

Sweetheart Silkies

St. Augustine, FL



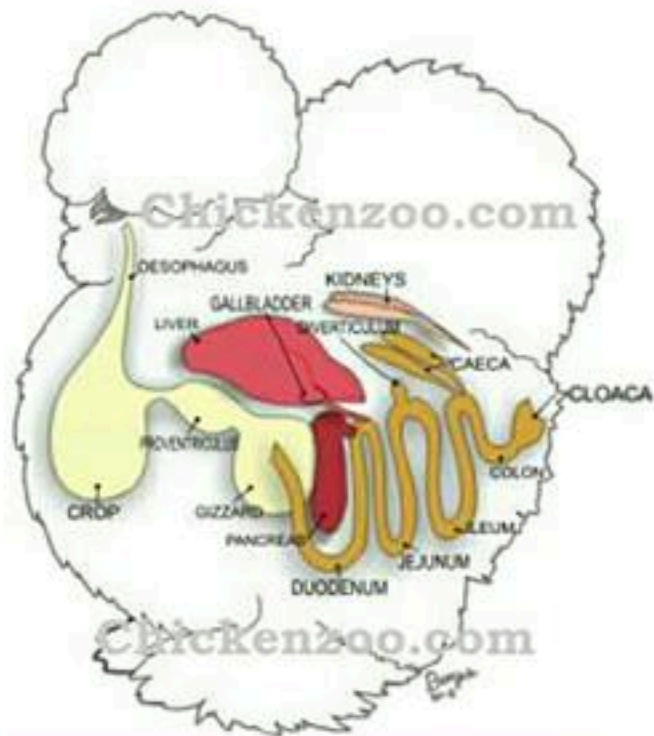
THE POOP SCOOP

You may be thinking by the title of this article, "Oh no, not another poop chart with what is normal and what is not." Nope, I tricked ya! I am going to cover the chicken's digestive tract, each organ in detail, and what it provides for our chickens health. Hopefully, in the next article, I'll touch on things that can go terribly wrong in a chicken's digestive tract. So, basically this is an article about how feed becomes poop! First and foremost we start with the beak.

The old saying "rare ashen's teeth" is true. Our silkies have no teeth for chomping and grinding, they have a beak. And while the beak, from all outward appearances, seems simply a "scoop and swallow" tool for food, this is actually the very beginning of where the feed begins to digest. Chickens have glands in their beak that sit just below the surface tissue, such as the Maxillary, Palatine, and Lingual glands. These glands excrete saliva, and in that saliva are enzymes that begin the digestion process. So while there are no teeth to do any chewing, a small amount of chemical digestion takes place in the mouth. The tongue then pushes the food back to be swallowed into the esophagus. The esophagus is the tube that moves food down into the crop.

The crop is my favorite organ in the chicken! Is it odd I have a favorite organ? So much can be told by your silkies' crops. Most wild birds have crops as well. I have been asked in the past... "When does the crop empty?" The answer: all throughout the day while resting and at night... while sleeping. If you think of birds in the wild, or your free rangers, they are constantly threatened by predators while out in the open. The crop allows them to scoot out into an open field or pasture, pick up their seed very quickly, fill that pouch up, and then fly back to their protective tree or hiding spot to sit and let the food slowly be delivered into the stomach. I know when I let my silkies out to the run every morning I throw a bit of scratch out. They all scurry to pick up as much as they can and within 10 minutes they are all lying down resting... letting it pass. I have read articles that refer to the crop as a chicken's "Doggie Bag". This is a perfect description. The crop is also the organ that sends the hunger signal to the brain when it is empty. While not much in the way of digestion occurs in the crop, it does store food and water until it is ready to be emptied into the proventriculus.

The proventriculus is the term for the true stomach. This is where the serious chemical digestion begins. Hydrochloric acid and more digestive enzymes such as pepsin are added to the feed and serve to break down the food via chemicals. No grinding or mechanical digestion takes place here. The name proventriculus is due to the fact that in the order of digestion, it is directly before the ventriculus.... "Pro" meaning "Before".



Art by www.chickenzoo.com

The ventriculus is what we refer to as the gizzard. The gizzard is formed of two very small but strong muscles that create a grinding motion to begin the mechanical digestion of food. This organ can certainly be considered your "hen's teeth". The feed that has been chemically digested by the proventriculus is now ground, mashed and mixed by the gizzard. This is where the feed additive grit comes in. For free range birds, they pick up small pebbles on their own; however, for our silkies, grit is important to provide free choice if you also feed scratch to help the gizzard break down the larger seeds and pieces of corn. After mechanical digestion takes place, the food is then passed into the small intestine.

The small intestine consists of the duodenum loop and the lower small intestine. In the duodenum, the last of the chemical digestion takes place. This loop receives digestive enzymes and bicarbonate (this counters the hydrochloric acid from the stomach) from the pancreas. Bile is also delivered from the liver via the gall bladder. The pancreas enzymes are primarily used for protein digestion, while the liver bile is used for the digestion and absorption of fatty acids and fat soluble vitamins such as Vitamins A, D, and E. The lower small intestines contain the diverticulum. This is a small pouch that is formed directly before a chick hatches and allows the embryo to absorb the yolk. The tiny sac that is left over from the chick's use of the yolk is this diverticulum and offers no digestive processes. The lower small intestines lead into the ceca.

Ceca is the plural for the word "cecum", and join the small and large intestines. The purpose of these to small cecum pouches is to hold and ferment any of the remaining coarse feed material. This explains while cecal poop is so smelly right? The cecum empty 2-3 times a day and tends to create that foul smelling, foamy brown to yellow fecal matter with no urates. Some will confuse this with diarrhea; however, seeing cecal poop is a sign of good health. While fermenting, the ceca create fatty acids as well as the eight factors of Vitamin B, but due to the fact it is towards the end of the digestive tract, not much absorption of nutrients takes place.

The last of the water absorption takes place in the Large intestine or colon and then the left over fecal matter enters the cloaca. The cloaca is where the urates from the urinary system mix with the digestive waste. Chickens do not urinate, but instead the kidneys turn urine into white urates which form a white cap on the outer surface of their droppings. The reproductive tract also exits from the cloaca but no worries! While laying, the hen has a vagina which folds over any fecal matter to protect the egg from being contaminated. A hen sitting on poop while laying the egg is a different story. One other important term to be familiar with is Microflora. Microflora, meaning “Small Plants”, are the beneficial organisms that are found throughout the digestive tract and aids in digestion. When chicks hatch under a broody, they are exposed to her fecal waste and can pick up and create their own microflora for their tiny bodies. Because babies hatch with an almost absolute sterile digestive tract, if hatched in an incubator it is important to provide probiotics to get them started on the right track. Many commercially made chick starter feeds contain probiotics for this reason.

So here ends our tour of the chicken’s digestive tract. When all is working well, we have a very happy healthy silkie; however, having such a complicated digestive system can lead to some hard to diagnose and difficult to treat conditions.

Here’s to healthy silkies!

Gretchen Suggs

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