

### How to Build a Cheap Ice-House.

A plentiful supply of ice on the farm is now looked upon not as a luxury, as in former times, but as a necessity, for it is impossible to produce a grade of butter which will command the highest price without this indispensable adjunct to dairying. The great impetus which dairying has received of late years has caused a great increase in the number of ice houses which have been built, and also in the demand for plans for a good cheap ice-house suitable for the average farm. In answer to these enquiries, we have prepared the following, which we think will be found of service to those who are intending to build:—

#### LOCATION.

The first thing to be considered is the location, which should be as convenient to the dairy and dwelling house as circumstances will permit. Where possible it should be by itself and situated on slightly higher ground, so as to prevent all possibility of water running in from higher soil. Having selected the location, the next thing is to prepare the bottom. If the soil is sandy or of a porous nature no drainage will be necessary, but if not, care will be necessary to arrange the drainage. A good way is to lay a tile drain a foot below the surface inside, and with its outlet some distance away, to keep the bottom dry, but the tile should not open directly into the building so as to admit air.

#### NOT EXPENSIVE.

Ice can be kept in the simplest of structures. The essential conditions are, that it should be closely packed in a mass, and that there shall be no air spaces in the bottom, and that it shall be surrounded (packed in) by a good non-conducting material in sufficient quantity, that it shall have a tight roof to exclude the rain, and that sufficient ventilation be provided.

A cheap board building with the cracks battened answers about as well as a costly structure with the walls filled in. The keeping of the ice does not depend so much upon the walls of the building as upon the kind and amount of the material with which it is packed. Sawdust or dry tan bark furnish the best material, next to these will come dry chaff or cut straw. The sills of the building should rest upon the ground or upon a wall built for them, thus allowing no air to enter underneath. A foundation of at least a foot deep of the packing material, sawdust, tan bark, or cut straw, should be laid over the bottom on which to build the pile of ice, and the blocks should be cut as nearly as possible of a uniform size so as to pack closely; and it is well to go over each layer as it is put in and fill all cracks with pounded ice, so as to make the pile as nearly solid as possible. Mr. L. F. Scott, in the Country Gentleman, advises the use of snow instead of pounded ice for this purpose. When the pile is finished, or better, as it progresses, the filling between it and the sides of the building should be made and tramped down as solidly as possible, and a covering of at least two feet in depth be made over all. Ventilation should be provided for by openings in the gables, or by a ventilating shaft going up through the roof, to permit of the escape of the moist air which gathers above the ice. The door should be, for convenience, made in two sections, an upper and lower, with boards laid across on the inside of the frame, holding the packing material in place.

#### SIZE OF BUILDING.

The proper size of the building will depend upon the amount of ice that will be required. Ice will measure about forty cubic feet to the ton, and ten tons will be a liberal supply for family use. This would be equivalent to a pile 8 feet long, 8 feet wide and 6½ feet high. If we allow two feet on all sides for packing space and shrinkage, a building to hold this amount would need to be 12x12 feet with 9-foot posts. A door in the gable would be needed for putting in the top layers and taking out the ice early in the season.

As cheap and good a way for a cheap building would be to set posts in the ground three in a side, except the ends where the doors are to be, with 2x4 for plate, middle and bottom girth, and board up and down; batten and bank to exclude the air. The roof should project considerably over on all sides so as to shade the sides, and if it could be built under shade trees, so much the better.

When expense is no object, and a permanent structure is desired, a brick or stone foundation should be put in on which to lay the sills, which should be bedded in mortar. Double walls can be made by using 2x8 or 2x12 for studding and filling the space between the inside and outside boarding.

Mr. Chas. Jackson gives as his opinion that it is possible to put too much sawdust on top—6 or 7 inches is enough; you do not want 10 or 12 inches, for there is a latent heat in ice, and if too much covering is placed on top the heat will not be able to pass up through it, and it will turn back and honeycomb the ice.

No expensive structure is needed for an ice-house. The ice may be piled in one corner of the wood-shed, a partition built, and then plenty of sawdust put on, or it may be stacked on the north side of a building, first spreading a thick covering of sawdust; nail up a rough enclosure of boards; cover thoroughly with sawdust, and lay a few boards over the top in a slanting direction to keep off the rain. Care must be taken in getting at the ice to always open at the same place, and to even up thoroughly, or some hot day it may all turn to

water. The ice-house question can be summed up as follows:—Any cheap structure with good drainage and no circulation of air below; good ventilation above; proper space between ice and sides, filled with non-conducting material. The bug-bear of expense need deter no one from storing ice.

By providing a proper bottom, ice can be piled on it and a building put over it later.

### The Central Farmers' Institute.

As will be seen in another column, the annual meeting of the Central Farmers' Institute has come and gone. It behooves us to look to the past for lessons for the future. The attendance was large, nearly all the delegates having presented their credentials. The interest which was taken in the meeting was all that could be desired, if we are to judge by the resolutions which were poured in on the committee on resolutions, for they were almost as numberless as the sands of the sea. In many cases these were so hastily prepared and so little understood that they will be easily forgotten, and have no more lasting effect than if they had been written with a wand upon the sands of the sea, only to be destroyed by waves of the ocean. Though great interest was taken in the work, a lack of discipline, order and forethought was apparent throughout. Many were the expressions of disgust expressed by the members. One man rose up in his place in the meeting and declared that he would have nothing to report to his institute, but that they had done a lot of talking and had stopped there. Another delegate was heard to say that he hated to face his institute to give his report, for he had heard nothing which was worth reporting. While during the meeting a number of delegates criticized an item of expense which called for \$200 as expenses of the delegation to Ottawa, re Tariff Reform, and objected to it as being too expensive, owing to the large number of delegates, forgetting that the institute itself had authorized nine delegates to wait upon the Dominion Government. This showed that this resolution had been pushed through the meeting without proper consideration. Now, in view of the dissatisfaction expressed by the delegates themselves, we hope that no one will accuse us of hostility to the institute if we offer a few words of friendly criticism on the last meeting.

#### TOO LARGE.

In the first place, the number is too large. One-half the number of men would have done the same work in one-half the time, and with much less worthless talk. In our opinion, the most sensible motion offered was voted down. It was one brought forward by Mr. Hogarth, of Exeter, which proposed the cutting down of the representation from two to one delegate from each electoral district. We confess that we do not see why it takes just twice as many members to manage the affairs of the Central Farmers' Institute as it does those of the whole province, as seen in the Legislature. We, as farmers, are always the first to criticize expense accounts and to talk economy in public affairs, and here was a chance to show that we mean business. We do not think that sufficient care had been bestowed upon the programme. It is true that there was a general order of business, but there was no time set for any one event to come off, and as a result no person was ready, and on the first afternoon 150 men were occupied in framing resolutions to employ their time until it was time to adjourn. Of course, allowance must be made for the fact that both the president and vice-president were absent, but the secretary was there. If any one will compare the order of business of the Central Farmers' Institute with that of the Dairymen's or Creameries Conventions, or any other well-managed body, he will understand what is meant. Again, there was too much latitude allowed, which resulted in hastily prepared resolutions which neither the mover, seconder, nor any one in the audience really understood; for, as happened in one case, when the mover was called upon to explain his motion he did so by proposing something entirely different from the original motion. There certainly should be more time occupied in the preparation of a resolution which is supposed to be the opinion of the farmers of the province, expressed through the delegates at the Central Institute, than merely the time which it takes to write it upon paper, or the farmer will be made the laughing stock of the whole country, and the government instead of acceding to the demands will add their share to the laugh against them. In order to remedy this state of matters we would submit the following for the consideration of the executive: In any case, we think that our readers will all admit that the past meeting proves that a thorough reorganization is necessary to bring the Central Institute in touch with the local institutes. Delegates should understand that they are sent to Toronto to represent the voice of their institute and not to air their own views or to occupy the time of the meeting with half-hour speeches, that, as for example, in the case of the Timber Limit discussion, showed that the speaker knew absolutely nothing about the subject.

It might be made a rule that all matters to come before the Central Institute should first of all be passed upon by the local institutes, or if this was thought to be too binding, by at least one institute, and then it would be proposed as a resolution from that institute. In only one case, that of Lambton County Institute, was this rule observed.

Another plan would be to pass a law that all resolutions to come before the institute should be sent in to the executive for their consideration, to be approved or amended as they think best; and that all such resolutions should be printed on the order paper and published at least two months before the time for the Central Institute to meet. If this were done, the delegates would come prepared to vote intelligently. Either of the above schemes would, we think, tend to prevent a hastily written resolution occupying the time of 150 delegates in a heated discussion, only to be thrown out in the end because the point at issue was already embodied in some laws, the existence of which the majority of the delegates were ignorant of.

The Central Institute receives a grant of \$1,200 from the Ontario Government. The printed financial statement shows that in addition to the travelling expenses and hotel bills which are paid by the local institutes, that it cost \$1,222. And we cannot see that there are sufficient results to show for this large amount of money. We think that the \$200 already referred to would have been better employed in paying the expenses of some of the best men on the American continent to come and deliver addresses before the Institute, from which delegates could take home something which would be of benefit to the members of the local institute.

At present there appears to be no direct connection between the local institutes and the Central Institute. And for all the influence one has on the other they might as well be two separate organizations. Such a state of affairs is, we think, a great source of weakness and should be remedied. The Central Institute should be the great executive head of the institute system.

Now that Prof. Mills, who has acted as the unpaid director of institutes with such marked success for the past ten years, in his excellent paper on "The Future of the Farmers' Institutes," asks that an assistant be given to him or that it be taken entirely out of his hands, there is a chance to reorganize the Central Institute on a practical working basis, without losing the services of Dr. Mills. The Institute wisely resolved to ask for the appointment of an assistant. The assistant to be appointed should be a man of executive ability, one fitted to go out and organize sub-associations, resuscitate dead institutes, and encourage weak ones. The Central Institute should give place to a general round-up meeting, to be held at the close of the institute season, where the best speakers could be heard and the business of the Institute and communications from local institutes would be transacted with thoroughness and dispatch, somewhat on the lines of the general farmers' institute meetings held in the States of Wisconsin, Minnesota and Illinois.

### Pleuro-Pneumonia.

The following resolutions have been adopted by the Veterinary Medical Association of the United States:—

*Whereas*, The most satisfactory evidence and conclusive testimony has been presented to the first Veterinary Congress of America, assembled in Chicago, that our country is entirely free from a single case of "Contagious Pleuro-Pneumonia," and has no doubt been so for the past two years, be it

*Resolved*, That we ask of Great Britain the entire removal of the quarantine regulation applying to Contagious Pleuro-Pneumonia in the United States; and further be it

*Resolved*, That it having been clearly demonstrated by the Canadian Department of Agriculture that Contagious Pleuro-Pneumonia does not exist in Canada, it is the opinion of the Congress that the quarantine of the United States against Canadian cattle is unnecessary and should be removed, and we ask of Canada a similar consideration in regard to the freedom of trade between Canada and the United States.

"Farmer," in writing to the Deloraine Times, while recognizing the fact that there exists considerable distress in many districts, concludes his letter as follows:—

"The country is all right; it is the artificial barriers which are in a great measure responsible for the present condition of affairs, but after all these grievances can only be removed by the farmers uniting in one harmonious whole, then heigh-ho, presto, the mouldering branches will come down, and at last a brighter prospect will be ushered in."

The editor of the Breeders' Gazette doubts the reliability of tuberculin as a test for tuberculosis, and quotes from a number of authorities to support his views, and then says: "In the face of such testimony it would indeed seem, in Dr. Davison's words, 'a grave responsibility for the New York State Board of Health to adopt such an arbitrary test as tuberculin.'" So far, experiments at both Guelph and Ottawa, where the entire herds were tested with tuberculin, go to prove that this test is perfectly reliable, as in no case did tuberculin give a rise of temperature where the post mortem did not reveal the existence of this disease.