

drates (sugar and starch) and fats multiplied by 2%. This is the most accurate method to follow in buying feeds, as it is most nearly regulated by the quality of the home-grown roughages. The cheapest purchases on this basis at present market prices are corn bran, dried distiller's grains, beet pulp, wheat bran, and gluten feed. However, the manual value must be considered, and, on this basis, the cheapest feeds are corn bran, dried distiller's grains, beet pulp, wheat bran, cottonseed, oil cake, and gluten. Particular attention is drawn to the low net cost of digestible nutrients in high grade farm roughages.

#### A Sample Purchase.

A few moments' calculation on the part of the dairyman may quickly show him what feeds he should purchase, not only as to suitability, but also to cheapness. The following is an example of one of the cheapest and best rations for winter feeding of a 1,000 pound dairy cow giving 25 pounds of milk testing four per cent. fat, the choice of meals being on the basis of present market prices. Such a cow should consume daily 2.3 pounds of digestible protein, and over 15 pounds of total digestible nutrients. The maintenance of the cow would require .7 pounds protein and 7.93 pounds total digestible nutrients. Hence there must be supplied for the production of milk, 1.6 pounds of digestible protein and 7.3 pounds of digestible nutrients. A ration composed of red clover hay, 10 pounds; corn ensilage, 30 pounds; meal, 6 pounds, composed of wheat bran 2 pounds, dried distiller's grains 2 pounds, gluten feed 1 pound, and oil cake 1 pound, will answer these requirements fully.

The above ration fills all requirements as to cheapness and richness of feeds, also as to proper balancing nutrients. The bulk of feed is correct, for not only is there the proper amount of roughage, but the two main ingredients of the meal, namely, dried distiller's grains, and wheat bran, are also bulky. The laxativeness of the ration is correct since both the ensilage, bran, and oil cake are all laxative feeds. All feeds excepting gluten are extremely palatable. There is also a sufficient number of meals to give excellent variety to this ration. Undoubtedly, also, all these feeds are most suitable to milk production, and there can be no ill effects whatever on the cow or on the flavor or character of the milk. Finally, these are the cheapest feeds available under present conditions unless the farmer is so fortunate as to have alfalfa hay and mangels.

#### When Shall I Purchase?

Under present war conditions there is probably no one who can answer this question definitely. Generally speaking the lowest markets of feeds depends on the season of the year, condition of markets, the farm crops available, and upon the export trade of mill feeds. As a rule the cheapest average markets in an average year for the various feeds are as follows:

Bran, shorts, middlings, from July to September.  
Linsed oil meal, June to August.  
Cottonseed meal, September to November.  
Gluten feed, May to October.  
Oats, August to November.

However, the present unsettled condition, both as to home and foreign markets will so regulate the value of all mill feeds that very careful attention to the feed markets is required.

## Corn Cultivation Ideas

### Let It Be Frequent But Not Deep

J. T. ANDREWS, Oxford Co., Ont.

THE objects of corn cultivation are three-fold: To conserve moisture, kill weeds, or improve the mechanical condition of the soil for the benefit of succeeding crops. The last object is best attained by deep cultivation; shallow cultivation is equally efficacious for the first two, and decidedly more beneficial to the corn crop. In fact, deep cultivation may do almost as much harm as no cultivation at all. I first learned this by costly experience. Many years ago, when corn was just beginning to be a popular crop in Ontario, the man for whom I was then working planted out 10 acres to corn—a big acreage at that time. The soil was well worked up for the crop and got a couple of scufflings when the corn was small. The season was late like the present one

Illinois, a man who had left our district when a boy, came back to visit his old home community, and he explained our difficulties away. Cultivation is good for corn, he told us. It was our methods that were at fault. During the haying, when we had neglected cultivating, the feeding roots of the corn had grown up near the surface. My deep cultivation had cut off these roots on which the crop was depending for its supply of food and moisture. The old man's explanation was good, and we have never made the same mistake again.

Our practice now is to harrow the corn as many times as we can until it is two or three inches high, and then cultivate regularly until August or later. The earliest cultivation is about three inches deep, and as close to the rows as we can safely run. At each succeeding cultivation we get a little farther from the row and run a trifle shallower. In this way we get all the advantages of cultivation without injuring root growth. In closing, I would like to say a good word for the two-row riding corn cultivator. It does the work twice as fast as the old single row machine, and where one is owned the corn is apt to be cultivated twice as often. The very fact that a man can ride at his work is an encouragement to cultivation; for most of us have a lazy streak somewhere in our anatomy. But whether I had this implement or not I would cultivate often and shallow.

## Manure for the New Seeding

### A Farm Practice Highly Recommended

A FEW weeks ago, in company with Mr. G. A. Brethen, I visited Mr. Jas. Seymour, on his big, three hundred acre farm a few miles from Peterboro. Mr. Seymour's specialties are Clydesdale horses and Holstein cattle. After a visit to the pasture to see the live stock, Mr. Seymour suggested that we take a round-about way back to the buildings in order that he might show us the results of an experiment in manuring with which he is very well satisfied. We found two fields, side by side. Both of them had been seeded with clover the previous season. In one of them the growth was only fair. The field next to it promised a yield of twice as much per acre; the stand was thick and strong, and it was, on the whole, one of the best fields of clover that any of us had seen that season. Referring to the two fields, Mr. Seymour said:

"These two fields were seeded at approximately the same time with the same nurse crop. The first field, the one with the lighter yield of clover, is naturally the best field of the two, and the one from which we had every right to expect the best crop of clover. The difference comes in the manuring. The second field we gave a light dressing of six loads to the acre with the manure spreader last fall, and to this dressing, must be attributed the wonderful growth of the clover. I believe that as a result of this experiment, I will plan to seed all of my grain with clover, and apply all or nearly all of the manure made on the farm to the new clover fields. Had I followed this practice this year I would have manured 60 acres instead of 30."

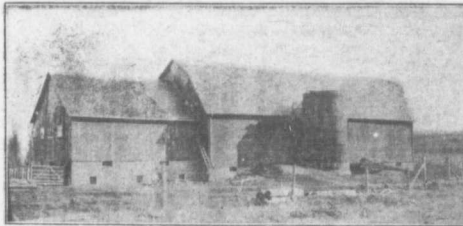
In following out the new system that he out-

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### FINE FARM BUILDINGS IN DURHAM CO., ONT.



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and the corn was neglected until after haying and wheat harvest. It made a fair growth, however, and was a promising looking field. The weeds were doing well, too. Then we cultivated and learned our lesson.

I did the work with a single row scuffer. I was determined to do a good job, so I put the scuffer in good and deep, and worked the soil up in great shape as I thought. By noon I had gotten over about three acres. On the way to dinner I noticed that the leaves on the cultivated strip were beginning to droop, while on that part of the field which I had not yet reached the leaves were erect and vigorous. I couldn't understand why this should be, but, nevertheless, I went ahead and cultivated another three acres in the afternoon with identically the same results. Then came some wet weather. After the wet weather the harvest, and the remaining four acres were never cultivated. On that four acres the weeds flourished, the land baked hard, but from it we got considerably the better crop. Why?

It was not long before an old corn grower from

A FEW weeks ago the growers of the territory addressed on this subject a man who is feed. It was published shortly after its issue of that paper received from Prof. University of Illinois explanatory. Prof. follows:

"I have read 'Feeding Dairy Cows' of May 11, with interest. The article is excellent and comes from the authorities in the dairy herd book degree. We have hats to the man who has given a great thing an let's herd the book."

"If any one can of milk and butter dairy cow in a year can't I do not criticize least with a her large capacity. I milk economically the country by realize that this tion. Probably the United States has to produce high reason it seems in Mr. Gillett's as to the average d Mr. Gillett

"We have heard corn silage alone dairy ration, but record as stating the dairy business but alfalfa and start in the business



Dairy Cow