

best among them is cotton-seed meal. That is the richest in protein. We must buy that; then comes oil meal, bran, gluten feed, and gluten meal, all of which we must buy. Can we help ourselves and produce this food cheaper than to buy it?

This is an intensely practical question. For years I have been striving to make the readers of "Hoard's Dairyman" understand this matter. My object is to keep up the yield of milk, and at the same time to leave more of the resulting money with the farm.

Professor Robertson conceived the idea of putting in the silo a balanced food that would do away with the necessity of buying it in another form. His plan was to grow corn, horse beans, and sunflower heads, and ensilo them together in a balanced ratio.

The corn for the carbohydrates or starch, the beans for the protein, and the sunflowers for the fat. The same object is striven for by those farmers who grow peas or vetches abundantly with corn or barley.

Thousands of farmers have been prevailed upon to include peas in their dairy farm management. They succeed or fail just in proportion, barring adverse seasons, as they understand how to grow peas.

The old Indian said, "Know-a-heap is a big thing when you hunt otter." "Know-a-heap" will pay here, too. Some experiments in the way of growing flax with millet and oats, for hay, have been made, notably by Rev. Mr. Currie, of Euclid, Minnesota. He speaks very highly of this combination as a milk food, and says:

"My theory is that during the growth of the plant it has more protein without the excess of oil, so I sowed millet, flax, and oats together, and I cut it at a certain stage, and it is the best food I ever had."

The combination was cut when the millet was fairly headed out, and the flaxseed, say, half grown.

Concerning this combination, Professor Snyder, of the Minnesota Experiment Station, says:

"Mr. Currie's conclusion in regard to the use

of flax at a certain stage is borne out by the conditions of the plant during its period of growth. As the plant matures, the starch is used in the formation of the fats and oils, and he has cut the plant at the proper time when the nitrogenous (protein) property of the plant is most developed." Now these are hints. Take advantage of them, and see what you can do to solve this reduction of cost, and still keep up quality and quantity of product.

CONCLUSION.

Let me emphasize the matter once more.

The first factor in the problem of a cheaper production of milk is the cow—a dairy cow, a good cow. Take the first step first, and make a determined effort to do business only with a true dairy-bred cow. To this end the dairy farmer must become more of a breeder. This is the first step.

The next is the right sort of food, dairy food, food that will bring dairy results; the next, understanding and skill in feeding the right food; next, the production of the *right* food (*not* some *other* food) on our own farms, as far as possible; next, the right care and handling of the cow.

The nearer we come to perfection in all these points, the greater will be our profit. We must make milk for a less cost per 100 lbs. There is no help for it.

The inevitable growth of the business must bring that result. We must produce butter and cheese for *less money*.

We no longer control the output. Other countries are reaching for our markets. Our own production is increasing. Every line of human effort is in the same category.

We must make milk "by the acre," "by the cow," and "by the hundred pounds."

It is stupid for us to persist in using double the number of acres and cows to produce what one-half of these forces might just as well produce. We must learn to make just as much profit with milk at 65 cents a hundred as we once did with milk at \$1 a hundred. We can do it if we will address ourselves to a reformation of our cows and our ideas and methods.

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