cates the desirability of feeding some grain, even though the cows are receiving roughage that is rich in digestible nutrients. This experiment corresponds closely with the second experiment reported from New Jersey.

ALFALFA COMPARED WITH PRAIRIE HAY.

At the Nebraska Station twelve cows were divided into two lots of six each. At the beginning of the experiment each lot was producing practically the same amount of milk and butter. Lot one was fed for six weeks alfalfa hay, beets, and a small grain ration composed of equal parts of bran and corn.

Lot two was fed for the same length of time on the same feed, except that prairie hay was substituted for the alfalfa hay. At the end of six weeks the feed of each lot was changed, lot one receiving the prairie hay, and lot two the alfalfa hay. At the end of twelve weeks the results were summarized as follows:

	Milk, lbs.	Butter, lbs.
The cows while receiving alfalfa produced	9,862.74	511.47
The cows while receiving prairie hay produced	9,722.49	502.07
The cows while receiving alfalfa hay produced more	140.25	9.40

In commenting on these results the Nebraska Station shows that the lots changed from prairie hay to alfalfa in the beginning of the second six weeks were at a disadvantage, as their milk flow had been reduced the first six weeks, and the claim is, therefore, made that the alfalfa gave even better results than indicated in the above figures.

ALFALFA AS A FACTOR IN ECONOMICAL PRODUCTION.

In a more recent bulletin from Nebraska, detailing the results with their dairy herd for ten years, record is given of the food cost of producing butter-fat where alfalfa and silage constituted the roughage. These varied from 6 to 12 cents in 1905, the average for the year being 9.2 cents. The next year, 1906, the cost varied from 6 to 16 cents, the average being 9.4 cents. The profit per cow in 1905 (value of butter-fat, less cost of feed) was $41.93. In 1906 the profit increased to $43.54. These good results are in a large measure due to alfalfa.

THE VALUE OF ALFALFA MEAL.

The Pennsylvania Station divided ten cows into two lots. Both lots were fed daily: corn silage, 30 lbs.; mixed hay, 12 lbs.; corn meal, 3 lbs., and cottonseed meal, 1 lb. Lot 1 received during the first period of three weeks 4 pounds of wheat bran per cow; while lot 2, at the same time, received 4 pounds of alfalfa meal as a substitute for the wheat bran. The experiment lasted for four periods of three weeks each, and at the end of each period the wheat bran and alfalfa meal were shifted. The cows while receiving the alfalfa meal fell off in milk production in most cases more rapidly than those receiving the wheat bran. In commenting upon the results, the Pennsylvania Station says that there is no reason for believing that the alfalfa meal is any more digestible than the hay from which it is made, and they claim that it may be less digestible, on account of the temptation to use poor grades of alfalfa in grinding the meal. For this experiment the alfalfa meal cost $23.00 per ton, while the wheat bran was purchased at $20.00 per ton. At this price alfalfa cannot be recommended for the most economical milk production. Assuming that the alfalfa meal costs no more than bran ($20.00 per ton), the experiment shows that the alfalfa meal would have produced milk at a lower grain cost per one hundred pounds, viz., 44 cents, as compared with 45.3 cents for bran. On this basis the Station figured that if wheat bran was worth $20.00 per ton, alfalfa meal was worth $21.28. While this experiment does not prove the desirability of using alfalfa meal as a dairy feed, it does show emphatically the value of the alfalfa plant, and coincides closely with the results at other stations where alfalfa was found practically equal to bran, pound per pound.

ALFALFA HAY COMPARED WITH COTTONSEED HULLS, MIXED HAY, AND MIXED HAY WITH SILAGE.

The Texas Experiment Station tested the relative value of these roughage feeds with four lots of cows receiving the same kind of grain. The prices of the feeds were: alfalfa, $16 per ton; cottonseed hulls, $6 per ton; mixed hay, $10 per ton, and silage, $4 per ton. The experiment lasted for twenty-eight days, at which time the alfalfa-hay lot showed a profit over the cost of feed of $10.18 per cow; the cottonseed hulls, $8.50; the mixed hay, $9.37, and the mixed hay and silage, $9.05 per cow. These results again show the superior value of alfalfa compared with other roughage.

ALFALFA COMPARED WITH MIXED HAY, WITH VARYING AMOUNTS OF GRAIN.

The Utah Station divided ten cows into two lots, one lot receiving alfalfa hay and the other mixed hay. The grains in each case were a mixture of wheat and bran, equal parts by weight. The experiment lasted for seven periods of three weeks each.

The amount of grain fed each lot varied from six to twelve pounds, all changes being made at the beginning of the period. The results indicate that any increase in the grain ration over six pounds per day increased the cost of dairy products, almost without exception, with both kinds of roughage. The amount of roughage consumed was practically the same for both lots. The five cows receiving the mixed hay ate 56 pounds more grain during the 147 days under experimentation. Considered from an economical standpoint, the alfalfa proved the superior roughage.

A second experiment of a similar character was conducted at Utah, with approximately the same recults.

THE VALUE OF ALFALFA FOR WINTERING COWS WITHOUT GRAIN.

The Kansas Experiment Station tested the value of alfalfa for wintering cows not in milk. Seven head, composed of dairy and beef animals, were placed in the feed lot in September, and received nothing during the winter except alfalfa hay. The results are recorded in the following table:

RESULTS IN WINTERING COWS ENTIRELY ON ALFALFA HAY.

No. of cow.	Breed of Cow.	Age. Years.	Age. Months.	Weight, Sept. 2, '01. lbs.	Weight, Apr. 4, '02. lbs.	Total gain, 213 days. lbs.	Daily gain. lbs.
1	Shorthorn.....	2	7	1,000	1,330	330	1.54
2	Hereford	1	10	840	1,111	271	1.27
3	Holstein	2	6	980	1,268	288	1.35
4	Holstein	2	6	950	1,238	288	1.35
5	Red Polled ...	1	5	450	701	251	1.18
6	Galloway	1	10	651	810	159	1.06
7	Galloway	1	10	829	1,039	210	1.40

It was noted that the cows greatly improved in their appearance while being fed alfalfa.

ALFALFA AS A SOILING CROP.

The Kansas Experiment Station fed green alfalfa to a herd of ten cows for 74 days. Figuring the butter-fat at creamery prices, and deducting the cost of grain, the green alfalfa brought an income of $1.95 per ton, or $25.26 per acre. Other crops were also fed as soiling crops in comparison with alfalfa, but none were as well relished or brought as large returns, as shown by the fact that corn brought $22.79; sorghum, $15.30; Kafir corn, $13.83; and oats, $6.81.

ALFALFA AS A SILAGE CROP.

The Kansas Experiment Station reports an experiment of putting the first cutting of alfalfa into the silo. On account of continuous rains, the alfalfa had been allowed to stand too long, and, consequently, was rather coarse and badly rusted, and contained a considerable quantity of horse weeds (Leptilon Canadense). This alfalfa would have made exceedingly poor hay. When the silo was opened, it was found that the top two feet were moulded badly, but below that it was in excellent condition. The mouldy silage was hauled into the pasture, where it was noticed that the cows ate it readily. When fed in the stable, it was noticed that two-thirds of the cows ate the silage, weeds and all, and the other third ate all but the weeds, and it was possible to keep up the flow of milk in July, when the pasture was dry and scanty, by the use of this alfalfa silage.

Alfalfa has also produced excellent results in feeding hogs, steers, brood mares, growing colts and work horses. Poultrymen are advocating alfalfa for production of eggs. A review of the results of feeding alfalfa with the various classes of animals shows it to be by far the best-known roughage for farm animals. Red clover has been rightly held in high esteem, but, according to its composition and the results obtained in feeding farm animals, it has been found that two tons of alfalfa hay is practically equal to three tons of red clover.

When we think of alfalfa as a perennial plant, that it produces a larger yield than any other hay crop, that it extends its roots into the lower soil and brings up plant food from the subsoil, that its roots are covered with tubercles, the home of micro-organisms that have the power to lay hold of the nitrogen in our atmosphere and convert it into plant food, thus leaving the soil richer than it was before the alfalfa was grown, we cannot help but think that alfalfa is a wonder plant. There seems to be little or no question as to its adaptability to Wisconsin conditions, and as the feeding trials almost invariably show its superior results, it behooves us to urge our farmers, cautiously but earnestly, to grow this crop as soon as possible, in order to get the largest net returns from their land.

One thing the dairy industry needs badly is a general overhauling of cow stables. A considerable proportion of dairymen have begun the good work by laying cement floors, but these floors would be further improved by laying plank on the platforms for the cows to stand upon. Windows, though more numerous than of old, are still far too small and scarce. Ventilation, light, water-tight floors, well-insulated walls, dust-proof ceilings, and plentiful use of stable absorbents are essentials of the up-to-date sanitary dairy barn.

GARDEN & ORCHARD

Blight on apples and pears has caused a very serious depreciation in the crop in Southern Ontario, says the August Fruit Crop Report. Certain varieties, such as the Clapp's Favorite pear, are rapidly disappearing, and it is believed to be only a question of a few years when they will be completely destroyed in Canadian orchards.

Early apples have been selling for seventy-five cents to one dollar a barrel, but the co-operative associations have, in some cases, doubled these returns to their members, says the August crop report of the Fruit Division, Ottawa. A great many carloads have been sent from Ontario to the Northwest in baskets, averaging the growers 25 cents per eleven-quart basket, f. o. b.

Among sweet corns, the Golden Bantam occupies a high place of honor. Last spring it was favorably mentioned in these columns by Prof. H. L. Hutt, of Guelph; W. T. Macoun, of Ottawa; and Chas. Young, of Algoma. During the present season it has been tested by several members of our editorial staff, with the best of satisfaction. It is a small-growing, yellow-grained, early variety, of excellent flavor, and although the ears are not large, it seems to yield surprisingly well for an early variety. The skin of the kernels is very tender, a very desirable point in corn for fable use.

MONTREAL MUSK MELONS.

Visitors at the Exhibition who regaled themselves on a first course of cantaloupe at the hotels, and have observed that the fruit was better, or worse, as the case may be, than that grown "at home," may be interested in knowing that the best musk melons in North America are grown right in our own country, at the suburban districts of Notre Dame de Grace and Outremont, Montreal.

It is not likely, however, that many of the Montreal samples were served in Toronto, even at the best hotels. The most of them go to New York, whose capacious maw swallows up so much of the best that is, where they appear on the menu cards of elite hotels as "Montreal Melon—one dollar." You pay out your dollar, get one slice, and, if you have plenty of money, and reports say true, do not grudge the price.

There is something elusive about the soil of the Montreal suburbs, which seems concocted especially for melons; "something in the soil," the gardeners say, indefinitely, while the would-be wise make a wild guess as to "volcanic deposits" being at the root of the secret. However that may be, the fact remains that the Yankees across the line have tried again and again to run opposition to the Montreal melons, and have given up in despair. Nothing so rich, so meaty, so delicious; nothing comparable for size and quality can be produced elsewhere. And so Montreal melons still hold sway at the hotels and club-houses, and American summer resorts, and at the few places in Montreal City itself which they condescend to enter.

When the Prince of Wales toured Canada as the Duke of York, he and his party were regaled from the "patches" of Mr. T. J. Decarie, Notre Dame de Grace. The late President McKinley had melons served to him daily from the same spot; while this year, says the Montreal Witness, a consignment has been sent to England to Lord Strathcona from the grounds of Mr. J. S. Gorman, Outremont. Aristocracy for the aristocrats!

Experts at these places (the two principal melon-growing farms of the district) very readily give information in regard to cultivation. A light soil, and a high, well-drained situation, they say, is the first consideration.

About the first of April the seed is sown in a 6 x 12-ft. hotbed, in drills six inches apart. When the third leaf begins to show, the young plants are transplanted to 5-inch pots, two to a pot. These pots are then plunged in a bed and kept shaded for a few days, until well established. Finally, about the first week in May, they are transplanted to ground prepared as follows:

First, a liberal dressing of well-rotted manure is applied and plowed in; then trenches are made 12 to 15 feet apart, and 18 to 20 inches deep. At planting time these trenches are nearly filled with well-packed, well-heated horse manure, and the plants are set out in a top-dressing of soil.

The next step is to cover the vines with large "hot-boxes" covered with glass. Then the work begins. Watering is, of course, very necessary, also airing, which is accomplished by raising the boxes at about eight o'clock every morning, and leaving them so until five at night. Moreover, from some time in June, the ends of the vines are pinched off every week, to drive the nutriment into the blossoms. . . . As the vines begin to be