UNIVERSITY OF WYOMING
Agricultural Experiment Station
LARAMIE, WYOMING.

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ALFALFA HAY FOR HORSES
A. D. FAVILLE, Animal Husbandman

Bulletins will be sent free upon request. Address Director Experiment Station, Laramie, Wyoming.
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Alfalfa Hay for Horses.

INTRODUCTION.

Many of our western ranchmen discriminate against alfalfa as a hay for horses and will willingly pay a higher price for timothy or native hay when roughages must be purchased. Is alfalfa unsatisfactory as a horse feed, or are we making a mistake in thus condemning this legume? A hay as valuable for all other classes of stock ought to have its place in horse rations.

WYOMING STATION TESTS.

OUTLINE OF EXPERIMENT.

In January, 1912, a general, and at best imperfect, comparison of alfalfa and native hay was undertaken. The six farm horses used were of various weights and types, and were fed both hays during periods of idleness, light work and heavy work. Hay rations were reversed at the end of each four weeks so that a horse on native hay one month received alfalfa the next, and vice versa.

The alfalfa was fair first cutting, grown not far from Laramie, and the native hay (good quality) came from the Little Laramie.

While the method of testing the hays left much to be desired, it seemed the best plan that could be worked out under existing conditions. The main idea was not to attempt a close comparison of the two hays, but to determine rather whether alfalfa is satisfactory for horses.

RESULTS.

In a discussion of results it may be of interest to briefly summarize the figures obtained with each horse.
Table A. Initial Weights and Gains of Horses.

<table>
<thead>
<tr>
<th>NAME</th>
<th>Gain or Loss on Alfalfa</th>
<th>Gain or Loss on Native Hay</th>
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<tbody>
<tr>
<td>Weight at Beginning</td>
<td>lbs.</td>
<td>lbs.</td>
</tr>
<tr>
<td>Frazer</td>
<td>1033</td>
<td>30+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15+</td>
</tr>
<tr>
<td>Indus</td>
<td>1230</td>
<td>10+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Molly 2nd</td>
<td>1105</td>
<td>5+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Maude</td>
<td>1533</td>
<td>105+</td>
</tr>
<tr>
<td>Molly</td>
<td>1497</td>
<td>43+</td>
</tr>
<tr>
<td>Ginger</td>
<td>1298</td>
<td>25+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-</td>
</tr>
</tbody>
</table>

The figures given above are for one month periods, + indicating a gain for the month, and — a loss.

The two mares, Maude and Molly, foaled during the third month of the trial, so only two sets of weights are shown in their cases.

Both colts were alive when dropped, though one died within a few days. This death should not be ascribed to the hay used, but rather to the sire of these foals. Maude’s colt was the only one that lived out of nearly a dozen sired by this stallion. Alfalfa would appear to have been a benefit rather than a detriment.

The six horses during ten one-month periods on alfalfa showed a total gain of 203 pounds, while during an equal period on native hay there was a total loss of 84 pounds.

The time covered by this test was one in which amounts of work performed varied greatly, yet it was found that both idle and hard-worked animals responded better to the alfalfa diet. The health of all the horses was uniformly good with both hays.

The grain ration first used consisted of equal parts of corn, mill feed and oats, but this was afterwards changed to equal
parts of corn and oats. Bran and alfalfa, both being somewhat laxative feeds, it was deemed wise to omit the mill feed.

As would be expected, the mares in foal showed much less udder development when on native hay.

Alfalfa was found to be satisfactory in every way throughout the trial and has been practically the only roughage used during the present year.

In earlier work at the Wyoming Station Emery found that 13.8 pounds of alfalfa hay and 2.25 pounds of oat straw furnished a maintenance ration for a 1,000-pound idle horse.*

REPORTS ON ALFALFA FROM OTHER SOURCES.

"Henry."

In his book on "Feeds and Feeding," Henry comments on alfalfa as follows: "As with clover, there is a prejudice among liverymen against alfalfa hay, yet some use it, and it furnishes the sole roughage for horses upon tens of thousands of farms and ranches in the West."

Utah Experiment Station.†

The Utah Experiment Station has probably tested the value of alfalfa as a horse feed more thoroughly than any other station in the United States. The conclusions reached will be of interest to every horseman, based as they are upon years of experimental work with this legume.

They are as follows:

"In comparing alfalfa‡ and timothy as roughages for horses, the results of six tests under varying conditions of work show that it is not as difficult to maintain the weights of horses when fed alfalfa as when fed timothy.

"The cost of maintenance was greater in every case, except one, on timothy than on alfalfa.

*12th Annual Report.
†Bulletin No. 77.
‡When the word lucerne occurs in the original text, alfalfa has been substituted as being the name in common use.
"The appearance of the horses in every comparison of alfalfa and timothy was in favor of the alfalfa fed horses.

"When alfalfa and timothy were fed ad libitum much greater quantities of alfalfa were consumed. No ill results were noted on the health of the horses by long continued alfalfa feeding.

"Twenty pounds of alfalfa per day proved sufficient to maintain the weights of horses weighing nearly 1,400 pounds when at rest. When at heavy work 32.62 pounds of alfalfa per day was barely sufficient to maintain the weights of the same horses.

"The greater consumption of water when horses are fed alfalfa results in a greater elimination by the kidneys, but we have no evidence that the greater elimination is in any way detrimental to the health of horses."

Breeders' Gazette.

Joseph E. Wing makes the following statement regarding alfalfa hay for horses:*  

"We have horses that have eaten no other hay than alfalfa in their lives and absolutely no ill results have followed. Alfalfa fed rightly never causes heaves in horses. There is absolutely no better feed. Alfalfa has often been used in developing fine horses, whether for track or stud."

Mr. Wing prefers fairly mature first or second crop.

The question is sometimes raised as to whether alfalfa hay will prevent mares from getting in foal. The Breeders' Gazette† prints answers to this query from the Montana, Wyoming, Kansas, Nebraska and Colorado Stations. The writers are unanimous in their praise of alfalfa as a feed for brood mares, and all declare that it is in no way dangerous.

Coburn, in his book on "Alfalfa," strongly recommends this legume as a feed for horses.

†May 29th, 1907.
Illinois Experiment Station.

Work at the Illinois Experiment Station* brought out points of interest regarding alfalfa: "When alfalfa hay is fed as the roughage part of a ration for farm horses at hard work, less grain is necessary to prevent them from losing weight than when timothy hay is fed. In this test there was a saving of about 22 per cent of grain.

"Though too short to be conclusive, these tests indicate that mature horses at hard work can be maintained quite satisfactorily for a short time, at least, on corn fed in conjunction with alfalfa hay, and at a saving in cost."

Experiment Station investigators as well as practical stockmen who have made a careful study of the problem, almost without exception, have only words of praise for alfalfa as a roughage for horses.

ANALYSIS OF FEEDS.

A table showing the analysis of timothy, native hay and alfalfa is of interest.

Table B. Analysis of Feeds.

<table>
<thead>
<tr>
<th>FEED</th>
<th>Water</th>
<th>Ash</th>
<th>Crude Protein</th>
<th>Fiber</th>
<th>Nitrogen FreeExt.</th>
<th>Fat</th>
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<tbody>
<tr>
<td>Alfalfa</td>
<td>7.13</td>
<td>9.36</td>
<td>15.21</td>
<td>29.18</td>
<td>36.60</td>
<td>2.52</td>
</tr>
<tr>
<td>Native Hay</td>
<td>6.58</td>
<td>6.63</td>
<td>8.52</td>
<td>29.85</td>
<td>44.59</td>
<td>3.83</td>
</tr>
<tr>
<td>Timothy</td>
<td>13.2</td>
<td>4.4</td>
<td>5.9</td>
<td>29.0</td>
<td>45.0</td>
<td>2.5</td>
</tr>
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The percentages for alfalfa and native hay were obtained from an analysis of the hays used in the experiment conducted by the Wyoming Station, outlined in the first of the bulletin. "Henry" furnished the figures for timothy.

*Bul. 150.
CONCLUSIONS.

A careful reading of the foregoing pages leads to but one conclusion: Alfalfa *is* a satisfactory feed for all classes of horses, and the careful horseman need not hesitate to incorporate it into the rations he uses.

From tests cited we may safely give alfalfa a higher value for horses than either native hay or timothy.