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be grown to an acre than of any other crop, consequently it is the cheaper feed. It appears that in order to make the greatest success of the farm, every farmer must plan to grow what his farm will produce best, and then study how to market the crop in the most profitable manner.

THE FARM.

More Views on Auto Licenses.

EDITOR "THE FARMER'S ADVOCATE":

I notice a few farmers have been making some complaints about automobile licensing, and especially the increase for 1916. We farmers all or most all voice their sentiments. I think it quite an insult on the farmer to be asked to pay a license after he has had to toil for 60 years to get the highway up to the present standing, where in the past we were doing the roads as much harm with a couple drivers and narrow-tired buggies to each 100 acres as we are with one automobile. The horse that trots does the road as much harm as anything. One horse trotted, I claim, will do the roads more harm than two large teams at a walk. Any who have taken any notice, especially after a rain, will see that in the center of the road or where the single horse travels, it is hollowed out, from two to six inches, so if the farmer with an auto is to be taxed, why not tax the one with the horse and buggy. But why tax either? To make a farmer pay a license and then do his road work is quite absurd. Take for example the doctor, the traveler, who travel ten times what the farmer does and are charged the same license fees, and they do nothing toward the upkeep of the highway. Take the tourists who travel through the country at a terrific speed, and do the road more harm than their license fees would make good, or in other words, they take more out of the roads in one long trip than the money they paid in would repair. They tell us that this license fee goes to build roads. Yes, roads that a great many farmers never will see or have the pleasure of riding over. If this present license is to be continued why not let each municipality sell all licenses in their own township, and one-half of that money be spent in that township, where we would see some country roads. Let us suppose, for instance, we have 100 automobiles in a township. Putting licenses at \$10 each it would mean \$1,000. One-half of that or \$500 would be a nice sum, over and above our road work. We would soon see our roads much improved, and would not hear so much kicking.

Oxford Co., Ont.

FARMER.

Test Your Oats.

EDITOR "THE FARMER'S ADVOCATE":

A few days ago I submitted three samples of oats and one of barley to test for germination. As the three varieties were all harvested under the trying conditions of last harvest but submitted to different handling after cutting, the results are interesting. The tests were as follows:

1. O. A. C. No. 72—72 per cent. germinable.
2. O. A. C. No. 3—91 per cent. germinable.
3. Banner—53 per cent. germinable.
4. O. A. C. No. 21 Barley—82 per cent. germinable.

Sample No. 1 was from two small loads of O.A.C. 72 oats not too well dried in field—with some grown heads in almost all the sheaves—stowed on top of a mow of oats and barley (mixed), threshed between three and four weeks after drawing in. The grain was very damp at threshing, but was turned and aired whenever necessary to dry. The sample does not look good now, being very much off color, and one would not expect a very large percentage of germination, yet 72 per cent. has germinated good and strong, and is taking good root.

Sample No. 2 was from straw longer in stook than sample No. 1, but being shorter and finer straw was more easily dried and in somewhat better condition when drawn in, was from one load placed on a scaffold and not threshed until late fall. We had a right to expect a better germination than from sample No. 1, and appearance of the grain justifies this also. Practically all that did not grow in stook grows now.

However, sample No. 3 is from grain of good appearance. When threshing these oats were dry, but sheaves were somewhat mouldy inside, yet the grain looked so well that a neighbor asked for seed from them. The test proves the impropriety of judging without submitting to germination tests. Like a great deal of the oats harvested last year, these oats heated in the mow and the germinating power of almost half of them was destroyed.

This is only one test, and from this it would be improper to draw conclusions that grain similarly treated as that from which samples No. 1 and No. 3 were taken, will yield like results. But there is one conclusion which is justifiable, viz., that all spring grains should be submitted to test before sowing this spring to prevent the disappointment that is almost sure to come through sowing untested seed.

Middlesex Co., Ont.

CHAS. M. MACFIE.

THE DAIRY.

Legislation Relating to Improvement of Dairy Products.

A Bill to improve the quality of dairy products was presented to the Provincial Legislature by Hon. Jas. S. Duff, Minister of Agriculture for the Province. The Bill which is under consideration is to the effect that milk received at a factory shall be paid for on the basis of its fat content as determined by the Babcock test, or on the basis of its fat content as determined by the Babcock test plus the factor 2. In determining the fat content of milk supplied to the factory, samples of milk for testing are to be measured by a 17.6 c. c. pipette, and samples of cream for testing weighed in officially stamped test bottles. For the purpose of determining standards of grades of cream for butter-making purposes at a factory the basis of grading would be: first grade cream to consist of cream suitable for making first-class butter; and second grade cream to consist of all other cream accepted by the buttermaker for making butter. Payment for the cream is to be based on the proportion of these two classes. In moving the second reading of this Bill, the Minister of Agriculture pointed out the vast importance of the dairy industry to the Province. In Eastern Ontario there are 29,607 patrons of cheese factories, and in Western Ontario 11,112 patrons. Western Ontario has 125 creameries and 40 cream shipping stations at which cream is delivered by 32,503 patrons, or a total of 77,070 farmers engaged in the dairy industry, aside from the many thousands producing milk for human consumption in the cities and towns. At present there is practically no cream grading done, and 90 per cent. of the milk delivered at the cheese factories is paid for on the basis known as the pooling system. There is no reward for the man, who, through careful breeding and feeding, has been able to produce

milk of four per cent. butter fat, as against the man who produces a rate of three per cent. or less. The injustice of this method has been realized for years, but reports show that there are only ninety-five cheese factories in Ontario that pay by test. The Minister pointed out that the paying on a basis of the butter fat content, or the fat content plus two, is practical and workable, and much fairer than the pooling system. The Babcock test provides a comparatively simple and accurate method of determining the butter fat content, and the factor 2 represents the casein. It is realized that the practices and habits which have been developed through many years cannot be entirely altered in a moment. Hence it is provided that the Act shall not go into effect before April 1, 1917, and in the meantime educational and demonstration work will be carried on.

Cream is at present bought subject to the Babcock test, but is not paid for entirely on a quality basis, taking into consideration such features as flavor, acidity, etc., which enter into the making of good butter. There are several difficulties to overcome before a satisfactory system of grading can be adopted and educational work will be carried on this coming season, in order to place the industry on a graded basis as has been done in some of the newer Provinces. The need for emphasizing quality, standardization of products, the securing of uniformity and of an established reputation are all generally recognized. It has been adopted in reference to many other lines and it is believed that the time has arrived when similar work is needed in the dairy industry. After the war the export market will call for products of the highest quality and uniformity, and it is believed that this can best be attained by so regulating the returns for dairy products that they will be greater where care and skill are taken in every step of production. This Act relating both to paying for milk and grading of cream should receive the support of all interested in the welfare of the dairy industry in this Province.

A Comparison of Money Returns from Selling Milk in Different Forms.

The supply of and demand for any commodity are factors in determining its cash value. The producer desires to receive all he can for the produce he has to sell, and the consumer endeavors to pay as little as possible for the necessities of life. An increased demand for an article usually has a tendency to raise the price. Milk and its products are not exempt from this rule which sets the prices, and so we find the same quality milk bringing different prices, according to the market it is placed on. In setting the price for milk, the market does not care what it costs the farmer to produce that milk. The dairyman with a purebred herd of scientifically fed, well-groomed cows, housed in expensive stables, and fed on feed produced on high-priced land, does not, as a rule, receive any more money per hundred pounds of milk than a dairyman does from the herd that is housed in a cheap building and fed on concentrates and roughage grown on the ordinary farm. There is a possibility that these two herds may contain the same number of cows and produce an equal amount of milk worth the same amount of money on the market, but it costs one man more to produce the milk than it does the other, owing to the extra amount of money invested in land and buildings. In reality the value of a product is what it costs to produce it. But the market does not always take the cost of production into consideration. The consumer is only concerned about the quality and the price he must pay. Consequently, the lower the cost of production, other things being equal, the greater the profit to the producer.

There are various markets for milk which may vary in the price paid per hundred pounds, and if there is a by-product returned to the producer it should be considered in seeking an outlet for the product of the dairy herd. However, many dairymen are forced to patronize the market nearest at hand. Dairymen living near a city or shipping station are able to cater to an apparently higher-priced market than those living beyond these precincts. The price paid for milk varies in different localities, and is not the same the year round in any one locality. The supply is usually more plentiful during the early summer months, consequently the price is lower than during the winter. Sometimes milk is worth more at the cheese factory than at the creamery, and vice versa. In estimating the cash value of one hundred pounds of milk, it is impossible to figure on the present prevailing price in every locality, but an endeavor will be made to place a fair average price on milk and its by-products at the farm. It may be that, when the skim-milk, butter-milk or whey is considered, the dairyman who sells whole milk at a high figure is not receiving an extraordinarily high price when the loss of by-products is considered.

Nature's way is for the cow to furnish milk to raise her offspring, and many feeders are finding it a profitable method to follow, especially when the labor question is considered. The calf may be kept in a pen and allowed to nurse the cow twice a day. It would be necessary to keep a little feed, as rolled oats and clover hay before the calf in order to obtain the best returns. A calf that is not taught to eat until after it is weaned will often lose flesh rather than gain for a time, but the calf that learns to supple-

ment its milk supply with other feeds will keep on gaining after weaning. The labor of looking after the calf will about balance up the time required for milking. If a calf raised on the cow weighs 800 pounds at ten months of age, and is worth eight cents per pound, the feed and milk would be worth \$64. If the calf was worth \$5 to start with, and in the ten months received 4,000 pounds of whole milk and \$10 worth of concentrates and rough feed, the milk would actually be worth \$49, or \$1.22½ per hundred pounds. The milk would be consumed on the place, and any fertilizing value contained would go to improve the farm. If the calf consumed a larger quantity of milk or was not as valuable, the price given the milk would be reduced. A cow may give sufficient milk to feed two calves, but it is doubtful if the value of the milk would be raised, as a calf will take from 15 to 20 pounds of whole milk per day if it can secure it. Some feeders have succeeded in having calves weigh 1,000 pounds at ten months old, when fed on the quantity of feed outlined, consequently the value of the milk would be materially increased.

Selling milk to a cheese factory is the practice followed in many localities. The past season patrons in some districts have received as high as \$1.25 per 100 pounds for the season, but in former years an average of \$1.00 per 100 pounds was considered fairly good. For every 100 pounds of milk delivered there would probably be from 75 to 85 pounds of whey returned to the farm. It is difficult to set a price on good pasteurized whey, but it should at least be worth ten cents per 100 pounds. If the value of whey as a feed and fertilizer is considered, about 16 cents per hundredweight must be added to the cash price in order to estimate the net value of milk to the farmer when it is sold to the cheese factory. In feeding experiments with hogs, about 1,000 pounds of whey fed in proper proportions has taken the place of 100 pounds of grain. If grain is worth \$1.50 per 100 pounds, the whey would be worth about 15 cents per hundred, and would thus increase the net value of the milk to the farmer. At least part of the fertilizing value of the milk would be retained on the farm.

The milk condensers and powder factories purchase a large quantity of milk, and have been able to pay a fairly good price for it. No by-product is returned, consequently in comparing the price received with that of the cheese factory, the value of the whey must be deducted. It is claimed that one ton of whole milk sold from the farm has fertilizing value of \$1.60, or 8 cents per 100 pounds. When whey, skim-milk, or butter-milk is fed on the farm, the manurial value of whole milk is practically all retained on the farm. Therefore, in order that the returns from selling whole milk may be equal to selling milk to the cheese factory, or creamery, the price must be about 16 cents per hundredweight higher than the cheese factory pays.

The people of towns and cities consume a large quantity of milk, and are tempted to envy the farmer when they think of him receiving 8 cents a quart for it. True, a few farmers do receive the retail price, but in many cities the milk is purchased by a company which undertakes to re-sell the product to the consumer. The wholesale price varies with the season