Figuring your Forage Needs

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As the days get shorter, it is time to be sure that your hay needs are met for the upcoming winter and spring. This month we will learn how to estimate your hay needs so that you don’t find yourself short come April or May.

To begin, you need to have an estimate of your horse’s body weight. If you haven’t weighed your horse yet, head out to the barn with either a weight tape or just a string! Measure your horses heart girth and body length in inches (see diagram) use this simple formula \((\text{HG}^2 \times \text{BL})/330 = \text{weight in pounds}\). Or better yet, download the Healthy Horse App (available on iTunes and Android devices) to get an estimate of your horses current and ideal body weight. Using basic forage feeding rules, we know that at a minimum your horse needs to consume 1% of its body weight in forage per day. That value is actually on a dry matter basis and most hay will on average be 85% dry matter and 15% of the hay is actually water. In the first example, let’s assume for simplicity sake that your horse is 1000 lbs. Therefore he needs to consume a minimum of 10 lbs of feed per day on a dry matter basis but what is that if you actually weigh it out? Divide the amount of hay by the % dry matter (10 lbs/0.85=11.8 lbs). To finish out, at a minimum your horse will consume 11.8 lbs x 365 days/year or 4,294 lbs of hay. That means you need to figure that for your one horse you should purchase about 2 tons of hay if you are purchasing for an entire year.

Of course, that is assuming you are feeding forage at the minimum requirement. However, feeding forage at a minimum may not be the best for the gut health of your horse and certainly for his mental health as well. In addition, horses that do not receive adequate forage to satisfy their need to chew develop very bad habits such as wood chewing, tail chewing and even cribbing. A better idea, at least where your horse is concerned, is to feed at 2% of your horses body weight per day. So with our same 1000 lbs horse, our equation is now 1000 *.02 = 20 lbs of hay/.85 (for dry matter adjustment) * 365 days. That works out to be 8,588 lbs or 4.3 tons of hay. Now that sounds a little more reasonable.

But what if your horses are outside and you are feeding them free choice hay? Horses can consume quite a bit more hay if offered, especially if their energy needs go up due to work, lactation, or cold weather, or if the hay is especially palatable. Some horses can easily consume 2.5 to 3% of their body weight per day. That works out to a need for 10,734 to 12,882 lbs or 6.4 tons for your 1000 lb horse if you allow your horse full access to feed. Would there be a reason to do so? Absolutely. Many times the easiest and most economical ways to feed horses is to feed them free choice round bales. Because there is less labor involved, round bales are often the cheapest way to buy hay. They are especially practical if you are feeding large groups of horses housed outdoors. However, unless you lock your horses away from the round bale feeder, they may certainly consume the upper limits of forage intake. For that reason, many horses can get quite fat if fed on good quality round bales.

Another consideration when purchasing hay is potential wastage. Horses will eat more than necessary if offered and become fat. They are also quite good at pulling hay from feeders and trampling it into the ground. With round bales, you can assume that 30% of your bale will be wasted via horses and
exposure to the elements. Be sure to include this wastage when calculating your hay needs if choosing round bales. You should also have a proper storage site that protects hay from sunlight and rain. Hay should not be set directly on the ground, as this can result in molding of the bottom layer. Many people try to cover hay stores with plastic or tarps to prevent wastage from rain. However, frequently the opposite is experienced. Plastic is easily punctured and allows water in, but the covering may prevent water from evaporating and only serve to further the wastage you were trying to avoid. Look at your feeding systems as well. Solid sided and bottomed feeders prevent most wastage, but horses should not be overfed, as water in feeders due to rain will result in more wastage of the hay remaining in the feeders. Never feed horses hay on the ground, as a very large percentage will be lost due to trampling, soiling on the hay etc. Further, this will result in a greater chance of parasitism through fecal contamination of hay.