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AUGUST 24, 1916

swatter of monoply and unfair privilege. They are doing big things and will do things still bigger, until the privileged interests either sit up or lie down forever. In Ontario we have the United Farmers Co-operative Co., Limited, which is doing well also, and if some of our Ontario farmers would shake off their show-me and show-me-again and now-show-meonce-more-to-make-sure conservatism and individualism and get in the co-operating game, and do away with party politics, farmers' co-operation would soon be a power for the good of the whole industry, and we should quickly have the privileged interests hiking for the tall timbers, each with a grafter or weak-kneed politician on his back.

kneed politician on his back. But I am digressing. I started out to write on "buying" small tractors, and here I am writing on party politics, which is a "sell.' The weather is warm, writing is an effort, and as editors and readers alike don't like articles too

as cultors and readers and don't interactions too long, we will pursue our thoughts in another issue. In our next we will do a little meditating on the subject of buying other things as well as tractors on credit, and try to show why credit, as we have it in this country, is the farmer's curse because it is on a wrong basis. There is a more excellent way, which we will presently look into.

Northumberland Co., Ont. W. L. MARTIN.

THE DAIRY.

Milk-cooling Arrangement.

A while ago when I was called upon to fix the pump in a well on a farm, I saw the farmer lugging ice from the ice house to a tank to cool the milk. He told me that he would save more than half of his ice if he could get the ice out of the ice house and into the cooling tank without opening his cooling box every night and morning, and that it would be necessary for him to build a larger ice house to provide the necessary supply as his dairy was getting larger all the time. I told him that I would think of some way of getting around the trouble

THE FARMER'S ADVOCATE.

of carrying the ice and spending the money for a larger house. Here is the plan which I devised and put into operation.

The next fall when the ice was all out of the ice house I laid 3-inch headers tapped every 4 inches for 1-inch pipe. I put one of these headers at each end of the house on the floor, making one about 6 inches higher than the other. From both headers I connected pipes to coils in the milk tank which were made as large as possible, as the pipe ran all around the tank. It was arranged in such a way that the cold water needed in the milk cooler would circulate through the pipes



Ice House and Cooling Tank.

to the tank and through the cooling coil under the ice house floor. The circulation was good, but the cooling would have been better if brine had been used. After the pipes were put under a cement floor, the ends of the headers extending out so 'that connections could be made, the pipes were so protected with cement that the ice could be piled on top of them and the door sealed up and whenever cold circulation was wanted it was only necessary to open up the gate valve in the circulation pipe. It is best to use cold brine, as it

chills more thoroughly and is more effective in cooling the water in the coils in the tank, where the milk cans were set. In opening the gate valve the flow through the coils begins, and cools water in the milk cooling tank. Of course, such a scheme can only be successful when the ice house is higher than the milk cooling tank.

If the conditions are not found this way, the ice house floor must be elevated. If a greater cooling effect is wanted it can be secured by packing a little salt with the ice, but here care must be used as it is possible to freeze up the whole thing and "bust" something. The accompanying illustration shows a plan

of the ice house floor with the header cooling coil and a plan of the cooling tank for the milk coil. This plan shows the pipes running around all sides of the cooling tank. They are arranged in the form of a square, spiral coil.---Hank, in Metal Worker, Plumber and Steam Fitter.

[Note: We have never seen this method of cooling in use, but we pass the idea on to our readers for what it is worth. The principle of the cooling system looks as if it should work. On many dairy farms the ice house and milk house are close together and could be . The floor of the ice

connected by means of pipes. house would have to be raised above the top of the cool-ing tank so that the cold water or brine would flow by gravity to the milk cooling tank. After passing through the coils in the tank the material will become heated several degrees and will naturally rise and flow back to the headers in the ice house. If this system works satisfactorily it will not only be a saving of time over the old method of putting ice in the water, but it will also economize on ice.—EDITOR.]

The R.O.P. Puts the "Dual" in the Dual-Purpose Shorthorn.

In this day of specialization, when certain breeds of stock are bred and selected exclusively for milk and butter-fat production, and other breeds just as intensively bred for beef production, it is quite natural for stockmen to wonder if the dual-purpose ideal is a foreible one. Can desire and heaf qualities be comfeasible one. Can dairy and beef qualities be com-bined in the one breed and in the one animal? As the breeds have come to be known in Canada there is a strong line of demarcation between the two types, and the average breeder fails to see the possi-bility of a dual-purpose animal. There are three or four breeds that are noted for their beef type, which has coupled with it the deep, low-set, thick body with straight top and underline, and a well-sprung rib thickly covered with high quality flesh. The udder animal showing great capacity and good constitution, with prominent hook bones, thin quarters and well-developed udder, the ideal of the dairy specialist. Each class has a big place to fill in supplying the needs of the human race. Taking the breeds as a whole the one quality has been intensified at the expense of the other, until at the present time it is doubtful if there is a real dual-purpose breed in Can-ada, although there are strains or families of breeds that point that way. It is possible to select in-dividuals of the most highly developed beef breeds, and in time, by careful selection and breeding, secure animals that would be profitable producers at the pail, and at the same time produce offspring that would dress out a choice carcass of beef. The same is true of the dairy breeds. A fairly good beef animal could be produced in a few generations. The time required would depend a good deal on the blood used in originating the breed and in the line of breed-ing followed. While the special-purpose animal has a large place to fill there is also room for a dualpurpose animal. There are thousands of farmers who do not care to carry all their eggs in one basket. These will keep a considerable herd, but they do not wish to maintain too many milk cows. They prefer a breed that will give a profitable amount of milk in a lactation period, and will produce a calf that can be raised and fattened at a fair profit. Not all are so situated as to specialize entirely in one line. There is a growing demand for the dual-purpose animal. But, where is the breed that will produce it?

backs and deep, level quarters which fleshed up to excellent beef when dry, but after dropping a lusty calf after their own stamp, would produce five or six thousand pounds of milk in each lactation period. These old-fashioned dairy matrons are scarce to-day. Breeders kept the beef type before them. The show-ring catered to this type, and in 40 years the dual-purpose Shorthorn has largely passed. In Canada Shorthorn cattle are a beef breed second to none. Judging from the exhibits at the fairs they are the most popular beef breed. The lacteal qualities have been sacrificed to the block. True, there are in-dividuals of the breed, descendants of the old type of Shorthorns, scattered here and there through the country. They give a large flow of rich milk and yet retain a fair amount of flesh. When bred to bulls of the proper strain the offspring possess the dualpurpose characteristics.



There were several prominent and successful breeders who bred systematically and did a good deal in setting the breed type as it is known to-day. Colling Bros. and the Booth family, of England, emphasized the beef type. Easy feeding, thickemphasized the beef type. Easy feeding, thick-fleshed animals with plenty of quality and a strong constitution were sought. Amos Cruickshank, of Scotland, gradually developed a type of Shorthorn known as "Scotch," which is broad and thick of back, with a deep, compact body, carrying thick flesh of choice quality. This type is an early maturing and easy keeping sort. These breeders met with success, and established large herds which have had much to do in setting the standard of the beef type. While these breeders were perfecting a certain type Thomas Bates was breeding the same breed of cattle, but was Bates was breeding the same breed of cattle, but was selecting along slightly different lines. His aim was to develop a class of cattle having a combination of dairy and beef qualities. In this he succeeded to a large degree. His strain had a good deal of quality, were large animals and possessed great dairy capacity Thus, there are two distinct strains in the one breed of cattle. The one selected and bred for beef has reached the acme of perfection and competes favorably with animals of all other beef breeds in the show-ring. The other strain has maintained the original size, and while it may not fatten quite so easily as the other class, nor yet show the beef conformation to

other class, nor yet show the beer conformation to as high a degree, they are noted for their heavy milk yield. They are dual-purpose animals. In general conformation both strains of Shorthorns adhere to the beef type with the one tending to-ward milk production sufficiently to be known as a general-purpose animal. Cows frequently exceed 1,500 pounds in weight, and many mature bulls weigh well over the ton. is distinctive of color breed. Red, red and white, pure white, or roan are the recognized colors. Black should not occur in pure-bred animals. There is no breed that has done so much to improve this country's beef stock. Shorthorn bulls mated with grade cows have produced choice animals with superior killing qualities. Even in the highly specialized beef strain a large number of females are capable of producing a fair quantity of milk. The combination of milk and meat in the one breed has done much to make the breed popular. The demand is now arising for a heavier milking Shorthorn than the general public is acquainted with. The heaviest milkers of the breed usually trace back to the Bates' strain. Individuals of this family are scattered throughout this country and are quite common in England. It is a matter of breeding these cows to a bull whose ancestors trace back to the milking Shorthorn. If this mating can be secured it is only a matter of time until the dairy qualities will be improved. In the United States there is an American Dairy Shorthorn Association organized for the purpose of conducting tests, recording records, and stimulating an interest in the dual-purpose breed. In Canada nothing was done by the Shorthorn Breeders' Association towards improving the milking qualities of the breed previous to 1913, except offering a few special prizes at some of the leading exhibitions. This resulted in a number of worthy dual-purpose cattle being exhibited, but it was difficult to take

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On studying the history of the breeds it is found that the Shorthorn, owing to its origin and subsequent line of selection and breeding, is qualified to fill the bill to better advantage than any other. The Shorthorn is largely known in Canada as an ideal beef animal, but this type is due to selection to that end and following one strain. In England there are dairy Shorthorns. They supply the bulk of the milk consumed in the large cities. True, they of the milk consumed in the large cities. do not possess the smooth, blocky form that is seen in the Canadian show-ring, but they carry good form, a fair quantity of flesh and show every indication of being producers at the pail. This same type of animal was common in Canada 40 years ago. Many can still recall the type of Shorthorn cows, that graced our stables and pastures, with their broad



Jean Lassie. Champion of two-year-old class in R. O. P. test. Owned by S. A. Moore, Caledonia, Ont.

The demand for the dual-purpose animal can best be met from the Shorthorn breed. No radical change in methods of breeding and feeding need be made, nor yet is it necessary to introduce foreign blood. There is a strain of Shorthorns that has been cssentially dual-purpose from the time the breed originated. This strain is still distinct in England, but in Canada it has become overshadowed by the strictly beef type. Selection and careful breeding for a few years will again bring the dairy Shorthorn to the front. The origin of the Shorthorn is veiled in obscurity,

but it is assumed that the breed is descended from cattle brought over to England by the Romans and Normans and crossed on native English cattle. Later bulls were imported from Holland which exerted a marked influence on the type and conformation of the breed. The breed first became known as Shorthorn in the north-eastern part of England. The first development and improvement took place in the valley of the Tees, a portion of the country noted for its luxuriant crops. From there the breed spread over Great Britain, and in fact over a large part of the civilized world.