

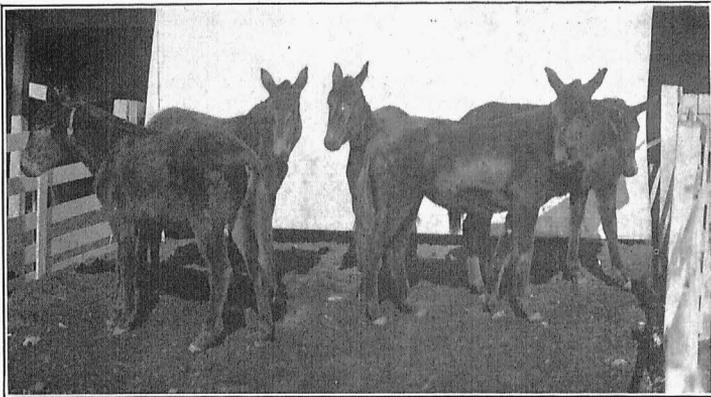
UNIVERSITY OF MISSOURI
COLLEGE OF AGRICULTURE
Agricultural Experiment Station

COLUMBIA, MISSOURI, NOVEMBER, 1914
CIRCULAR NO. 72.

SILAGE FOR HORSES AND MULES

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The satisfactory results which have been secured from the use of silage as a part ration for dairy cows, breeding beef cattle and fattening steers have suggested possibilities as to its value for horses and mules. It has been fed to these classes of live stock to a greater



A Group of Yearling Mules Which Were Fed a Part Ration of Silage, at the Missouri Experiment Station

or less extent, on many farms. There is, however, little published data on the subject.

During the winter of 1910-11 the Missouri Agricultural Experiment Station fed corn silage to yearling mules. The object of the test was to secure information as to how much silage yearling

mules would eat and the value of silage in the ration. Ten head of yearling mules averaging 652.2 lbs. at the beginning of the trial were fed for a period of ninety days on an average daily ration of 6.5 lbs. of ear corn, 8.6 lbs. of mixed hay and 4 lbs. of corn silage. The corn was of good quality and the silage and hay were of a medium grade. The mules made a gain of only 4 5-6 lbs. during the period. No ill results were seen from the use of the silage but the mules did not consume large quantities of it. This may have been due to the fact that the silage was made from rather immature corn.

At the Pennsylvania Experiment Station, Cochel fed draft weanlings for a winter period of 168 days. During the first 75 days of this period the daily ration was 5 lbs. of grain mixture, 8.2 lbs. of silage and 7.4 lbs. of hay. After that time the grain was increased to 7.5 lbs. and the hay to 13.1 lbs. The silage was discontinued. The weanlings made a satisfactory gain and came through the winter in good condition.

In Bulletin 189 of the North Carolina Experiment Station, Burkett, reports on feeding corn silage. In a test extending over a period of five weeks, 30 pounds of corn silage was substituted in a balanced ration for 15 lbs. of oat hay and fed to 1250 to 1300-pound horses. Both rations produced slight gains. Later the oat hay was replaced by an equal amount of clover hay for a period of four weeks. The silage still served as a satisfactory substitute for the hay. Corn silage was compared with various other roughnesses for horses and mules at farm work. The data presented shows that two pounds of silage was substituted for one pound of hay. As much as thirty pounds of corn silage per head was fed daily. When fed as a part of the balanced ration the results were very satisfactory.

At the Pennsylvania Experiment Station fattening horses, averaging 1500 lbs. in weight, were fed a ration of approximately 17 lbs. of corn silage, 14 lbs. of grain and 10.5 lbs. of hay for 84 days. They made slightly less gains but ate less grain and made their gain at less cost than did horses which received no silage. The silage-fed horses had better coats than did the horses which received no silage.

There is little question but that corn silage can be used more extensively as a part of the ration for horses and mules. Horses have much smaller stomachs, proportionately, than have cattle, consequently they are not so well adapted to the consumption of large quantities of roughness but must have their food in somewhat more concentrated form.

The following table shows the relative composition of corn silage and timothy hay:

| Feeds | Dry matter | Crude protein | Carbohy- drates | Fat |
|-------------|------------|---------------|--------------------|-------|
| Corn silage | 26.4 % | 1.4 % | 14.2 % | 0.7 % |
| Timothy hay | 86.8 % | 2.8 % | 42.4 % | 1.4 % |

Pound for pound, as compared with timothy hay, corn silage has less than one-third the dry matter, one-half the protein, one-third the carbohydrates and one-half the fat. The above figures show clearly why it has become customary and advisable to substitute two pounds of silage for one pound of hay. They also show the necessity of feeding large quantities of silage to get a sufficient supply of dry matter and nutrients. Silage is a succulent feed and serves a valuable purpose in supplying this variety to a ration for animals on dry feed, especially during the winter months.

Horses on a full feed of grain, either fattening or performing hard labor, cannot be expected to eat large quantities of silage. As much as seventeen pounds of silage has been feed to fattening horses with satisfactory results. Horses at hard work need a concentrated ration and should not be expected to eat large quantities of silage. Idle horses and mules, with ample time for eating and energy for digestion, can make use of much larger quantities of silage. Successful horsemen report that good leguminous hay and corn silage is a satisfactory ration for mature in-foal mares and that they produce strong lusty foals when fed on this ration.

A part of the roughness fed to growing horses and mules may consist of corn silage. If satisfactory gains and growth are to be secured however, grain and hay should be fed once a day. Growth and development is the best index as to the quantity of feed necessary. Corn silage which is rotten, moldy or in any way spoiled is unsafe as a feed for horses. It may cause indigestion followed by the usual serious results. Care should be taken that none but good silage is fed to horses and mules.

Horses and mules should be started on silage in small quantities and in conjunction with other feeds. The silage should be gradually increased and the other feeds decreased until the desired balance has been reached. The desired balance of food stuffs should be judged by the condition of the animals.

Summary.

The present knowledge of corn silage as a feed for horses and mules may be summed up as follows:

1. Corn silage is now being fed with success by a large number of horsemen and farmers to all classes of horses and mules.
2. Corn silage should always be fed in combination with other feeds.
3. Within the limits of its usefulness, it is a cheap substitute for hay and adds variety and succulence to the ration.
4. Silage is not a success except in the hands of a careful feeder with an eye to the thrift of the animal.
5. Under no circumstances should spoiled silage, either mouldy or rotten, be fed to horses or mules.