

Let's Ruminant!

Ruminants acquire their nutrients from hard to digest plant material. It is fermented in a special stomach, then, regurgitated and chewed again. Ruminants have a four chambered stomach.

The rumen (nicknamed “paunch”) is the largest part (75%) of the ruminant stomach. It is a huge fermentation vat that converts forages and other feeds into volatile fatty acids (VFAs) and amino acids, which are the fundamental nutrients used by ruminants.

The omasum (nicknamed the “bible” or “manyplies”) is the third chamber of the ruminant stomach. Motility is one of the most important functions of the omasum.

The reticulum (nicknamed “honeycomb”) is the second stomach of the ruminant. It plays a role in particle separation.

The abomasum (or true stomach) is the 4th chamber of the ruminant stomach. It functions like a human stomach.

Healthy ruminants chew their “cud” or “ruminate” for several hours each day. Cud is undigested food that has been regurgitated.

The rumen, reticulum and omasum are undeveloped at birth and during the first few weeks of life. The esophageal groove in young ruminants shunts milk directly into the abomasum. Rumen development occurs following a change in diet and microbial fermentation.

Ruminant digestion produces gases (carbon dioxide and methane) which must be released to avoid bloat. While methane is a greenhouse gas, ruminants' contribution to climate change is almost always misrepresented.

