

Nutrition by the Numbers

Great grains

Everybody knows horses eat oats, right? The answer is, “Yes, among many other things.” Today’s equine athletes rarely eat only one type of grain, and each ingredient in the horse’s concentrate offers a slightly different nutrient profile.

Approximate nutritional values of some grains and feed ingredients, as published in Nutrient Requirements of Horses, Fifth Edition (1989), are found below.

	Digestible energy (Mcal/lb)	Crude protein (%)	Lysine (%)	Fiber (%)	Calcium (%)	Phosphorus (%)	Magnesium (%)	Potassium (%)
Corn	1.54-1.75	9.1-10.4	0.25-0.28	2.2-2.5	0.05	0.27-0.31	0.11-0.12	0.32-0.37
Oats	1.30-1.45	11.8-13.3	0.39-0.44	10.7-12.0	0.08-0.09	0.34-0.38	0.14-0.16	0.40-0.45
Barley	1.49-1.67	11.7-13.2	0.40-0.45	4.9-5.6	0.05	0.34-0.38	0.13-0.15	0.44-0.50
Wheat bran	1.33-1.50	15.4-17.4	0.56-0.63	10.0-11.3	0.13-0.14	1.13-1.27	0.56-0.63	1.22-1.37
Beet pulp	1.06-1.16	8.9-9.8	0.54-0.60	18.2-20.0	0.62-0.68	0.09-0.10	0.26-0.28	0.20-0.22
Molasses	1.20-1.55	6.6-8.5	Not available	0	0.12-0.15	0.02-0.03	0.23-0.29	4.72-6.06
Soybean meal with hulls	1.43-1.60	44.5-49.9	2.87-3.22	6.2-7.0	0.35-0.40	0.63-0.71	0.27-0.31	1.98-2.22
Soybean meal, no hulls	1.53-1.70	48.5-54.0	3.09-3.44	3.5-3.8	0.26-0.29	0.64-0.71	0.29-0.33	2.12-2.36
Soybean hulls	0.77-0.85	11.0-12.2	0.47-0.53	36.0-39.9	0.48-0.53	0.17-0.18	0.20-0.22	1.17-1.29

Remember these principles for including grain in your horse’s diet:

- Several small grain meals a day are more easily digested and safer than one large grain meal. If the horse’s daily grain allowance exceeds five pounds, it should be split into two or more evenly spaced feedings.
- If the ration is changed in any way (amount, type, or brand of feed), the change should be made very gradually over several days. Start by mixing a little of the new feed into the old ration, increasing the amount of the new feed each day and decreasing the old feed until the change is made.

- Feed should be measured by weight, not by volume. If the horse is supposed to get four pounds of a certain feed at each meal, “two scoops” or “three coffee cans” may or may not be close to this amount. Weighing the feed assures that the correct amount is being given.

Got fiber?

How many times have you been asked, “What’s the best hay to give my horse?” It’s not easy to remember the various amounts, levels, and percentages of this or that nutritional element in different types of hay. Nutrient Requirements of Horses, Fifth Edition (1989) gives these figures for common types of hay.

	Digestible energy (Mcal/lb)	Crude protein (%)	Lysine (%)	Fiber (%)	Calcium (%)	Phosphorus (%)	Magnesium (%)	Potassium (%)
Alfalfa (early)	1.02-1.13	18.0-19.9	0.81-0.90	21-23	1.28-1.41	0.19-0.21	0.31-0.34	2.32-2.56
Alfalfa (late)	0.89-0.98	15.5-17.0	0.79-0.87	27-30	1.08-1.19	0.22-0.24	0.25-0.27	1.42-1.56
Bermuda grass (mid)	0.89-0.95	10.9-12.0	0.28-0.38	28-31	0.30-0.32	0.19-0.20	0.11-0.16	1.58-1.70
Bromegrass (late)	0.71-0.77	5.6-6.0	Not available	30-32	0.24-0.26	0.20-0.22	0.11-0.12	1.71-1.85
Fescue (late)	0.80-0.89	9.8-10.8	Not available	28-31	0.37-0.41	0.27-0.30	0.14-0.16	1.76-1.96
Orchard grass (late)	0.78-0.87	7.6-8.4	Not available	33-37	0.24-0.26	0.27-0.30	0.10-0.11	2.42-2.67
Timothy (mid)	0.80-0.90	8.6-9.7	Not available	30-34	0.43-0.48	0.20-0.23	0.12-0.13	1.61-1.82
Timothy (late)	0.72-0.82	6.9-7.8	Not available	32-36	0.34-0.38	0.13-0.15	0.08-0.09	1.42-1.61

Remember these general guidelines for using hay:

- All other things being the same, hay cut before the plants reach full maturity will contain more digestible energy and less fiber than if the plants are allowed to grow tall and stemmy.
- Hay needs to dry in the field before being baled. Hay that is baled at a high moisture level is likely to mold. Very wet hay stacked tightly in a barn can produce enough heat to smolder or even burst into flames.
- Hay begins to lose some nutritional quality from the moment it is cut, but retains acceptable levels of nutrients for feeding anytime during the first year. Used after this time, it provides roughage along with somewhat diminished vitamin levels.
- Stored hay must be protected from rain and snow. Tarps can keep animal feces and urine from contaminating stored bales, an important consideration with the emergence of EPM, which is spread by contact with waste from infected opossums. Sunlight will cause the outside layers to bleach out somewhat, but bale interiors should retain some green color.
- As bales are opened for feeding, they should be checked for mold and also for foreign objects (pieces of metal, dead rodents) that may have been raked up as the hay was baled. Bales or sections that are obviously moldy, musty, wet, or discolored should not be fed.