

FEEDING WORK HORSES.

The horse has a smaller stomach than an ox, and consequently must be fed less at a time. It has less power to digest coarse foods. It eats much slower, as it must do all its chewing before the food is swallowed. For these reasons it requires a longer time to eat, and its food should be more concentrated. It wants only a little coarse food at a time. Most people feed too much rather than too little, especially of hay. According to the tables of standard ration prepared by the German investigators, a 1,000 pound horse requires 11.4 pounds of digestible food daily when doing moderate work, 13.6 pounds for average work, and 16.6 pounds for heavy work. With a basal ration of 10 pounds of hay, the grain needed to furnish the above quantities of digestible nutriment, when consisting of a mixture in equal parts of corn and oats, would be approximately 11.5 pounds, 15 pounds and 20 pounds for three sorts of labor. Lavalard, who made observations covering a number of years with 32,000 omnibus, army, and draft horses, came to the conclusion that a horse performing ordinary work requires at the rate of 1,215 pounds of digestible nutriment per 100 pounds of live weight. This is equivalent to 12.1 pounds of digestible food daily for a 1,000 pound horse, a quantity not inconsistent with the German standard.

SUITABLE FOODS FOR HORSES.

It is necessary, especially with hard working horses, that a large proportion of the daily ration be composed of the more concentrated feeding stuffs. A horse would have to consume over 40 pounds of hay to obtain 17.7 pounds of digestible nutriment, the approximate amount required daily by a horse at severe labor. Ten to twelve pounds of hay daily is quite sufficient for a draft horse. The managers of work horses on many farms are kept constantly supplied with hay, which is not only wasteful, but injurious to the animal as well. Recent researches have shown that muscular effort is largely sustained by the carbo-hydrates and fats of the food, and it is probably true that rations composed of the ordinary farm products, meadow hay, straw, silage, roots and the cereal grains will be found sufficiently rich in protein without the addition of nitrogenous feeding stuffs. Doubtless in cases of heavy labor, the addition of a little oil meal or other nitrogenous food would be beneficial. According to the German standards the nutritive ratio should be from 1.7 to 1.6 according to the severity of labor, the daily weight of protein to be from 1.5 to 2.5 pounds. Oats are regarded by many as essential to the maintenance of the driving or working horse, but many other foods are successfully used in their place, wheat, bran, corn, barley, dried brewers' grains, etc., are often used instead of oats without any bad results, and frequently with considerable advantage in the cost of the ration. Timothy hay, although not particularly rich in digestible nutrients, is preferred by most horsemen, chiefly on account of the freedom from dust and the ease with which it may be distinguished from other grasses. With working horses, whose sustenance is largely supplied by the grain food, timothy is probably the most

satisfactory roughage, but bright, clean clover is excellent for idle horses and colts, and requires very little grain in addition to form a suitable ration.

SOME SAMPLE RATIOMS.

Some good rations for 1,000 pound horses at moderate work are suggested by Jordan:—

1. 10 lbs. timothy or mixed hay, 11½ lbs. oats.
2. 10 lbs. hay, 10½ lbs. oats and barley, equal parts by weight.
3. 10 lbs. hay, 8 lbs. oats, 4 lbs. brewers' grains.
4. 10 lbs. hay, 8 lbs. oats, 4 lbs. wheat bran.
5. 11 lbs. hay, 3½ lbs. corn, 4 lbs. wheat bran, 4 lbs. brewers' grains.
6. 10 lbs. hay, 5 lbs. corn, 4½ lbs. barley.
7. 10 lbs. hay, 5 lbs. corn, 6½ lbs. wheat bran.
8. 10 lbs. hay, 5 lbs. corn, 6 lbs. brewers' grains.
9. 10 lbs. hay, 4½ lbs. barley, 4 lbs. wheat bran, 3 lbs. brewers' grains.

Silage, roots and other green food may often be substituted for a minor part of the hay with advantage to the animals' appetite and health.

Where the work is harder the amount of grain in the ration should be increased; but the amount of hay should remain stationary. The increase in feed should be greater proportionately than the increase in the amount of work done, and as a general rule old horses should be fed better than young ones. That judgment which comes of experience will always be a safer guide than any mechanical rule for feeding, but this is certain, however, whatever feeding stuffs are used, and whatever order of feeding is adopted, regularity and uniformity should at all times prevail in both feeding and watering. If water is always available, a horse will not take too much to injure himself, but with working horses it will always be found better to give them their regular and largest supply previous to feeding, and it may also be well to supply a limited supply after feeding. When much heated or fatigued a horse should have water only in small quantities.

The Arabs have a proverb:—"Rest and fat are the greatest enemies of the horse." Hard labor or an abundance of exercise should go hand in hand with heavy feeding, and when a period of idleness comes for the horse the grain ration should be cut down one half at least, or even withdrawn altogether where the fodder is particularly good quality.

Some years ago the W. C. Edwards Company, of Rockland, O., adopted a system of feeding their horses which has proved very satisfactory. Mr. Edwards gives the following description of it: "We employ say forty horses about our mills here in the summer season. In the rear of our stables we have a feed room, where cut straw for bedding and our cut hay, oats and ground feed are kept; here we have two mixing boxes, where the rations for the horses are mixed before feeding; the cut hay is put into these boxes and is thoroughly soaked with water 12 hours before it is fed. The ground feed is mixed dry and before feeding is thoroughly mixed with the wet hay. The rations we started out with was 4 lbs. cut hay,

½ lb. bran and 5 lbs. ground oats and arley to each horse night and morning, and 4 lbs. dry oats at noon only. Our horses are generally of large size, and are doing excessively hard work, and we found this ration too small for them and gradually increased it until we settled down to this:—5 lbs. hay, 5 lbs. ground grain, and ½ lb. of bran to each horse morning and night, and 8 lbs. of dry oats at noon only (no hay), and this we find ample for the largest horse doing the most excessive work. Our saving is at least 10 lbs. of hay per day for each horse, and 6 lbs. of grain for each. Not only is this the case, but our horses are healthier and better in every way. Under the old system it was a common thing for us to lose from one to five horses every summer with colic and inflammation, but in the past seven summers under our new system not only have we not lost one horse, but we have not had a sick horse. A much smaller ration than we feed would be ample for farm horses, or for any horses doing ordinary work. We may add, also, that with this system of feeding hay, together with the free use of wheat, bran and a little ground oats mixed with it, we find we can develop colts in a manner that we have never seen them developed before."

F. W. HODSON,
Live Stock Commissioner.

THE BURRARD INLET FLUME & BOOM COMPANY, LIMITED.

This company owns a large amount of cedar timber in the Capilano Valley of British Columbia, commencing at the Vancouver city water works dam (which is 7 miles from tide water on Vancouver Harbor) and extending up Capilano river about 4 or 5 miles.

The timber will be brought down to salt water on Burrard Inlet (Vancouver Harbor) by building a flume about 4½ miles long, and utilizing the river for the balance of the distance.

The company has a water record from the Provincial Government for diverting the necessary water from the Capilano river for operation of the flume, and under the Rivers and Streams Act they have been given control of the Capilano river, whereby they may clean out and improve the river, build the necessary retaining booms at its mouth and be allowed to charge a toll to other parties who may wish to use the river—toll to be fixed by a judge of the court.

The company has also permission from the Dominion Government to use a portion of the Indian Reservation at the mouth of the Capilano river to make the necessary shore fastenings for their booms, as well as for other purposes in connection with their business. The flume is being built principally for carrying shingle bolts, but will be large enough and straight enough to carry long bolts—12 to 18 feet long. It will be constructed V shape, 24 inches deep and made of 2-inch plank.

The officials of the company are: J. G. Woods, President and Managing Director; H. H. Spicer, Secretary; H. M. Burwell, S. O. Richards, R. Byron Johnson, Hon. Cecil Edwards, all of Vancouver.

Quance Bros., of Delhi, Ont., are extending their planing mill and adding a new engine and boiler.