The goal of any breeding program is to produce strong sound foals. To do this, there are several factors involved including genetics, environment and nutrition. Nutrition is a critical piece of any successful breeding operation and must be considered at every level: stallions, mares and foals. In this article, we will focus on feeding the stallion.

The stallion is expected to be in top health, physically fit and able to perform on demand when a mare arrives at the breeding shed or when semen is artificially collected.

Nutrition certainly plays a key role in maintaining the health and condition of the stallion before, during and after the breeding season. Stallions generally have higher nutritional maintenance requirements than mares or geldings.

The energy requirement of the stallion during the breeding season depends on his breeding or collection frequency. On average, breeding stallions have daily nutrient requirements that are 25% above maintenance of a mature stallion during the off season.

To meet the increased nutrient requirements associated with the breeding season, stallions should be fed a properly balanced concentrate.

On average stallions will need a combination of roughage and concentrate ranging from 1.5% to 2.5% of bodyweight daily. It is important to select a concentrated feed that when fed at levels to maintain weight and support activity, will also meet protein, mineral and vitamin requirements.

**The Importance of body condition**

Routine evaluation of your stallion's body condition can be an effective tool for determining if you are underfeeding or overfeeding your stallion. An extremely thin stallion may not have the energy stores needed to make it through an active breeding season without compromising performance and fertility.

Fat-supplemented concentrates can be very practical and beneficial for old stallions that have a tendency to be thin and for horses that are extremely active. The fat-supplemented feeds provide more energy than a traditional cereal grain based concentrate.

On the other hand, it is also important not to have the stallion too fat going into the breeding season as obesity can decrease libido and fertility. Other problems can arise due to the mechanics of having to place all his weight on his hind legs during breeding. If the stallion is overweight, this weight shift can lead to joint soreness and possibly joint damage.

Ideally, stallions should be maintained in a moderate body condition all year around. A moderate body condition will provide enough fat cover over the ribs, making them hard to see, but still easy to palpate. The withers will appear rounded and the shoulders and neck will blend smoothly into the body. Some stallions may lose weight during a breeding season while others are able to maintain themselves in good condition.

For stallions that tend to lose condition, a higher degree of body fatness should be established before the breeding season to ensure they do not become too thin during the season.

**The key to successful stallion nutrition**

During the off season, most stallions can be maintained on good quality forage and a concentrated vitamin and mineral pellet as their nutrient requirements are the same as that of a maintenance horse.

During the breeding season, most stallions require additional grain supplementation to maintain body condition and energy levels. Their energy and protein requirements are slightly less and equivalent to a horse doing light exercise.
The Benefits of Omega 3

Chilled or frozen semen has been routinely used in horse breeding for about 20 years. Today, the majority of horse registries approve the use of artificial insemination and horse breeding has widely taken benefit from this technology. However, a variety of problems still exist. Most importantly, not all stallions can be used for chilled-semen production as in some cases the sire’s fertility will decrease when their semen is processed, cooled and transported. This appears to be mainly related to their seminal plasma composition.

Semen lipids play a major role in motion characteristics, sensitivity to cold shock (loss of viability of cooled-stored and frozen semen) and fertilizing capacity of sperm. Recent research has revealed the benefits of supplementing stallions with Omega 3 fatty acids.

Docosahexaenoic acid (DHA; an Omega 3 fatty acid) has been shown to significantly increase the number of sperm per ejaculate, increase motility of sperm (progressive and rapid) and decrease dead and abnormal sperm compared to non-supplemented stallions. Supplementation with DHA also increases the number of motile sperm after chilled or frozen storage.

A further improvement in stallion semen quality (motility, longevity, morphology as well as total sperm count) has been shown after dietary intake of antioxidants in combination with Omega 3 fatty acids. Vitamin E is the major fat soluble antioxidant in cell membranes and plays an essential role as an inter- and intra-cellular antioxidant.

The most important aspect of stallion nutrition management is feeding a balanced diet and realizing that there are huge variations in energy intake required to maintain adequate body condition from one stallion to another.

A balanced ration of high quality hay and grain fed to maintain optimum body condition is the key to successful stallion nutrition management. Remember to always follow the feeding guidelines as outlined on each bag of feed.

Forage: The stallion should be fed high quality hay at a minimum level of 1.5% of body weight (1.5 kg/100 kg body weight). This amount is the minimum level of forage needed: the more hay, the better. Depending on the time of year, good quality pasture may furnish some or all of the forage the stallion needs.

Energy: Stallions expected to cover a significant number of mares will also require an energy-dense concentrate to ensure weight maintenance and stamina throughout the breeding season. Top-dressing the grain mix with one cup of rice bran oil is another effective way to provide extra energy.

Substituting a portion of the grain ration with rice bran oil may help reduce the risk of colic and laminitis associated with high grain diets (1 cup of rice bran oil = 1 kg oats).

Fat-supplemented concentrates can also be very practical and beneficial for old stallions that are disposed to be thin and for horses that seem extremely active, such as those that walk the fence line of a paddock.

Protein: The breeding stallion also has increased requirements for quality protein. Many of the amino acids which make up the body proteins in horses must be supplied in their diets. These amino acids are classified as being essential for growth and reproduction.

Sources of feed protein which contain an assortment of amino acids are considered high quality. Lucerne and other legumes such as soybean meal, lupins, and other beans provide high quality protein.

Cereal grains contain low amounts of amino acids. A 500kg stallion during the breeding season requires at least 70g of protein per day and 34g of the essential amino acid lysine.

Feeding a ration balancer pellet (low intake, concentrated source of vitamins, minerals) along with good quality hay and adding some lucerne as either hay or chaff is an ideal diet for those stallions that maintain their weight easily throughout the breeding season.

For those that need extra calories adding rice bran oil may help reduce the risk of colic and laminitis associated with high grain diets (1 cup of rice bran oil = 1 kg oats).

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