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PSSM Diet

Polysaccharid Storage Myopathy (PSSM)

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GOALS: To provide no more than 15% total daily calories from starch and sugar, and at least 20-25% of total daily calories from fat.

1. Forage

Either Grass or legume hay (such as alfalfa) can be fed. Alfalfa hay does not have a high enough starch content to be a concern

Grain hays such as oat hay and barley hay with remaining seed heads should be avoided.

The amount of forage is not critical – it can be varied depending on whether the horse needs to gain or lose weight. Just do not feed less than 1% of the horse's body weight in forage per day. Lush spring pasture will be higher in starch and sugar than summer grass, and the amount of dietary fat may need to be increased during this time.

2. Vitamins and minerals

Vitamin E: At least 1 IU vitamin E per lb of horse per day is important for all horses, especially those not on alfalfa products or green grass for much of the year. You cannot hurt a horse with extra vitamin E.

Selenium: About 1-2 mg selenium per 1000 lbs of horse per day is essential in areas that are selenium deficient. Selenium can be toxic at high levels though, so be aware of all sources of selenium in your horse's diet and ask your veterinarian to have blood tested for selenium levels if there is any question of selenium deficiency or excess.

Broad Spectrum vitamins and minerals: Horses on fat supplemented diets often will not be eating the manufacturers' recommended amounts of fortified commercial concentrated feeds per day. If forage quality is good, most vitamins and minerals will be adequately supplied by forage. For horses on lesser quality forage, hard working horses, breeding horses and growing horses, addition of a daily vitamin and mineral supplement is important.

Other Supplements: Hoof supplements, joint supplements, etc are not a problem when feeding PSSM horses.

3. Fat

Start with small amounts, such as $\frac{1}{4}$ c oil per feeding, and increase by about $\frac{1}{4}$ cup every few days. Use the general rule that 2 cups of oil = 1 pint = 1 lb.

4. Treats

Most PSSM horses are fine with carrots and apples in moderation. Avoid treats with grain or sugar. Craklin Oat Bran which has about 10% calories from fat is good too.

Specific Diet

At the time of this writing there is no feed high enough in fat to provide the proper calorie ratio to PSSM horses without an additional fat source. In general, aim to feed no more than 5-6 lbs of any feed other than a pure forage based feed per 1000 of horse per day.

Feed the minimum amount of feed in the bucket that gets the horse to eat the maximum amount of daily fat while maintaining good weight. If it takes a small amount of something “sweet” (molasses, carrots, apples, apple juice, peppermint flavouring, a handful of oats or sweet feed, etc) to get your horse to eat the right amount of added oil early on, this is not a problem. You can aim to decrease or eliminate this small amount of starch and sugar later.

- Very low starch and sugar feeds
- Alfalfa pellets
- Other hay pellets
- Alfalfa cubes – soak in water when adding oil
- Beet pulp, low molasses content – soak in water
- Complete feeds – meant to replace hay if needed
- Dengie or chaff products
- Chopped hay products
- Low Starch and sugar feeds

In general, feeds higher in protein and fat will be lower in starch and sugar. Ingredients such as soy hulls, beet pulp, bran, wheat brans, and wheat middlings are relatively low in starch and sugar.

Below are examples of low starch and sugar feeds. There are many others. If in doubt, contact the company and ask about starch and sugar content. Look for feeds no more than 33% starch and sugar.

If you can see the grains in the product it is likely too high in starch and sugar for a PSSM horse.

- Purina Strategy
- Nutrena Complete
- Blue Seal Hunter, Demand, Vintage Gold
- Senior Feeds
- High Fat Feeds

These are examples of feeds that allow addition of less added fat. Most companies suggest using these only as an addition to other feed. For PSSM horses, feed these alone along with good quality forage or a daily vitamin and mineral supplement.

- Kent Feeds Omegatin (20% fat)
- Nutrena Empower (22% fat)

- Moorglo (15% fat), RiceBran, powdered (20% fat)
- BuckeyeUltimate Finish (25% fat)
- Re-Leve (about 10% fat)

Calculate amounts of fat fed from these products by multiplying lbs fed per day by the percentage of fat. For example.... 3 lbs of Ultimate Finish is $3 \times .25 = .75$ lbs of fat.

Feeds with 20% or more fat can be supplemented with rice bran (20% fat) to provide additional fat. All other feeds require addition of a 100% fat source.

100% fat supplements

- Any salad type of vegetable oil, such as soy, canola, corn, safflower, cottonseed, etc.
- Cocosoya and Wheat germ oil are also fine, just more expensive.
- Performance Pak 100 dry fat product by Milk Specialties – (800) 323-5424 ext 1156
- Cool Calories dry fat product by Performance Horse Nutrition, Idaho (208) 549-2323.