



HEALTH ZONE

Nutrition

Weanling Nutrition

BY HEATHER SMITH THOMAS



JANIE M. EBERHARDT

There's no magic formula to weaning—many horse breeders and farm managers have years of experience

Proper feeding important at stressful time of a young horses' development

Weaning time is stressful for foals, and racehorse breeders strive to make this transition as easy as possible—so growth and development are not interrupted. Part of this strategy involves nutrition, making sure the foal is ready for weaning and accustomed to eating the feed that it will be depending on after it no longer has mama's milk.

Dr. W.B. "Burt" Staniar, an associate professor of equine nutrition at Penn State University, says foals should be introduced to these feeds prior to weaning, either through creep feeding or access to the diet the dams are eating.

"This makes the transition easier for foals," he said. "This also helps with the development of their gastrointestinal tract and their ability to transition to the new diet."

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Starting the Transition

Stephen Duren of Performance Horse Nutrition says that before we start thinking about the weanling, we need to consider the nursing foal.

“Before we separate the mare and foal, we need to make sure the foal is eating his own feed—accustomed to what he will be fed after he is weaned,” Duren said. “This decreases his stress level significantly.

“We prefer to start feeding the foal by himself (rather than creep feeding), but this will depend on how the farm is set up to do it, whether they are catching mares twice a day or some other method. Usually the mares are in a breeding program anyway and being palpated so they are brought in to stalls. We start offering foals their own feed at about 21 days of age,” he said.

The amount of feed will depend on growth characteristics of the foal and whether there are any growth anomalies.

“After a foal is eating the feed, the amount is gradually increased until

the foal is of weaning age,” he said. “You can tailor the amount to each foal’s needs by feeding individually. This is why I like supplemental feeding rather than creep feeding. With a creep feeder there might be an aggressive foal that can monopolize the feed. In my feeding systems, feeding the foals individually, we are either tying that mare at her own feed tub or hanging her tub at a height where the foal can’t get into it—and giving the foal his own feed at the amount we want for him.”

There are some fast-growing foals that you don’t want to feed too much, or this may put them more at risk for DOD (Developmental orthopedic disease) problems.

“With horses, we never want to maxi-



PERFORMANCE HORSE NUTRITION

Performance Horse Nutrition’s Stephen Duren: “We want to deliver essential nutrients for sound skeletal growth and longevity.”

mize growth, since unlike beef cattle we want them to grow more slowly—for a long athletic career—and be able to stay sound,” Duren said. “Longevity is our goal, compared to other farm animals. Additionally, horses are bred to be athletes, so we are not looking at maximizing pounds of gain. We want to deliver essential nutrients for sound skeletal growth and longevity.

“There are many software programs available today for tracking foal growth according to breed averages, within different countries and different states,” he said. “There is a lot of data to help you know whether a young horse is growing too fast, based on height and weight of that youngster. This can help you manage feeding and growth rate.

“In some instances this may be harder to do if the foal is being raised on a foster mare (such as a draft mare) that gives a lot of milk,” Duren said. “Generally, we figure milk production as a percentage of body weight, and if the nurse mare is large, she may give more milk than a Thoroughbred. Foals can certainly be raised on those mares but they grow faster so you would cut back on the volume of supplemental feed. With less volume you might want the nutrient concentration (vitamins, minerals, etc.) to be more dense so the diet is still balanced. The mare’s milk is pro-

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MONITORING GROWTH RATE

Dr. W.B. “Burt” Staniar, an associate professor of equine nutrition at Penn State University, has always been interested in growth rates/growth curves in young foals and has done a lot of work looking at this.

“There are many aspects of their environment—nutrition being a major one—that can impact their pattern or rate of growth,” he said. “It is valuable to monitor the growth of foals if a person has the capability to do it. This adds extra labor, but once a month at least (preferably every two weeks) the foals could be weighed and measured. You can measure withers height, and if you don’t have a scale, you can use a weight tape or some of the equations for estimating weight. These are several ways to monitor growth.

“This can help you fine-tune what you should be doing from a nutritional standpoint,” he continued. “This can give clues if you are feeding a little too much—if a foal is growing much more rapidly than it did over the previous two months. Or, you might dis-

cover that a foal has really dropped off in growth. Is it because the weather has gotten colder, or the fact there’s not much grass available? In these instances maybe you should bump up the amount you are feeding.”

At this point in the foal’s age/life, growth is usually a primary objective—not necessarily rapid growth but healthy growth.

“This is always hard to define,” Staniar said. “If one foal is growing at an obviously different rate than his peers, this might be something to look at, unless you know that genetics are a factor—if the dam and sire are really big and programed for rapid growth.

“This doesn’t mean we should not be worried about it because rapid growth can be associated with certain skeletal problems,” Staniar said. “There are still a lot of questions in that area, but we do have to be careful with larger foals to make sure they don’t grow too rapidly. The larger foals are at a greater risk.”

By Heather Smith Thomas

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viding the energy and the protein, so we are trying to make sure that everything else is balanced.”

Weaning

The method of weaning makes a difference, regarding stress, but age of the foal and season of year will have some impact on what the appropriate nutrition would be for that foal.

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EXERCISE

“Some sort of low-to-moderate level of exercise is just as important as nutrition for the weanling, to help him develop adequately for a sound athletic career,” said Dr. W.B. “Burt” Staniar, an associate professor of equine nutrition at Penn State University. “The exercise could be as simple as being out in a large paddock with his peers to run around and play. It is not healthy for the youngster to be kept in a stall all the time.”

Nutrition and exercise go together as part of the whole picture for the growing horse. There must be a good balance.

By Heather Smith Thomas

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Staniar taking a foal measurement

COURTESY OF W.B. STANIAR

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“With foals we worked with in numerous studies in Virginia (when Staniar was at Virginia Tech), we were weaning relatively late, at seven to eight months of age, weaning the foals onto a fall flush of green pasture,” Staniar said. “We’d gotten through the heat of summer, temperatures had cooled down a bit, and the cool season grasses were coming back. It was a good time to wean because not only were they old enough to be less dependent on their dams (more ready for weaning, physically and emotionally), but they were weaned on green grass. We were also supplementing them, but weaning them on a relatively rich nutrient and energy source that was readily digestible.”

“We should be thinking about what these young, growing animals need,” Staniar continued. “At weaning time they are still growing fast and have substantial nutrition and energy demands that need to be met, for growth to be maintained. Making sure you are meeting those requirements is important, so it helps if you are working with or getting advice from a nutritionist—to know what the requirements are for this age group and whether the things you are feeding will be meeting these requirements.”

The later you wean, the easier it is on foals.

“Here at Penn State we wean our foals at three to four months of age because of our management strategies and several other factors, but we have to think even more about the requirements of those foals,” Staniar said. “We have to start creep feeding them in preparation to wean, but they are still getting quite a bit of nutrition from suckling the mare at that point. However, when you wean at seven to eight months, intake of milk will be considerably less, production of milk by the mares will be considerably less, and the foals are eating a lot more forage by that time.”

It is easier on foals to wean them a bit later, but sometimes people wean early for various reasons. If a foal is growing too fast and at risk for DOD a person might have to wean early. Or the mare has a health problem and you need to take the foal off her.

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Feeding the Weaned Foal

Weanling diets differ a bit around the country, depending on what feeds are grown in that region and what is economically available. As long as the ration is balanced and meeting the needs of the growing foal, this is what counts.

"There may be several options for a weanling diet and it pays to work with a nutritionist to help you figure it out," Staniar said.

"As nutritionists, we always talk about forage first," he said. "We should always be focused on forage as the most important aspect of the equine diet. For a young, growing horse I want to see a relatively high-quality forage that is relatively highly digestible—something with a bit more leaf and a little less stem. We want it to be more nutrient and energy dense than the average forage, to provide more of what the young growing horse needs."

Forage alone is not adequate. The weanling foal is smaller than an adult, with less GI tract capacity, and higher nutrient needs.

"Thus, there is a place for grains or concentrates/supplements in the diet of this animal that has higher requirements for growth," he said.

The young horse can't eat enough volume of mature forage to provide the nutrients for the growth we want.

Someone could say that horses in the wild do just fine, growing up on nothing but forage—including forage that is overly mature and dry during the foal's first winter as he gets weaned from mom and goes into his yearling spring. Young horses in the wild are smaller, however, and grow slower. The racing industry wants youngsters to reach their optimum potential sooner, so we feed them better.

"Once the foals are weaned, we want to make sure they are fed more than once a day," Duren said. "The more frequently you feed, the more appetite stimulation. They eat better if they are fed multiple small meals rather than one or two large meals. We feed at least twice a day, and I work with a number of farms that feed three times a day. When you feed smaller grain meals

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more frequently, you also get less hormonal changes with insulin concentration associated with glucose. This tactic (smaller, more frequent meals) may diminish some of the growth anomalies seen in young horses," he explained.

"We can design specific feeds, tailored for the individual young horse, but these also have to complement the forage being fed," he said. "If you wean early enough in the fall, such as August/September in the Northern Hemisphere, you still have green grass. If you have a late foal that's weaned later, the quality of pasture is less, and you have to make up that deficit with very good-quality hay and maybe larger volumes of grain to get that foal caught up before winter."

Climate, environment, and feed conditions are part of the whole picture.

"A lot of the consulting I do in Japan involves working with their management system," Duren said. "They turn their weanlings out at night on the northern island of Japan, and get a significant amount of snow. It's not bitterly cold, but it's cold. You have to think about that, as well (and the extra calories required for body warmth). Feeding the weanling means taking into consideration the kind of turnout that young horse will have. Increased turnouts mean increased activity and increased exposure to cold. This influences the feed (and how much) you are providing for that animal.

"There's not one magic formula that says you'd feed x pounds of grain per day for a 5-month-old weanling," he continued. "There are many factors that have to go into this, in order to achieve a balanced diet. These will include your forage program, the exercise and activity of the foal, the growth rate of that particular foal, etc. All of these things will help dictate the volume of supplemental feed that you have to provide, to achieve that balanced diet."

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and error as well as working with a nutritionist/consultant, but anyone just starting out should get some advice on balancing these diets.

"Many feed manufacturers have their own nutritionists, and there are also a lot of private equine nutrition consultants," Duren said. "It's a significant investment in time and money trying to raise a racehorse, so it pays

to get some advice. You don't want to just wing it or not be prepared for how you will feed a weanling. Breeding fees are high, and you want to optimize that investment by growing the best weanling you can. All you need to do is get one more bid at public auction when you sell that animal, and that will more than pay for the nutritionist's consulting fees!" **BH**

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