energy. From the ceca, food moves into the colon which absorbs water. At this point, the undigested food would be considered feces which then passes through the cloaca (the site where the digestive, urinary, and reproductive systems meet) and exits the chicken.

