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Horses should be fed for the service they will render over a period of many years. Therefore, long-time efficiency, rather than temporary economy, should be the aim in feeding horses. Horses vary more than other farm stock in individual feed requirements, temperament, and taste.

The challenge is to provide the needed balance of materials to build and the fuels to operate a horse within the framework of his genetic plan and limitations of his environment and management. (See *Extension Bulletin E-919, Ag Facts 61, Rations for Light Horses.*)

Thumb Rules of Feeding

Amounts to feed:

1. **Mature idle horses**—pasture free-choice or 2 pounds of hay/100 pounds body weight
2. **Light work (under 3 hours)**— $\frac{1}{2}$ to $\frac{3}{4}$ pounds grain, $1\frac{1}{4}$ to $1\frac{1}{2}$ pounds hay/100 pounds body weight
3. **Medium work (3 to 5 hours)**—1 pound grain and 1 pound of hay/100 pounds body weight
4. **Hard work (over 5 hours)**— $1\frac{1}{4}$ to 1.4 pounds grain and 1 pound hay/100 pounds body weight

Speed or vigorous activity will increase the needs outlined above. Good pasture can substitute for hay except at hard work.

Management Suggestions

1. Withhold half of the grain ration and increase hay on days that working horses are idle.
2. Use only dust- and mold-free feeds.
3. Water before feeding. If horse is heated, avoid excessive watering.

4. Feed hay before grain.
5. Do not feed a tired horse a full feed of grain. Feed half the grain then feed the rest one hour later.
6. Do not work a horse hard after a full grain feed.
7. Feed and water regularly and not less than twice daily.
8. Observe the condition of the horse and feed accordingly.

Feed Nutrients

Feeds vary in value according to the digestible nutrients they furnish. The horse's major feed need is for energy, growth, and/or reproduction. Energy values of feeds are expressed as total digestible nutrients or TDN.

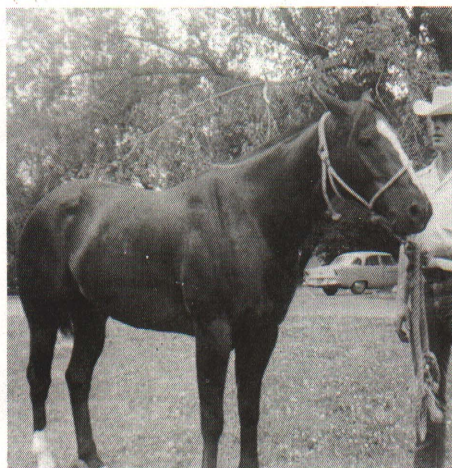
A convenient way to compare energy value of feeds is—Grains are about two-thirds (oats) to three-fourths (corn) TDN. Good hays are about one-half and poor hay and straw about one-third TDN.

Digestible protein, minerals, vitamins, and water are also essential for daily rations. See *Extension Bulletin E-917, Ag Facts 59, Feeds for Light Horses.*

Feeding Working Horses

Horses worked on the home farm or ranch are normally handled with a set routine which makes feeding and management relatively easy. Hauling horses to shows over many miles and at high rates of speed complicates feeding. A further complication is how "work load" is defined. Perhaps the simplest rationing procedure is to allow the horse

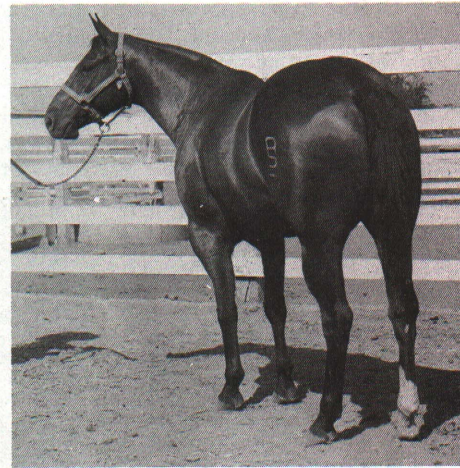
A Working Stock Horse in Different Degrees of Condition



Horse too thin for hard work and show



The same horse too fat for work and show



Same horse as at left in correct working and show condition

an extra 1 to 1½ pounds of TDN for each hour of heavy work. If he is nervous and highstrung, it may be necessary to allow additional feed to cover the loss associated with the nervous condition.

The working horse should receive about half of his total energy allowance at night. This may consist of pasture, hay, and/or grain. If the horse will do heavy work on the following day, he should be fed at night at the regular time and then be given one-fourth of his grain allowance the following morning so that he can finish eating at least 1½ hours before time for warm-up. This will give the concentrates a chance to pass the stomach and will permit most of the blood to be available for muscle work.

If the horse is to have as much as two hours between work periods at mid-day, then he can be given an additional one-fourth of his grain. If the work continues until mid-afternoon, it is probably best to restrict the noon feeding to as little as one-sixth of the total grain allowance. If the horse will work at night after an afternoon show, allow him one-fourth of his grain allowance.

After work, the horse should be cooled and rested before being fed. He should have a moderate amount of water before feeding and then he can have water with or following the feed. It may be advisable to use a small amount (not over 1 lb.) of chopped hay with the grain mixture to prevent the tired horse from taking grain too rapidly. This is especially true if wheat, milo, or corn constitute a large amount of the grain mixture. In no case should the horse be allowed to have as much as 7 pounds of these grains without their being diluted either with bran or with chopped hay.

Feeding Breeding Horses

A. Stallion

The breeding stallion should be fed like a horse at hard work. He should be exercised prior to and during the breeding season. Confined stallions need access to good grass if only for a short period of time, either on a lunge line or paddock when practical. Excessive fatness or thinness of condition should be avoided.

When mares are pasture-bred, no additional feed is needed for the stallion if he is mature, in good condition, not over-worked, and if grass is abundant.

B Breeding Mare

Mares are easier to settle if they are in a gaining condition when bred. Breeding at foal heat makes "flushing" difficult and increases the opportunity for infection.

C. Pregnant Mare

During the first seven months of pregnancy the mare can supply needed nutrients to the foal if she receives a maintenance ration free of vitamin and mineral deficiencies. Since she may be nursing last season's foal during most of the time, she will actually have been fed a lactation ration. The developing fetus makes most of its growth during the last 3½ months. Even then the requirements of the mare are not increased greatly.

D. Mare Nursing Foal

Some mares produce large amounts of milk and their requirements become similar to high-producing dairy cows. Two rationing programs that are adequate are shown below.

Good pasture combined with shade, water, salt, and minerals furnish healthy mares a nearly ideal environment in which to raise their foals and rebreed with little, if any, need for supplemental feeding.

Feeding Growing Horses

A. Foals

A well-fed foal will attain a very large part of its adult weight during its first year. It takes two to three times more feed for weight gains with yearlings than with foals.

The young foal will live on its mother's milk for the first three to four weeks, then it will start to eat grass or take solid food from the mother's trough. At about six weeks it is advisable to use a creep feeding program unless very excellent pasture is available. The foal should be eating about three-fourths pound of good legume hay and an equivalent amount of concentrate mixture per 100 pounds body weight by the time it is weaned.

The concentrate mixture should contain a minimum of 12 percent crude protein, and probably at least 5 percent fiber. In general, this can be obtained by using a mixture of grains and oil meals. The standard ratio is 9 parts grain and 1 part oil meal. Probably no more than half of the grain mixture should be corn, milo, or wheat combined with oats or barley. A suitable mineral mixture may be fed free-choice or added to the grain mixture.

The most neglected horses on many farms are the group of newly-weaned foals during the winter. As far as the overall development and future value of the horse is concerned, this is a vital period. It is not uncommon for the well-fed foal to gain 1¾ pounds a day during the period after weaning. Fiber content of the total ration should generally be less than 20 percent and the ration might consist of approximately equal parts of grain and hay. The same mixture which was used in the creep can be continued after weaning; or if intake is not adequate, a sweet feed can be used. As the foal grows older, the amount of hay can be gradually increased and the concentrate reduced so that by the time the foal is one year old he will be consuming approximately 2 pounds of good hay and 1 pound of concentrate per 100 pounds of body weight.

B. Yearlings

Yearling horses that winter well will grow satisfactorily on good pasture with no extra grain. Special care should be taken to meet their mineral requirements and continued surveillance for parasite infestation is necessary.

Yearlings should be wintered well and should not be permitted to experience thin condition. If one in a group is out of condition, it may need the attention of a veterinarian.

C. Two-year-olds

Well grown 2-year-olds need no special feeding program except when in training. The stress of training combined with some need for additional body growth make their requirements per 100 pounds of body weight greater than that of adult horses.

Differences in appetite and eating habits are especially prevalent at this time and should be taken into account in the feeding program.

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