A Comparison of Chopped Alfalfa and Bran

Can One be Substituted for the Other in the Grain Rations of Dairy Cows? Experimental Evidence on the Point

H ow to keep down feed bills is the great, present day problem of the dair fearmer? Where concentrates, a saving is likely be elected. We know that good clover hay alfalfa, ad libitum, will always reduce grain requirements as compared with timothy or natural grass. In fact, so closely does alfalfa approximate wheat brain in sa analysis that the grinding of lafafa hay into meal and feeding it as a portion of the grain ration is a suggestion now several content of the grain ration is a suggestion now several content of the grain ration is a suggestion now several content of the grain ration is a suggestion of the grain ration in the grain ration comes from Nebraska. The Rotte Plates Substation of the University of Nebraska has conducted an experiment to determine whether chopped alfalfa may be substituted for wheat brain in the dairy cow grain ration of fowheat brain in the dairy cow grain ration of the parts corn, two parts brain and one part oil meat, and the effect of such substitutes extended from December 1, 1918, a supers test extended from Dec

The first test extended from nuary 30, 1917. During this about 30 pounds silage per

time the cows were head deally and had seems to a rack containing attain. hay. The second test was begun March 1, 1917, and closed May 30 March 1, 1917, and closed May 30 March 17. The cows were fed died in the set and had some starting the last few weeks. Surjung the last few weeks with the set of the set of the mark based on the milk flow—one pound of grain for three to four pounds of milk. Six pairs of cows were selected for each test. Each pair was matching the set of the s to a rack

Six pairs of core were selected for each test. Each pair was match as closely as localities in respect to breed, as closely as localities in respect to breed, as closely control, previous secondary factors, percentage of fat, and the core from each pair was put into Group A, the other cow into Group A, the other cow into Group A. The six cows of Group A were some control of the control of the core from the control of the control of the core from the core for the core f B. The six cows of Group A were ted a grain ration consisting of four parts ground corn, two parts tour parts ground corn, two parts tran and one part oil meal during the first period of 15 days, while line six cows of Group B were fed a grain ration consisting of four a grain ration consisting of loan parts ground corn, two parts chop-ped alfalfa and one part oil meal. During the second 15-day period the A group received the alfalfa the A group received the alfalfaration, while the B group received the bran ration. The test was extended through four 15-day periods, during two periods of which the cows of Group A were fed the bran ration and two periods the alfalfa

cows of Group A were fed the bran ration and two periods the alfalfa ration. The cows of Group B were fed in a similar manner, only that when the cows of Group A were getting the alfalfa ration those of Group B were getting the bran ration, and when the cows of Group A were being fed the bran ration, those of Group B were being fed the bran ration, these of Group B were being fed the alfalfa ration.

those of Group B were being fed the altaria ration.

During the third period of the first test one cow it Group A, being fed the bran mixture, went of feed for a few days, and during the fourth period another cow in Group A, being fed the alfalfa mixture, dropped in production for a few days. As cow was off when on bran and the other when on alfalfa, these deficiencies do not influence the final

During the second test one cow became sick. She and her mate were taken out of the test, leaving only five pairs of cows.

Results of the First Test.

The six cows in Group A while on the bran mixture during two 15-day periods gave 3,972 pounds of milk containing 144.3 pounds of butter fat, and lost pounds in weight. The same six cows while on the alfalfa mixture during two 15-day periods gave 2,50 pounds of milk containing 138.7 pounds of butter fat, and gained 223 pounds in weight.

fat, and gained 223 pounds in weight.

The six cows of Group B white on the bran mixture during two 15-day periods gave 4,244 pounds of milt contained in 15-day pounds of butter fat, and gained 125 pounds in weight. This same group of white on the alfalfa mixture during two 11-day pounds of butter fat and gained on one of the contained periods gave 4.332 pounds of milt one of the contained periods pounds of butter fat and gained on one of the contained periods with the contained periods with the contained periods with the contained periods of the contained periods produced 8,216 pounds of auther the periods produced 8,216 pounds of authe containing 302 pounds of butter fat

and gained 96 pounds in weight. The same twelve cows while on the alfalfa mixture during similar periods produced 8.284 pounds of milk containing 302,3 pounds of butter fat and gained 224 pounds in

Results of Second Test

Results of Second Test.

The five cows in Group A while on the lation of corn, bran and oil meal during three 15-day periods gave 7.430 pounds of milk containing 250 pounds of butter fat and lost three pounds in weight. The same five cows while on the ration of corn, altain and oil meal during three 15-day periods gave 7.447 pounds of milk containing 245 pounds of butter fat the 150 pounds in weight.

pounds of milk containing 245 pounds of nutter latand lost 52 pounds in weight.

The five cows of Group B, while on the ration of
corn, bran and cil meal during three 18-day periods
gave 7,239 pounds of milk containing 241 pounds of
butter fat and lost 125 pounds in weight. The same
view cows while on the ration of corn, affair and
off meal during three 18-day periods gave 7,309
pounds of milk containing 239 pounds of butter fat
and gained 68 pounds in weight.

Combining the results from the two groups we find

and gained 65 pounds in weight.
Combining the results from the two groups we find that the ten cows while being fed bran with corn and oil meal during three 15-day periods gave 14,659 pounds of milk containing 491 pounds of buster fat



Korndyke Ophelia, First in a Class of 18 at the Central Canada Exhibition There were 18 entries in the class for mature cows in milk at the Ottawa Fair last month, and effect of the first grave entries had been considered as winner in good company. Finally, loverships of the first grave entries had been considered by the first grave entries had been considered by the constant of the constant of the constant of the constant of Edwards. He will be winner of the dry class at Toronto, dile is a very large cow, with a splendid of Edwards. He will be winner of the dry class at Toronto, dile is a very large cow, with a splendid of Edwards.

and lost 128 pounds in weight. The same ten cows while being fed aithifs with corn and oil meal during three 15-day periods gave 14,655 pounds of milk containing 484 pounds of butter fat and gained 16 pounds in weight.

Two Tests Combined.

wenty-two cows while being fed a forage ration of surparts ground orn, two parts brass and one part old meal during an average period of 75 days, gave 22,885 pounds of mild containing 749 pounds of butter fat and lost 28 pounds in weight. The same cows during a similar period and under similar conditions, and fed the same ration excepting that chopped alfalfa replaced bras in the grain ration gave 22,741 pounds of milk containing 785 pounds of butter fat and gained 249 pounds in weight. centy-two cows while being fed a forage ration

During these tests with twelve cows for two months and ten cows for three months chopped al-falfa was substituted for bran in the standard dairy falfa was substituted for bran in the standard dairy grain ration of four parts ground corn, two parts bran and one part oil meal without any appreciable unfavorable effect. The slight decrease of 148 pounds in milk and 7,5 pounds in butter, fat pro-duction while the alfalfa was being eaten was more duction while the affaifa was being eaten was more than overcome by the gain of 272 pounds in the weight of the cows. It is evident that in these tests affaifa was fully equal to bran. If these tests affaifa was fully equal to bran. If these cults are the same as are found in general practice, then affaifa fed in this manner has the same feeding replay as being a feeding. value as bran

Canadian Applications.

Alfaifa is not grown generally in Canada. There are many sections, however, where alfaifa is a standard farm crop. In such sections there might be a

place for an aitalia mill, as we understand that considerable power and special grinding equipment is accessively considered the roughage to a meal. If the possessive to make practicable alfaita meet might seen the considered the roughage to a meet. If the place we can be considered to the place of the considered programs of the considered pro

Record Breaking Wheat Yield 25 Acres Yield an Average of 63 Bushels

WHAT is probably one of the greatest crops of wheat ever grown in America is credited to a Mr. Mann, of Illinois; on a 25-acre field he had an average yield of \$6\$ bashests per acre. How did Mr. Mann obtain this great yield? Here is his own story, as told in the Prairie Farmer; as told in the Prairie Farmer; or The field has been having a rotation of ora, oats, wheat, and clover for about 13 years, with other probables of the property of the property of the probable of the manure was also applied a few years ago to a por-tion of one of the fields, but on this part of the field tion of one of the news, but on take part of the said the wheat was down to some o tent, and as as the wheat did not fall so well where the manure had been applied, the yield was really lessened somewhat as an effect of the manure."

"Last year the oats on those fields yielded from 96 to 115 bushels, according to the variety of oats. The year previous

the corn yielded 81 bushels per acre. The previous year the crop acre. The previous year the creg was volunteer wheat and olfalfa, with a yield of 25 bushels volunteer wheat and wish a seld of 52 bushels. There is now a very good stand of young mixed clovers coessisting of a mixture of red, alake, and alfalfa with some timothy. timothy.

"To grow 50 bushels or more of wheat per acre the soil must be in a high state of fertility, but it is a high state of ferthity, but it is not necessary that it be very 'rich', as this term is usually used. The term 'rich' is usually applied to soils that have a high active huma content—a large amount of decaying vegetable matter, enough to cause the soil to be dark brown

or black in color.
"The 'rich black' soils of the cora belt are usually too rich in nitrogea and not rich enough in phosphorus.
In consequence of the excess of nitrogen over phosphorus there are likely to be many troubles to the wheat straw grows rank but tesder and weak enough to break down; various fungus and insect troubles such as rust, scab, fly, and bug. While there is much stray there is too little grain in propor-tion and the grain is frequently

interior in quality.

"An these troubles are due to the low proporties of phosphate, it may not be desirable to try by grow much wheat until the phosphorus has been

largely increased. The conditions in Illinois are not essentially different from the conditions prevailing in South-western Ontario. The main lesson to be derived western Ontario. The main lesson to be derived, from Mr. Mann's experience, wi-tch was profitable enough to interest all of us, is the importance of correcting soil deficiencies with commercial tertilizer.

Dairying Adversely Affected

An Explanation of Higher Milk Prices J. G. Carlyle, Supt. of Demonstration Farm in Alberta

J. G. Carlyte, Supt. of Demonstration Farm in Aberts
N the unusual times in which we find ourselve,
There is protrable condition as desirying. We see
that the concentrated feeds, such as brau, of als
and that chop, which are essential to heavy milk per
duction, have doubled in price. The price of hist
has not only doubled, but the high-class liber required for the care of a first-class dairy herd is yestically impossible to get.

coursed for the care or a first-clause dairy need a par-tically impossible to get.

To offset these drawbacks we find that the price a carry products has increased about 30 pr cst.

and the products are increased about 30 pr cst.

than 109 per cent; and these products can be plan on the market at a much less labor cost that side products, so that the dairy industry has safety and will continue to suffer until the price of cits commodities are normal again.

and wil continue to share unit the pre-commodities are normal again.

Managing a dairy successfully at present is a casy task and certainly the business is not as a numerative as other lines of farming.

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the large the Cana farming v ing of gra tities of b wool: its to create ders. Th tile lands opening t can be g

The prand is st country. larger an anywhere of settle world. other line and pigs. of grain donrish : n impor tside. ufficient supply a ig and There ar eadily he farm

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