

Balancing the Ration of the Dairy Cow

(Continued from page 3)

would have to eat 280 pounds of silage daily containing 68.52 pounds of dry matter. No cow can eat this quantity of silage, and no matter how liberally you might feed her she would still be starving because of the lack of protein.

Contrast corn silage with alfalfa hay. Alfalfa tests 91.4 per cent. dry matter, 11 per cent. protein, 39.6 per cent. carbohydrates, and 1.2 per cent. fat; 23 pounds of alfalfa hay would supply all of the protein necessary to a cow, giving 22 pounds of milk daily. It would also supply 12.9 pounds of dry matter, 9 pounds of carbohydrates, and .276 pounds of fat. If we compare this with the Wolf-Lehmann standard we will find that it is a little short in dry matter, carbohydrates and fat. It is, however, not far off, and alfalfa comes the nearest to being a complete feed for dairy cattle of any crop grown on our farms. If we were to feed more alfalfa hay, however, and thus bring up the other constituents to the standard, we would be feeding more protein than necessary, and protein is too valuable to waste. It would also be a great drain on the cow's system to get rid of the excess protein.

The Ideal Combination of Roughage
Alfalfa, Lowerer, is rich in the very point where corn silage is poor. Why not combine the two? Let us start with a ration of 40 pounds corn ensilage and 20 pounds alfalfa. Here is the way it would figure out:

	D.M.	P.	C.-H.	F.
40 lbs. silage ..	8.136	.360	4.52	.28
20 lbs. alfalfa ..	16.392	2.20	7.92	.540
Wolf - Lehmann Standard	24.528	2.56	12.44	.820

If we balance this up we find that the nutritive ratio is 1 to 6.35. Although not agreeing exactly with the standard, it is nevertheless a good ration, and one that has proved to give fine results when fed to cows giving a moderate flow of milk. If the ensilage were of extra good quality, with a large proportion of well-matured cobs, the slight deficiency in carbohydrates would be made up. Milk, however, is rich in protein, and if a cow is milking heavily, she would need to have more protein than is supplied in this ration of ensilage and alfalfa. Although the cow's stomach is capacious, all of her requirements could not be supplied by increasing the amounts of ensilage and alfalfa, as she simply would not have room for them. The extra requirements of the heaviest milking cow must be given by adding foods very rich in protein and the extra carbohydrate requirements will be supplied in part by the protein concentrates added, and by such concentrates as corn meal, which have a high per cent. of carbohydrates in a very digestible form. A reference to the table on page three will show which foods will best meet this purpose.

A Choice of Many Foods

Everyone, however, may not have both ensilage and alfalfa, and it may be necessary to combine various foods in order to get a properly balanced ration. Let us suppose that we have a choice of clover hay, oat straw, alfalfa, ensilage for roughage, and of bran and oil cake for concentrates. The combinations of these will be determined somewhat by the supplies that we have on hand. After considerable calculating we might determine that such a ration as the following is most satisfactory for our purpose:

	D.M.	P.	C.-H.	F.
12 lbs. clover ..	12.7	1.02	6.37	.25
15 lbs. oat straw ..	4.84	.06	1.93	.04
20 lbs. ensilage ..	16.39	.27	5.39	.21
5 lbs. bran	4.405	.61	1.96	.135
2 lbs. oil meal ..	1.21	.266	.654	.014
Total ..	39.725	2.546	13.304	.664

(Concluded on page 13)

See and try a DE LAVAL Cream Separator

YOU can't afford to take any chances when buying a cream separator.

It is important that you get a machine which will stand constant wear twice a day for many years to come.

It is important that you get a machine that will run easy and be easy to wash and clean.

It is vitally important that you get a machine which will save all your cream instead of losing enough in a year to amount to more than its cost.

We know that if you see and try a De Laval, the chances are ten to one you will buy it. It's its own best salesman.



Any De Laval agent will be glad to set a machine up for you on your own place on trial, and if you want to keep it and it isn't convenient to buy for it now, we have an arrangement with our agents whereby you can buy for an easy term so that it will actually save its cost while you are saving for it.

DE LAVAL DAIRY SUPPLY CO., Limited

PETERBORO WINNIPEG MONTREAL VANCOUVER

WHITE AND COLUMBIA WYANDOTTES.

LIGHT BRAHMAS, S.C. WHITE LEGHORNS

Over 30 years a breeder.

Stock and Eggs for Sale.

Michael K. Boyer, Box 23, Hammonston, N.J.

FREE catalogue giving descriptive list of rural books for farmers, stock raisers, poultrymen, etc. Write for it.

Book Dept., Farm and Dairy

FERTILIZE YOUR GRASS LANDS

Do you know that an application of

SYDNEY BASIC SLAG

to your meadows will increase the yield of Hay by from 1,500 to 3,000 lbs. per acre, or applied to your Pastures will increase the stock carrying capacity of the land by fifty per cent.?

Fall or early Winter application is recommended in order to insure the best results next Summer. What Sydney Basic Slag has done for other Ontario farmers it will do for you. If you think you could place a carload of twenty tons among your neighbors, we will get our General Sales Agent to call on you. In any case you will want a ton yourself.

GENERAL SALES AGENTS

We need a man in each County in Ontario capable of appointing agents to sell these goods. The right class of man, that is a man with a personal knowledge of the leading farmers in his County, will find this a profitable proposition for about six weeks' work twice a year.

Write for literature giving full particulars to

The Cross Fertilizer Co., Ltd.
SYDNEY, NOVA SCOTIA

On a Pedestal

Those things we value most highly, as symbolizing the best in Art, in Science or in Literature, are fittingly placed upon a pedestal, where we can look up to them.

Figuratively speaking, we also place upon the pedestal of our imagination, those high ideals, those lofty aspirations, by which, in our more thoughtful moments, we would wish to guide our conduct.

Among those guiding principles, why not place upon a pedestal of its own, an ideal that may be better described as "Canada First," rather than "Made in Canada."

The "Made in Canada" movement stands for far more than mere commercial patriotism. Pride of country, pride of national resources, pride of national accomplishment in the realms of literature, art and science, pride of virile citizenship, and pride of national destiny, are all embraced within the broad sweep of this deep seated and soul stirring movement.

Future generations will look back to 1914 as an epoch marking year in Canada's history if you, in common with all her citizens, will only resolve, from this day forward, to be guided by the motto

"CANADA FIRST"