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a farmers' club at least three points should be borne in mind: The necessity of a definite purpose, efficient organization, and a program including agricultural, literary and social development. It should be the aim of the executive to maintain, as far as possible, the interest of the members. Then, other conditions being equal, with efficient organization, whole-hearted support and high ideals, there is every reason to believe that such a society would be a potent factor in the community which it serves.

Wellington Co., Ontario.

W. J. L.

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Winter Care and Repair of Farm Machinery.

A great deal of inconvenience and delay can be saved by judicious care and repair of farm machinery during the winter months. W. L. Graham, the Assistant Dominion Field Husbandman, Ottawa, has sent us the following suggestion for farmers, which we pass on to our readers.

"Let him use more machinery then," is the stock phrase and cure all prescribed by the 'knowitall' of the farmer's labor problem. This is just what he has been doing for a generation or ever since city wages were distinctly higher than those upon the farm. To-day machinery has doubled in cost because it does not grow upon the land by the free agency of sunlight like crops, but is made in cities and by labor that exacts far more than the farmer's wage. Thus there is a limit to the machinery the farmer can afford to buy, and to the extent to which he can substitute machinery for expensive labor. In other words, machinery is now expensive labor.

"Farmers, therefore, are going to house their machinery in some way since the price is still soaring, and since the life of an implement well cared for is prolonged four or five times the life of machinery which is left in the open. An energetic farmer will not allow his horse or cow to stand out in the rain or snow. He will rush to get his crop into the ground on time and in the best possible condition, and he will gather his

harvest promptly and carefully so that there is the least possible loss. Many of us will do all these things and still allow a part of the toil-earned revenue to be swallowed up in the purchase of sky-soaring priced machinery or in expensive repairs.

"See to it that each implement wears out and does not rust out. Every one knows that it should be housed but housing under any condition and not properly caring for it otherwise, constitute very poor care. Machinery may be just as well cared for if it is allowed to stand in the shade of a tree as if stored in some of the leaky sheds, open sheds, poorly-drained sheds or combined implement sheds and hen roosts which are found.

Do not merely go through the motion, but shelter considerably, and before doing so, first list the repairs needed for next season and secure them along with an assortment of bolts, rivets, springs, etc., in time to have each implement repaired and ready for use on time. An implement in repair at all times will have a longer life and will give more satisfactory service during its life than one receiving irregular attention. Secondly, clean and oil each machine and give all polished surfaces an application of some anti-rust preparation. Axle grease or other lubricant will answer the purpose.

"Another 'critter' occupies space in the implement shed; the twenty-four-hour-day-iron horse or tractor has arrived on the farm. To insure more efficient use of this implement next season there are two things that should be given special attention. First, take steps to put it in the best possible condition now, and secondly, learn as much as possible about the fundamentals of tractor operation. Read carefully the instruction book; newspapers, books and magazine articles also furnish a wealth of information. If possible attend one of the tractor schools which will be conducted during the winter. Leave nothing undone that will fit you to become a more proficient tractor operator.

"A properly-fitted work shop is a necessity on most farms. It provides a means of acquiring the 'knack' in doing repair work. Again at critical times, such as harvesting or seeding seasons, one long trip to town for repairs may cause a loss more than equal to the value of a well-equipped shop.

"Paint, although last mentioned, is by no means the least important factor in prolonging the usefulness of an implement. Painted machinery on the farm is an exception rather than a general rule. The chief utility of paint is in protecting materials rather than improving

appearances. Paint of good quality only should be used, and the surface to be painted should be dry and clean before the paint is applied."

THE DAIRY.

A Resolution Regarding Test Work.

The difficulties which have arisen during the last few months in connection with the testing of cows for high records in the United States have doubtless been responsible for the following motion, which will be moved as an amendment to the rules of the Record of Merit in the Holstein-Friesian Association, when that Association holds its thirty-seventh annual meeting in Toronto, on Thursday, February 5. The motion is timely and those who are favorable to honest methods in dairy record work will doubtless see something in it that they like. It reads as follows: "It shall not be allowable for the supervisor to either milk or feed any cow in test, unless in an emergency where the milker may be taken suddenly ill or called away; and then he may only milk until a milker can be provided.

"Under no circumstances shall any gift or payment to a supervisor be made by, or be permitted from, the owner of the cow or any one interested in her, except the regular rate of wages for supervisors fixed by the Agricultural College or Department of Agriculture which appoints them, and any such gift or payment will invalidate the test. It shall not be allowable for any supervisor appointed to conduct an official test in any herd to have any business dealings whatever with the owner of the herd, with any intent of gain or advantage; nor shall he have any such business dealings with the owner's employees, or with any person or persons financially interested in the herd, inclusive of owners of any near relatives to cows tested.

"Should any owner of a Holstein-Friesian cow that has been tested under the supervision of any Agricultural College or Department of Agriculture fail to pay the bill for the conduct of the test of that cow, the Secretary shall give said owner thirty days to pay the bill. If at the expiration of the time allowed the amount due has not been paid, the Secretary shall pay same, and such payment shall work out an automatic suspension of the delinquent owner from all privileges of the Association, until such time as his indebtedness is paid.

Commendable Attendance and Dairy Exhibits at Eastern Dairymen's Convention.

Under the inspiration of well-attended meetings splendid exhibits of high-quality dairy products and a more animated and practical program than usual, the forty-seventh annual convention of the Dairymen's Association of Eastern Ontario drew to a close on Friday, January 9, after a two-day session in Victoria Hall, Brockville. The President, R. G. Leggett, Newboro, called the convention to order Thursday morning shortly after ten o'clock, and in his presidential address said in part as follows:

"The quality of our cheese has been gradually increasing, but the quantity for the past two years has been decreasing. Last year we were short about six million pounds, and this year twice as much or over twelve million pounds. The cause for this is found in the failure of the corn crop of 1918, sending the cows to pasture in the spring of 1919 weak and ill-nourished; much valuable time was lost before the cows were in good milking condition. Last July, a very dry spell just as the grain was heading, resulted in a very scanty grain crop. Consequently the scarcity and high prices of feed hindered the majority of farmers of feeding for fall milking. The corn crop of 1919 was excellent and we hope that the cows will go to the pasture this year in good condition for giving a bountiful supply of milk.

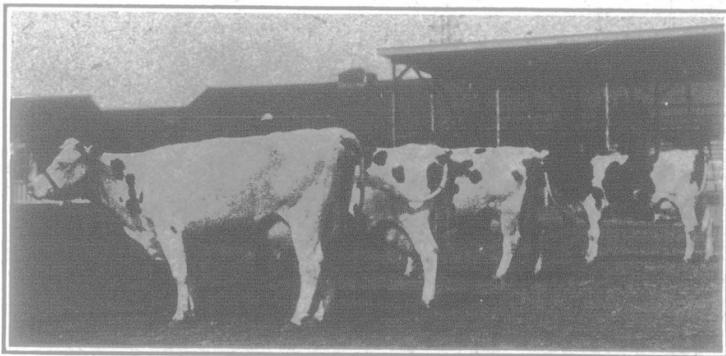
MAKE THE BEST OF CIRCUMSTANCES.

A note of optimism was sounded by H. Sirett, Agricultural Representative for Northumberland County when he discussed the relation of the Agricultural Representative to the dairy industry. The speaker thought the dairy industry was never on so sound a basis in Ontario as now, since prices for dairy products are attractive and dairymen generally never paid so much attention to the cost of production. Referring to the fact that dairy products have greatly advanced to the consumer, Mr. Sirett asked whether the prices of dairy product years ago when prices were lower had ever borne any direct relation to the cost of production. The fact that dairy products sold much lower in the 90's is no indication that those prices gave a return over the cost of production. The fact was, said the speaker, that a good living was so difficult to obtain on a farm that the farmer's wife and family were forced to do all the work possible in order to add to the yearly income. "From no source," said the speaker, "can there be offered a food product that costs the consumer so little when considered in conjunction with the cost of production. Moreover, no class of product finds so ready

a market as that from the dairy cow. Space does not permit us to discuss Mr. Sirett's address fully at this time, but we hope to reproduce it more fully in a later issue. Briefly, however, he did say with reference to the conditions affecting production that the dairyman must conceive that the keynote of successful dairying is the desire to do the best we can with what equipment and capital is at hand, and that it must be realized more generally that as far as feeding is concerned, there are more things to be learned about feeds than their names.

A NOTE OF HARMONY.

E. S. Archibald, Director of the Dominion Experimental Farms, Ottawa, speaking with reference to the



Line-up for the Holstein Female Championship at Toronto, 1919.

feeding of dairy cattle at the afternoon session delivered an exceedingly interesting, forceful and practical address. After eulogizing the past work of the various dairymen's associations he said that the needs of these organizations in the future would exceed those of the past. Dairymen who have lost faith in the industry should remember the fact that never had Canada so many milch cows and never had she so many dairy opportunities, facts which make it the duty of every dairyman to boost the industry he represents. Referring to the work of the Experimental Farms System, the speaker made note of the progress in live-stock work, and recalled the fact that whereas eight years ago there were only 500 head of live stock in all the farms, this comparatively small number has been increased to 6,000 in addition to re-stocking some of the older farms. He urged dairymen to give voice to their problems in order that the officers of the Experimental Farms

might be better able to assist in developing the dairy industry. An important part of the work undertaken during recent years has been in connection with new and little known feeds that could be used as substitutes for the older and better known concentrates, some of which are becoming more difficult to obtain in sufficient quantity. Studies have been undertaken in the digestibility and general utility of feeding stuffs in order to assist in cheapening practical dairy rations. "Prosperity in Agriculture", said the speaker, "depends not only on live stock, but, in Eastern Canada, primarily on dairying. The dairy cow has no peer as an insurance of financial returns from farming and as a mortgage lifter. Over production in dairy industry is an physical impossibility, but better cows better fed is the essence of greater profits for us as dairy farmers." A harmonious note was markedly noticeable in the speaker's reference to the good work being done at the Kemptville Agricultural College under the principalship of W. J. Bell. Special reference was made to the good to be derived from attendance at the Herdsman's Short Course now running. This note of sympathetic co-operation from Mr. Archibald is all the more noteworthy in as much as co-operation between Provincial and Federal officials has never been conspicuously harmonious

PRACTICAL FEEDING ADVICE.

Referring more directly to his subject, the speaker said that the greatest mistakes in feeding dairy cows is the lack of knowledge as to the correct use of the various feeds. For maintenance purposes a 1,000-pound cow yielding 40 pounds daily of 3.5 per cent. milk requires 2½ pounds digestible protein and 14 pounds digestible carbohydrates and fat including maintenance requirements which amount to ¾ pound digestible protein, and nearly one pound of digestible carbohydrates and fat. Maintenance requirements are the same whether the cow is giving 40 or 60 pounds daily, while labor and other charges incidental to the cost of production are generally about equal to the cost of feed so that it is largely a matter of improved feeding practices to double the production. If the average individual would study his individual cows and realize the difference between a maintenance and a production ration he would not hesitate longer to buy feeds. Too many make the mistake of buying the cheapest feeds. One man recently was jubilant because he had been able to buy \$76 cottonseed while the Experimental Farms paid \$81 per ton. It was discovered, however, that his cottonseed contained 28 per cent. protein, while the other contained 40 per cent. He had less cause to be jubilant after noting this difference. Another man was feeding 5 pounds of cottonseed daily without any other grain to his herd of 36 cows and wondered why they were ailing.

HOW TO BUY FEEDS.

How to buy feeds—that is the question. There are two methods, the best one to follow is depending entirely on the character and quantity of the roughage available. If a man has rich protein roughages that will combine succulence, palatability, variety and protein