

## Feeding Yearlings: Preparing for the Sale

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As the breeding season winds down and spring becomes summer, the primary focus on breeding farms is preparation of yearlings for the sales. The stakes are clearly high as vast sums of money are on the line--rightly or wrongly, the overall "presentation" of a yearling at the sales has a strong bearing on price, regardless of breeding. Plain and simple, poorly "fitted" yearlings won't cut the mustard.

About 15-20 years ago, the adage "big is beautiful" drove the market and, therefore, the manner in which yearlings were prepared for sale. This meant feeding youngsters as much as they wanted to encourage rapid growth and excess conditioning (i.e., fatness). Nowadays, however, the focus is more on an athletic look. As always, overall conformation must be up to par, but rather than the appearance of a Butterball turkey ready for the Thanksgiving table, the sales yearling must be well muscled and toned, almost giving the impression that he will soon be ready to race.

There is no question that superior nutrition plays a key role in the preparation of a top-notch sales youngster. However, it isn't the only factor that needs to be considered. Success is also heavily dependent on excellent overall health management programs (e.g., vaccination and parasite control programs), exercise conditioning, and perhaps most importantly, the dedication and hard work of personnel involved in getting the job done. And of course, superior genetics have a big impact on sales price. Another important facet is the selection of the most appropriate sale. A late foal or slower-developing yearling might not be ready for the summer sales, and he (and his seller) could be better served by an additional two or so months of intensive preparation.

In this article, we focus on the "feeding" component of sales preparation--this normally takes place during the three- to four-month period before the sale. However, it is important to realize that the whole process begins with the open broodmare. Her health and nutritional state at the time of breeding will influence conception. Nutrition during her pregnancy, especially the last trimester (three months), has a critical influence on

development of the foal and likely affects development during the first few months of life. Poor nutrition of the broodmare and of the growing foal (before and after weaning) can lead to developmental problems that cannot be rectified in the short lead-up to the sales.

## **Feeding Basics**

Any discussion on nutrition of growing horses inevitably turns to the dreaded subject of developmental orthopedic disease (DOD). This term actually encompasses a number of conditions that can afflict the developing youngster, such as physitis, osteochondrosis, and flexural deformity. There is little doubt that poor feeding programs can precipitate some of these problems in growing horses, particularly those "pushed" for rapid growth. However, these problems are much more of an issue in the four- to 12-month age bracket, during the period of very rapid growth. With respect to sales preparation, the horse is usually at least 12 months of age and more often 14-15 months old during the prep period (and 14-18 months of age at the time of sale).

As a yearling, the horse has already attained about 90% of his mature height, 95% of his mature bone length, and about 70% of his adult body weight. Compared to a weanling, growth rate is considerably slower. Because the skeleton is approaching maturity, the risk of skeletal "train wrecks" is much lower. So, after March or April of a horse's yearling year (for those born early in the year), it is fairly safe to ramp up the feeding program to increase "conditioning" without negatively impacting bone growth and development. Some of the later foals (e. g., May or June foals) will need to be pushed particularly hard to achieve a level of conditioning similar to that of older peers if entered in a summer sale.

It is very difficult to make generalizations regarding feeding programs for sale yearlings. There is no single program or "recipe" that guarantees success. The most important goal of any feeding program is to meet the horse's nutrient requirements--and there are many different ways to reach that goal. Although an old adage, it is true that "horses are individuals," meaning that some degree of individual attention is necessary when designing and implementing a feeding program. One yearling might require 12-14 pounds (5.4-6.4 kg) per day of "hard" feed (grain concentrate) to attain the desired level of conditioning, but this same feeding program could prove disastrous for another yearling. You need to consider the age of the horse, his skeletal size and body condition, and the availability and quality of forage.

Importantly, the feeding program for each horse should be re-evaluated at two-week intervals during this period of intensive preparation. Fine-tuning is often required to achieve the right look. This is particularly true when the horse is started on an exercise/conditioning program. It is easy to over- or under-feed horses in this circumstance.

## **Feeding Forage**

Forage should be the centerpiece of the feeding program for a sale yearling. Pasture intake can be a large part of this, but this is very much dependent on farm stocking density and the amount of pasture available. When spring and summer rains are plentiful, there might be ample pasture. However, some yearlings will be prepped at facilities that have little or no pasture. Turnout time is another consideration. The start of sales prep usually signals a decrease in turnout time to prevent sun damage (bleaching) of the hair coat (e.g., only out at night as opposed to 24-hour access in the preceding months), so access to pasture becomes more limited. Therefore, some hay or hay substitute (e.g., hay cubes) will be needed. One advantage of a more restricted turnout schedule and access to pasture is that it facilitates individualization of the feeding programs.

The choice of forage will be somewhat dependent on the condition of the yearling. For most of these youngsters, the primary goal is a gain in condition. It is best to feed high-quality forage. Compared to more mature forage, hay cut in the early stages of maturity has the highest energy and protein content and lowest amount of lignin (the undigestible part). This has two major implications. First, the high energy value means that lower amounts of grain or grain-concentrate are necessary to meet the horse's overall needs. For example, good alfalfa hay has 1.2 Mcal of digestible energy (DE) per pound, whereas some timothy hays have as little as 0.6 Mcal DE per pound. Second, high-quality, low-lignin hay is less likely to promote development of a "hay-belly" (pot-bellied) appearance when compared to horses fed more mature hays.

On the other hand, some of these youngsters can become overly fat when fed first-cut hay (especially alfalfa). Some fillies fall into this category, as they tend to "put on the beef" (fat) faster than colts. When horses have a tendency to look heavy-middled, the best approach is to maximize forage quality. There should be a reduction in hay intake, but better hay should be fed, and the fat horse should have grain intake reduced. It is important to try to distinguish between horses which are fat and those which simply are heavy-middled. If one reduces grain intake in the "pot-bellied" horse, generally it simply makes the horse look more "pot-bellied."

## Feeding Concentrates

When it comes to the choice of a concentrate feed for the yearling, it is very important to evaluate all of the nutrients provided by *total diet*, not just--as is so often the case--the percentage crude protein in the concentrate. Overall, yearlings require a 13-14% protein (crude protein basis) ration that delivers all of the essential macro- and micro-minerals and fat- and water-soluble vitamins in the right amounts and balance.

Use of a commercial concentrate designed for growing horses is a good starting point. These feeds are formulated with some consideration for the amount and type of forage likely to be consumed by the horse. Using this information, the concentrate is formulated to include enough of the essential nutrients (e.g., selenium, calcium, etc.) such that when fed with hay and/or pasture, overall nutrient needs will be met. Bear in mind that it is almost never realistic to precisely "hit" the book values for nutritional requirements (from the National Research Council guidelines published in 1989). Slight "excesses" or "deficiencies" relative to these book values are well tolerated by the horse and rarely present a problem.

To a large extent, the amount of concentrate fed will depend on the horse, individual preference regarding body condition at the time of the sale, the amount of exercise, and the availability of pasture. To increase a horse's condition, it is necessary to feed more than the maintenance requirement of nutrients that provide energy (mostly carbohydrates and fats). In general, most sale-prepped yearlings will receive somewhere between eight and 14 pounds (6.4 kg) of concentrate per day in the 60-90 day period before the sales. The higher end of this range often applies to colts, as they seem to require more feed than fillies to achieve a similar level of conditioning.

## Feeding Fats

The composition of the concentrate is another consideration. Traditionally, we have fed lots of starchy grains to these youngsters (cereal grains are 50-70% starch). However, too much starch in the diet can be problematic because of disturbances to the bacterial populations in the hindgut and an increased risk of colic, founder (laminitis), or even tying-up. A much safer way to step up calorie intake and still achieve the desired endpoint is to feed fat and fermentable fibers (e.g., beet pulp) together with high-quality forage.

Almost all yearlings in sales prep receive some added fat. There are at least three reasons for adding fat to the

diet. First, it is a safe way to boost the energy content of the diet, and this is needed when weight gain is the goal. Second, it allows for a reduction in starch intake, and third, fat improves the condition of the skin, hair coat, and hooves. The essential fatty acids (linoleic and alpha-linolenic) contained in some of the vegetable oils (such as soy, corn, canola, or flaxseed oils) seem to play a role in this improvement in coat and hoof appearance.

A fat-added feed can be used. This not only assures a moderation in starch intake, but because these feeds are fortified with minerals and vitamins, this approach also helps ensure adequate intake of the essential nutrients. Alternatively, the fat can be top-dressed onto the base ration. As little as two to four ounces of vegetable oil per day can result in a noticeable improvement in coat and hoof condition within a few weeks. Along with intensive grooming, this beneficial effect of vegetable oil produces a gleaming coat at sale time.

A larger amount of oil, however, is needed for weight gain. A currently popular way of achieving a substantial increase in dietary fat is to feed rice bran. Stabilized rice bran can be more palatable than the oils such as corn or soy, and it is considerably less messy at feed time. Rice bran is about 20% fat, and might have other health and performance benefits because it contains a large array of natural anti-oxidants including vitamin E. Rice bran and rice bran oil also contain gamma-oryzanol, a substance that is touted to improve muscle development and conditioning. Although there is no data on horses, some studies in rats have demonstrated an anabolic (muscle building) effect of gamma-oryzanol. The general feeding rate for rice bran is one to three pounds (0.5-1.4 kg) per day.

The "fat and fiber" feeds currently on the market might contain 8-10% (occasionally more) fat and 10-15% beet pulp or another highly fermentable fiber in the form of soybean hulls. For a farm-made ration, including beet pulp shreds at 10-20% of the concentrate ration is a reasonable approach, although some nutritional consultation will be needed to ensure that the nutrient balance of the total diet is appropriate. Beet pulp is very palatable, is a great source of energy for weight gain, and its use is another way to reduce dietary starch.

Regardless of the composition of the concentrate, all diet changes must be made gradually to avoid digestive upsets that could precipitate colic. When the level of concentrate feeding is stepped up to achieve weight gain, plan on a 10-day to two-week transition period, during which the amount fed is gradually increased. Also, consider feeding three or more concentrate meals per day rather than two.

## **Muscle, Not Fat**

Although it is beyond the scope of this article to include a detailed discussion on exercise training protocols for yearlings in sales prep, suffice it to say that this aspect is critical to achievement of an athletic look in the sale ring. These horses are consuming a lot of feed (calories) without regular exercise (every day), so the tendency is for most of the weight gain to be fat rather than muscle.

"Free exercise" associated with paddock turnout is helpful, but seldom produces adequate conditioning and body toning. Therefore, some type of formal exercise regimen is required to produce the desired lean, fit-looking youngster. As for feeding programs, a variety of approaches work, and some degree of individualization is needed for best results.

Many conditioning methods are used, including "ponying" with another horse, exercise in round pens, work on a treadmill, or mechanical walkers/exercisers. Mechanical exercisers (a type of "hot walker") are perhaps the most popular tool for sale prepping. These automatic systems differ from traditional hot walkers in that the yearling is not connected to a lead line and pulled by a moving arm. Rather, each horse is in a separate, moving "box." Compared to the other conditioning methods, the mechanical exerciser is a major time saver as six yearlings can be exercised at one time. The speed of the exerciser is adjustable, allowing the horses to work at speeds ranging from a comfortable walk to a fast trot or canter. As well, they are reversible, allowing horses to be exercised in both directions.

Regardless of the exercise regimen employed, close monitoring of the horse is needed to avoid injury. Any signs of lameness warrant closer examination and a decrease in workload until the problem is identified and resolved. It is also important to school the horse so that he/she is well behaved when standing and walking in front of prospective buyers. This includes some work time in the heat of the day so that the horse is acclimated to these conditions at sale time.

Prepping the yearling's body with proper nutrition and exercise, and his brain with proper schooling, will help him bring a better price in the sale ring.

## FURTHER READING

Geor, R. "Beet Pulp: Gimmick or Good Groceries?" *The Horse*, February 2003, 45-48. Article #4086 at [www.TheHorse.com](http://www.TheHorse.com).

Geor, R. "Sales Prepping Yearlings," *The Horse*, May 2001, 101-107. Article #3060 at [www.TheHorse.com](http://www.TheHorse.com).

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