

## How can today's feeding schedule effect the horse when feeding higher levels of starch in the diet?

Answered by Dr. Wm. Tyznik

In the case of equine the fermentation does not begin until food has traveled through the stomach and sixty feet of small intestine. The rate of passage through the forepart of the digestive system in horses is very rapid. The stomach which has a capacity of about 6-8 quarts has a residence time of about 15 minutes. The protein and fat break down begins in the stomach. The acidity in the stomach is high enough under "normal" conditions to prevent bacterial growth or fermentation. Unfortunately when a horse overloads on carbohydrates the acidity is decreased which allows lactobacilli to proliferate. Lactobacilli produce lactic acid which has a paralytic effect on muscle, this results in paralysis of the valve that allows the stomach to empty allowing passage from the stomach to the small intestine. In addition, the horse cannot vomit which in a situation when gas production increases to a point where the stomach ruptures, causing death. If hay is always present, it slows the flow of grains (starch) through the digestive tract slowing carbohydrate fermentation thus controlling gas.