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Feeding Young & Growing Horses

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When you plan a feeding program for your young horses, several factors are very important:

- body changes involved in growth,
- nutrient requirements of that particular class of horse,
- the feed's nutrient content,
- anatomical limitations of young horses' digestive system, for instance, you cannot feed young horses low-energy, bulky feeds because their digestive tracts are not large enough. Instead, young horses need concentrated sources of energy, protein, vitamins and minerals to meet their nutritive needs.

The period from birth to 18 months is critical for young horses' growth, since they achieve 90% of mature height and almost that percentage of mature weight during that time. Because their nutrient requirements are high and because they are potential athletes, you must manage their growth properly, trying to avoid problems with soundness and skeletal development.

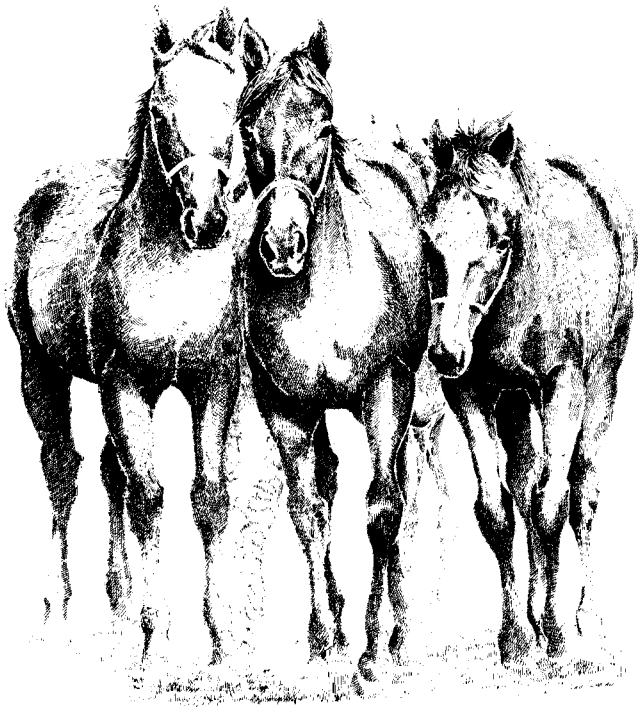
The Nursing Foal

Foals will meet their nutritional requirements in their first 2 to 3 months with mare's milk (Table 1) and pasture, plus whatever feed they start nibbling on. If a foal and mare are in good condition, the foal does not need to start creep feeding until it is at least 2 months old.

However, the situation changes after 2 months. In the third month of lactation, the mare's milk production drops while the foal's nutritional needs keep increasing. Therefore, foals have a nutrient gap. Creep feeding (that is, using feed that the mare cannot get to) can provide the foal with extra nutrients to fill this gap.

Several aspects of creep feeding are very important:

- Start creep feeding when foals are about 8 to 12 weeks old. Make sure the feed is fresh daily and that foals are consuming it adequately.
- Use a creep feeder designed so that mares cannot gain access and so that foals will not be hurt. If you do not want a field type feeder, you can tie the mare in her stall, allowing the foal to eat.
- Put the creep feeder where mares gather frequently.
- Feed the creep feed at a rate of 1% of the foal's body weight per day (1 lb/100 lb of body weight). For most foals of light horse breeds, this amount of feed is approximately 1 lb of feed per month of age. Do not provide creep feed free choice because doing so could increase the incidence of physitis and enterotoxemia among larger, more rapidly growing foals. Nutrient concentrations needed in a creep feed are shown in Table 1. See Table 5 for actual creep feed rations.



The Weanling

Generally foal performance decreases immediately after weaning. To minimize this "post weaning slump," make sure foals are consuming enough dry feed at weaning to meet their requirements. One way of doing so is by creep feeding. Managing growth during this time is very important because excessive weight gain may cause bone abnormalities and long-lasting skeletal problems.

Feed weaned foals on a combination diet. First, they should be fed good quality forage. They should have access to all the good quality hay they will consume and allowed all the voluntary exercise they want. Research has shown that exercise strengthens bone, increases cortical thickness and makes for a more durable future athlete.

Second, weanlings also should be fed concentrates at the following rate: 1 to 1.5 lb/100 lb of their body weight/day of a concentrate mix. This mix should contain at least 15% CP, .90% calcium and .80% phosphorus. Adjust protein percentages in the concentrate according to the type of forage you use (Table 3). If you use

higher quality forage, the foal will need less concentrate (Table 4).

Be careful not to feed weanlings too much concentrate. If you feed them high levels of concentrates, they will grow more rapidly and this rapid growth may harm skeletal and tendon development. Therefore, adjust feed intake to avoid overfeeding.

The Yearling

Because their growth rate slows considerably by 12 months, yearlings can consume more pounds of dry matter. Therefore, they need lower nutrient concentrations in their ration. As Table 2 shows, the percentage of protein, calcium and phosphorus required by the yearling is less than that required by the foal or weanling.

Feed grain to yearlings at .5 to 1.5 lb/100 lb of body weight. Even though yearlings require only 12% CP in the total ration, a 14% CP concentrate ration gives you more flexibility. With this level, even if you use different types of hays with protein variations, the horse will still get enough protein. An 800 lb yearling will receive 8 to 12 lb of concentrate per day plus free choice hay or pasture. The amount of concentrate required varies due to forage quality and quantity.

By the time yearlings are 18 months old (long yearlings), their growth rate has slowed even further. Although long yearlings only require 10% protein, you do not need to formulate a new ration for them. You can feed them the same ration as 12 month yearlings get.

Remember, this publication merely gives guidelines for feeding young horses. Because horses have highly individual natures, you need to adjust feed consumption to account for changes in individual condition. Some horses are easier to maintain than others. Therefore, you must combine your knowledge of nutrition, your eye for condition and your common sense to make the final adjustments on feed intake. The requirements presented are not set in concrete and may, or most probably will, need to be tailored to fit your horses' needs.

Table 1.—Composition of Mare's Milk (wet basis)

Protein %	Fat %	Gross Energy (Kcal/lb)	Ca (Mg/dl)	P (Mg/dl)
2-3	1-3	215	80-120	45-90

Mg (Mg/dl)	Cu (Mg/Kg)	Se (Mg/Kg)	Zn (Mg/Kg)	Fe (Mg/Kg)
6-12	0.15-0.4	0.01-0.03	2-4	0.5-0.9

Table 2.—Nutrient Concentrations Needed in Concentrate Mixes for Growth[a]

Age	CP (%)	CA (%)	P (%)	Cu (mg/kg)	SE (Mg/Kg)
Creep Feed	18	1.0	.95	40	.1
Foal - 3 mo.	16	1.0	.95	40	.1
Weanling - 6 mo.	16	.90	.80	40	.1
Yearling - 12 mo.	14.0	.80	.70	40	.1
Long Yearling - 18 mo.	14.0	.80	.60	40	.1

[a]90% dry matter or as fed basis.

Table 3.—Protein Concentration Needed in Grain Mixes for Growth When Feeding Grass or Legume Hays[a]

Age	Grass Hay	Legume Hay
Weanling	16-18%	14-16%
Yearling	15-17%	12-14%
Long Yearling	14%	12%

[a]Example grass hays include timothy, orchardgrass, coastal bermuda and example legume hays include alfalfa, lespedeza and the clover hays. Besides type of hay, maturity of the forage should be critically evaluated.

Table 4.—Approximate Amounts of Grain (Lb) Needed with Hay for Growth[a]

	DE Req Mcal/ lb of feed	Wt. of Horses at Maturity			
		1100 lb		1300 lb	
		Avg Hay	Good Hay	Avg Hay	Good Hay
Weanling	1.25	9	8	10	8.5
Yearling[b]	1.2	11	9	12	9.5
Long Yearling[b]	1.1	11	9	12	9.5

[a]Hay fed free choice in addition to grain. Concentrate feeding may be decreased if good quality improved pastures are available to the horse.
[b]Figures reflect greater voluntary consumption of forage and not decreasing total energy needs.

Table 5.—Sample Grain Mixtures[a] for Sucklings and Weanlings

	Mixture No.							
	1		2		3		4	
	Creep Feed		Creep Feed		Weanling		Weanling	
	%	lb/Ton	%	lb/Ton	%	lb/Ton	%	lb/Ton
Rolled Oats	38.0	760	34.0	681	41.5	830	37.0	744
Cracked Corn	22.0	440	20.5	410	25.0	500	25.0	500
Soybean Meal	18.5	370	20.0	400	12.5	250	12.0	241
Dr. Skimmed Milk	—	—	5.0	100	—	—	5.0	100
Wheat Bran	10.0	200	10.0	200	10.0	200	10.0	200
Molasses	7.0	140	7.0	140	7.0	140	7.0	140
Dicalcium Phosphate	2.5	50	1.0	2.0	2.0	40	2.0	40
Ground Limestone	1.0	20	1.5	30	1.0	20	1.0	30
T.M. Salt[b]	1.0	20	.5	10	1.0	20	.5	10
Vitamin Premix[c]	+	+	+	+	+	+	.25	5
	100.0	2000	100.0	2000	100.0	2000	100.0	2000
CP, %	16.9		19.0		15.2		16.09	
Calcium, %	1.10		1.01		.90		.90	
Phosphorus, %	.96		.70		.80		.80	

[a]Fed with hay or pasture.
[b]See Table 8.
[c]See Table 9.

Table 6.—Sample Grain Mixture[a] for Yearlings

	%	lb/Ton
Rolled Oats	48.0	960
Cracked Corn	25.0	500
Soybean Meal	7.0	140
Wheat Bran	10.0	200
Dicalcium Phosphate	1.1	20
Ground Limestone	1.0	20
T.M. Salt[b]	.5	20
Vitamin Premix[c]	.5	10
	100.0	2000
CP, %	13.5	
Calcium, %	.80	
Phosphorus, %	.70	

[a]Fed with hay or pasture.
[b]See Table 8.
[c]See Table 9.

Table 7.—Two Sample Grain Mixtures[a] that can be Used on the Farm for Several Classes of Horses

	Young Horses Lactating Mares		3 yr. olds & up Broodmares & Working Horses	
	%	lb/Ton	%	lb/Ton
Rolled Oats	41.5	830	55.0	1100
Cracked Corn	25.0	500	23.0	460
Soybean Meal	12.5	250	2.2	44
Wheat Bran	10.0	200	12.0	240
Molasses	7.0	140	5.0	100
Dicalcium Phosphate	2.0	40	—	—
Ground Limestone	1.0	20	1.5	30
T.M. Salt[b]	.5	10	.6	12
Vitamin Premix[c]	+	+	.5	10
	100.00	2000	100.0	2000
CP, %	15.5		12.0	
Calcium, %	.90		.66	
Phosphorus, %	.80		.41	

[a]Fed with hay or pasture.
[b]See Table 8.
[c]See Table 9.

Table 8.—Trace Mineralized Salt

	Trace Mineral Content	
Mineral	TM Salt	Amt. of Grain Mixture
Iodine	0.007%	318 mcg
Iron	0.80%	36 mg
Copper	0.16%	7 mg
Zinc	1.00%	45 mg
Manganese	0.40%	18 mg
Selenium	.002%	.09 mg

Table 9.—Vitamin Premix for Horses

Vitamin	Per lb Premix	Amt per lb feed when premix added at: 2 lb/Ton	1 lb/Ton
Vitamin A	1,000,000 I.U.	1000 I.U.	500 I.U.
Vitamin D	100,000 I.U.	100 I.U.	50 I.U.
Vitamin E	5,000 I.U.	5 I.U.	2.5 I.U.
Thiamine	1.2 g	1.2 mg	0.6 mg
Riboflavin	800 mg	0.8 mg	0.4 mg
Pantothenic Acid	800 mg	0.8 mg	0.4 mg
Vitamin B12	5 mg	5.0 mcg	2.5 mcg

Table 10.—Suggested Feeding Schedule-Example Grain Mixture

Type of Ration	Rate Feeding*	Remarks
Creep feed	¾ to 1 lb per 100 lb body wt.	For feeding to nursing foals.
Weanling	1-1½ lb per 100 lb body wt.	For feeding with good quality grass hay or light mixed grass-legume hay.
Yearlings	1-1½ lb per 100 lb body wt.	For feeding with good quality grass hay or light mixed grass-legume hay to horses for growth.

*Amounts of grain mixture may be varied as indicated to provide for more economical rations if good quality pasture is available or if liberal amounts of good quality hay is fed.

Table 11.—Minimum Nutrient Requirements

	Required in Total Air Dry Ration (%)			
	Crude Protein	Calcium	Phosphorus	% of body wt. eaten/day
2 yr. old to maturity	10	0.40	0.35	1.75
18 to 24 mo.	14	0.40	0.35	2.0
12 to 18 mo.	14	0.50	0.35	2.5
Weanling	15	0.65	0.45	3.0
Nursing foal, 3 to 5 mo., requirements above milk	16	0.80	0.55	0.75

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