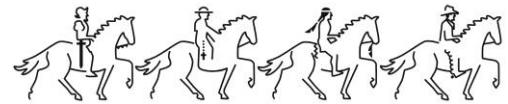


# Spanish Barb Nutrition Considerations



By Kathleen Bellemare

Our horses have survived for many generations in the desert southwest on very limited (but likely diverse) forage quantity and quality. We, as loving horse owners, want to shower our horses with the best nutrition we can give them, but in the case of barbs, I would like to recommend caution that what the horse industry considers good nutrition (developed on the concept of getting horses to competitive events by the age of 2), doesn't always apply successfully to our thrifty Spanish Barbs. Consider the long distances under heavy loads that the Spanish explorers travelled. There is not much chance that they travelled with molasses covered grains or that they were able to allow free choice forage on a daily basis as they traversed Mexico and the desert southwest.

With regard to disclaimers, I have now had one or more Spanish Barbs in my barn for nearly 24 years, and other horses before, after, and with them. I continue to learn and evolve in what I have found to be effective ways to feed my little herd, and may alter my recommendations in the future. I would like to share some things that I have learned about feeding my barbs, who have all lived on fairly small acreage with some pasture time available. Not every barb is the same, nor do they come to us in the same condition, so obviously, any recommendation that I have are based on the 8 different barbs that I have personally cared for. Many of these horses were not related, so I am drawing my recommendations from my limited pool of experience. Being a rather nerdy person, I have learned to use science to develop my barb feeding program and I'd like to share what I have learned with you.

My barbs seem to be able to maintain themselves on a fairly low percentage of body weight of high-quality grass hay, as compared to what I have seen recommended for horses in general. On average, with other supplementation that will be discussed below, our barbs eat about 1.25 to 1.75 % of their body weight in hay per day, depending on their age and workload and weather. I have had other breeds in my barn that could eat 3% of their body weight in the same nutritious forage and still be thin. Also, it will take any horse a few months to come into a state of balanced nutrition when you bring them into your barn or change feeding programs, so keeping a watchful, objective eye on any change in body condition is really important.

When I say high quality grass hay, here's where some of that scientific approach comes in, I can usually find a protein content of 12 – 16% in western grown grass hay. Protein is not your enemy in feeding your barb! It supplies digestible energy and the ability to build and maintain muscle. I am partial to Drover Fescue (which, incidentally is safe for pregnant mares – endophytes in fescue are more of an issue in the eastern US where there is a much higher level of moisture in the production of hay). I also like that Drover (and its cousins, Dovey and Brutus fescue) has a fairly broad blade as compared to Bermuda which can be very thin and lend itself to causing colic under some conditions. My horses have found it very palatable through the years, they like it much more than orchard grass, brome, or timothy. The most important thing I look for in any hay to feed our barbs (grass or alfalfa) is that it needs a fairly low carbohydrate (sugar plus starch) content. Below we will review a hay analysis and highlight things to look for. I do not buy any hay that does not have a hay analysis done, and work with my local suppliers to test at least 15 bales and review the results before I put the hay in my barn. There is no way to know what is in your hay if it is not tested and you may be not only wasting your money but also your horse's good health. Just because it looks or smells good or by knowing the variety or even if you bought from the same grower last year and your horse did great on it! Weather, irrigation and soil conditions are constantly changing, so my first rule about hay is never assume anything! A hay analysis costs about \$35 and, if you buy your hay once or even just a few times per year, it really makes sense to know exactly what you are feeding and what might need to be supplemented. Also, hay grown in extreme drought conditions can have high levels of sugar and starch, or toxic levels of selenium and nitrates.

In addition to their grass hay, I supplement with daily fat in the form of flax seed and omega 3 fatty acids. They also get about 1/3 of beet pulp flakes and 2 pounds of a grass/alfalfa pellet that I serve soaked with their minerals that are custom made to balance out any nutritional deficiencies or imbalances in their hay (based on the NRC Nutrient Requirements for Horses). I use Joint, digestive, and reproduction enhancing supplements on a horse by horse basis. Fats and beet pulp help the horse maintain their blood sugar levels over longer periods of time. I also feed aloe vera juice concentrate daily to keep everyone's guts soothed and happy. My horses also get limited grazing time a few days per week when their blood sugar is balanced, more for entertainment than nutritional value.

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Provided below is a hay analysis for the year of hay recently purchased for our Spanish Barbs:

Results					
% Moisture	8.3				
% Dry Matter	91.8				
	As Sampled		Dry Matter		
Digestible Energy (DE), Mcal/lb	.89		.97		
	%	g/lb.	%	g/lb.	
Crude Protein	16.2	73.5	17.7	80.2	
Estimated Lysine	.56	2.6	.61	2.8	
Lignin	3.7	17.0	4.1	18.5	
Acid Detergent Fiber (ADF)	28.1	127.5	30.6	138.9	
Neutral Detergent Fiber (aNDF)	47.8	216.8	52.1	236.3	
WSC (Water Sol. Carbs.)	7.7	34.8	8.4	38.0	
ESC (Simple Sugars)	5.7	26.0	6.3	28.4	
Starch	.2	.8	.2	.9	
Non Fiber Carb. (NFC)	13.2	59.7	14.3	65.0	
Crude Fat	3.7	16.9	4.1	18.4	
Ash	10.9	49.3	11.8	53.7	
	%	g/lb.	%	g/lb.	
Calcium	.53	2.41	.58	2.62	
Phosphorus	.20	.93	.22	1.01	
Magnesium	.28	1.25	.30	1.36	
Potassium	2.81	12.73	3.06	13.88	
Sodium	.206	.934	.224	1.018	
	ppm	mg/lb.	ppm	mg/lb.	
Iron	155	70	169	77	
Zinc	21	9	23	10	
Copper	7	3	7	3	
Manganese	53	24	58	26	
Molybdenum	3.1	1.4	3.4	1.5	
	As Fed				100% Dry
PPM Selenium	.01				.01
% Nitrate	.11				.12
PPM Nitrate-Nitrogen	253				276
RFV					116

The first thing that I look at when I receive my hay analysis is the Total Non-Structural Carbohydrates (NSC). NSC is the sum of the water-soluble carbohydrates and the starch in the hay. In this example, NSC (7.9) = WSC (7.7) + Starch (.2). I will absolutely not buy any hay for my barbs with NSC higher than 10%. This "rule" will save you and your horses a lot of pain and misery. Many people are concerned about high levels of protein. This hay is 16% protein, but with low NSC, the horses do not get overly energetic on this level of protein. Hay with protein content less than 8% may be inadequate for your horse to maintain their body condition on without other feed supplementation. Just like with us, it is the carbohydrates (sugars) that can amp up the horse. Sometimes high protein hay can be over fertilized and come with high nitrates. You want your nitrates to be under .2%, especially for pregnant mares. In drought conditions I also run a selenium test as certain areas can have toxic levels of selenium to horses.

If your horse has been diagnosed with insulin resistance and even if they are symptomatic with laminitis or founder, do not despair, it is manageable and they can recover and become balanced again with a nutritionally tight diet, excellent farrier

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care and perseverance. The important things to implement immediately in this situation is to know your horse's insulin level (as compared to the scale, is it like 200 points over or just at the top of the scale?), test the hay you are feeding and make sure it is less than 10% sugar and starch and make sure your horse is not getting any additional sugars (no pasture grass, apples, carrots, corn or other grains or molasses enriched feed). Insulin resistant horses don't effectively process high levels of sugar and starch. They end up producing more insulin than their muscles can absorb and are thus categorized as insulin resistant. When this happens the excess levels of insulin can cause the layers of the horse's hoof to delaminate and eventually detach from the coffin bone if left untreated. This is a metabolic disorder that can reduce both the quality and length of your horse's life if it is not very carefully managed. Cresty necks are the first sign. Don't love your horse to death, a lean (but not skinny) barb that is well exercised is your best defense. Additionally, you should know that horses do not generally develop insulin resistance (or show any signs that their feeding program may be less than ideal) until about age 12-15. So, just because a young horse has never had a problem, this does not mean you're in the clear for the life of the animal. Often symptoms appear in the early spring or fall because when horses' metabolisms change with the reduction or increase in light, a metabolic syndrome horse will have a harder time with this natural change. Pasture grasses can also have higher sugar content from the time frost starts until consistent growth occurs in the late spring/early summer. The slower the grass grows, the higher the concentration of sugar.

Don't give up if your horse has symptoms of laminitis! It is not something they can get over quickly with medication in a short amount of time. This is a situation that has built up over time and will take much time on a balanced diet to correct.

Learn about your hay! Local NM hays that I have purchased have ranged in sugar and starch content from 7% to 26%. I had used the same grower of orchard grass for years and thought my horses to be very healthy, then in a drought year, 2 of my horses became laminitic. When I had the hay in my barn tested it was 26% sugar and starch, and I later learned that my grower had an irrigation failure during the growing season. An insulin resistant horse's total diet should be less than 12% sugar and starch.

You can't tell hay content by looking, smelling or even the type of hay it is. Weather conditions in different years, and the time of cutting and baling can dramatically affect sugar and starch content. Test your hay before you buy it, or have your grower test it. Buy it in large enough lots to last you 6 months to the whole year. Testing a hay sample costs about \$36.00 to get the full analysis done.

If all of this information is "too much" I'd be happy to help, or contact an equine nutritionist, I know a great one who has taught me much, but it's a process and I'm still learning! Don't beat yourself up if your horse is having problems. My favorite saying with horses is. "ya don't know what ya don't know until you know it!" I would be happy to discuss your horse and your situation and share what I have learned about feeding my barbs over the years.

Happy Trails,

Kathleen Bellemare

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