

### Depth of Plowing

**Q.** At what season of the year do you recommend farmers to plow land in the Red River Valley, and how deep would you advise such land to be plowed?

H. L. E.

**Ans.** — The soil of the Red River Valley is generally a stiff clay loam, and such soils should be plowed in the fall; the winter frosts then have time to pulverize and mellow it.

The proper depth depends on several conditions. New breaking should be as shallow as it is possible to plow, providing all the sod is turned over. This depth should be increased when backsetting and also at each fall plowing and summer fallow, until five or six inches is reached; fairly deep plowing or stiff loam helps to pulverize the soil and admits both air and rain.

M. A. C.

S. A. BEDFORD.

### Ice Stored in Cellar

EDITOR FARMER'S ADVOCATE :

The place that I store my ice in is a cellar under an old frame house that I use as a granary and I find it keeps very well, as I always have all we can use. I put it up about the first of January as it is generally about the right thickness then, about 16 inches. For several years I sawed it out, but last year several of my neighbors and myself made arrangements with the livery man in town and borrowed his ice plow and took out in one day all we wanted to store and enough rough ice for soft water to last till spring.

The way I store it is this : In the fall I clean out all the old straw and rubbish from the cellar and put a layer of poles, some crossways and some lengthways, in the bottom to give drainage, as it will soon melt if the drippings cannot get away freely. I have a chute from the outside and the ice comes down in a hurry. I start on the far side from the chute about two feet from the wall and pack it in solid about eight feet square and fill up all the cracks with pounded ice. Then I start again on the far side as before, and I put in four layers, that is, about five or six loads. Then I get a load of straw, oat straw is best, as it will pack in better than wheat straw, and get it as chaffy as possible, and tramp it in as solid as I can around the stack of ice and over the top, till I can't get another forkful in the cellar. Then I fill up the chute and cover it over with some boards and it is there ready for the summer. I take it out through the old trap door in the floor.

I would like to tell you about a scheme of Mrs. Brown's to keep the bedrooms cool during the hot spell in August. She would take candy pails and fill them with cracked ice and put on chairs near the windows or doors where the draught was coming in and the house would be nice and cool all night.

Man.

OLIVER BROWN.

### Ice Supply Easily Provided

EDITOR FARMER'S ADVOCATE :

When a boy I was raised on the banks of a stream in Eastern Ontario, where ice was in abundance and convenient for storage. My father opened up an old root house, about 12 feet square and 8 feet deep. This he cribbed up with cedar poles to prevent caving in. When the ice was about two feet thick he went on the river and sawed out blocks about two and one-half to three feet wide and as long as a team could draw with a chain. These he drew up and slid into the hole with crowbars and packed three depths of ice closely together. Then he covered it with straw to the depth of about two feet and put a

slanting board roof of two thickness above. The air circulated all through between the straw and cover. We had ice all the season for all farm purposes.

On coming to Manitoba we felt the need of ice for dairy purposes. I enlarged an old well (which had gone dry) to the size of eight feet square and about eight feet deep on the highest side. This well was on a hillside, sloping a little northward and was shaded with trees. This I boarded up with rough lumber and packed tightly with ice cut in blocks about twenty inches square, more or less, according to the thickness, and covered with the sawdust I had saved from sawing my winter's wood, about four inches deep.

I then put a double board slightly sloping roof just above ground with a trap door to get out and in and for future filling. This hole had no drain from it and only the bare earth to put the ice on in the first place, but afterward four or five inches of sawdust in the bottom. I clean it out and level the bottom each fall before it freezes, and always, but once in 15 years, I have tried to



SANDY, "BILLY" AND "LASSIE" HERDING COWS NEAR LYTTON, B. C., IN THIRD GROWTH OF ALFALFA LAST SEASON.

throw out quite a quantity of old ice which remained after my summer's use. I generally fill it three or four depths of ice and like the ice about 15 or 18 inches thick to put in.

I know of an ice house made on the same principle, seven feet square, on level ground (shaded) that gives equally good satisfaction.

My dairy is from 8 to 12 cows, and if rain water is scarce we use from the ice for soft water for washing, etc. Mrs. R. does not think she could do without the ice, even though we have a good supply of good water at hand, and also use the cream separator.

As to cost the only expense would be for lumber and 400 feet at most would be an abundance.

As to filling, two men with a good small cross-cut saw and ice tongs can cut and take out a sufficient supply in one day, and in another day saw it in blocks, draw and pack it, if they have not a long distance to go. Last year two of us sawed and hauled out enough in one day to fill two ice houses of this size; but, of course, there is a knack in being used to it. It is best to let the blocks of ice down in with a windlass of some kind to prevent their breaking.

From my boyhood experience I feel satisfied that ice could be kept as described by covering with chaff, say a foot thick if you have not the sawdust, but I have never tried it in this country. About four barrels of sawdust will do very well on seven feet square.

MANITOBA PIONEER.

### Building a Small House

What is the best way to build a small house 20 x 20 and 8 feet high? How many ply of boards would you put outside and inside to have it warm? I want a square roof. What material is advisable for foundation — cement, stone or brick? I want the wall 6 feet high. How much should such a house cost?

ALLAN SUBSCRIBER.

The details at hand are too meagre and the cost of material on the ground would go a good way toward increasing or reducing the cost of such a building; also what work or attendance the owner would be prepared to give. As to the basement I might suggest that six feet high is too low. It should be at least seven and one-half feet high and if stone can be got handy it is all right and as cheap as any. Cement is all right, too, but good gravel or sand would have to be got near by. I would also suggest putting the beams or collar ties about two feet up on the rafters, so as to allow a higher ceiling and instead of running the roof to a peak I would make a square frame about 4 or 6 feet and nail the rafters to it and have a small flat top.

In this country a house must be warm and it is a good plan to leave the foundation out far enough so that if ever you wish you can veneer it with brick. It will require two courses of lumber on the outside and one on the inside with heavy building paper, both inside and out, and stripped and lathed and plastered. I think perhaps both the material and work can be had cheaper in Saskatchewan than in Winnipeg, as there are generally small sawmills around and so you have not to contend with the combines in lumber or labor.

Below is an approximate cost, without the basement or painting or partitions :

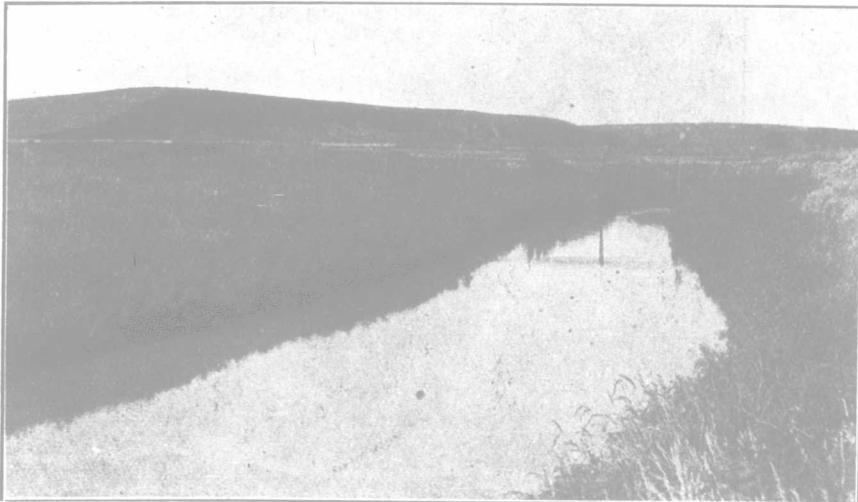
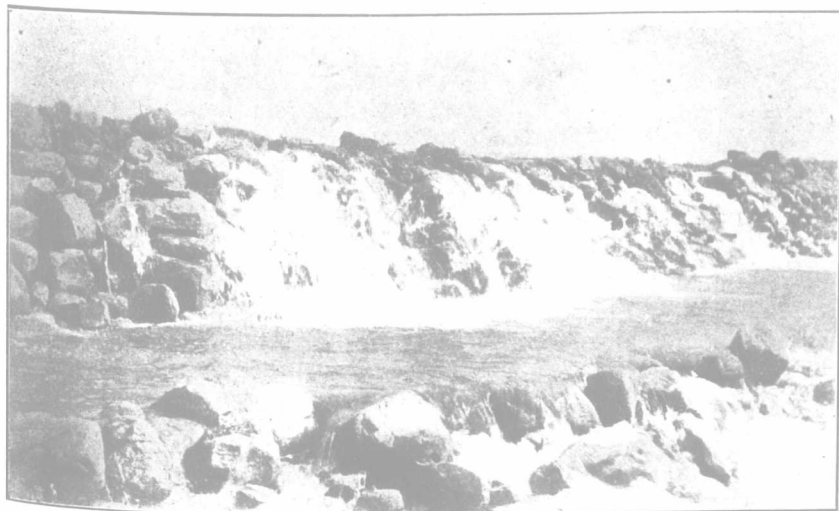
Shiplap, 3200 feet, at \$25 per M. ....	\$ 80.00
Siding, flooring and finish, lumber 1500 feet, \$40. ....	60.00
Scantling and joists, 1500 feet at \$20 per M. ....	30.00
Lath, plaster and work, 115 yds. at 35c. per yd. ....	40.00
Doors and windows. ....	15.00
Hardware. ....	10.00
Paper. ....	8.00
Carpenter Work. ....	60.00
	<b>\$303.00</b>

The cost of the foundation will depend on the material used. If stone, sand and gravel can be secured near by the cost will be small. A local contractor or mason would give close figures on that part of the work.

GEORGE KERR.

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Speaking at the Ottawa Canadian Club the other day Sydney Fisher, Minister of Agriculture, predicted that the West would ultimately produce a billion bushels of grain a year. He said that ten years ago the three western provinces raised only 23,000,000 bushels of wheat. Last year they raised 147,000,000, and there has been a proportionate increase in other grains. His estimate that there is available in the Canadian west probably about seven times as much land as was under cultivation last year, and if Canadians are able to keep up the average of production, Manitoba, Saskatchewan and Alberta will some time in future produce one billion bushels of wheat or about one and a half times the production of the United States.



IRRIGATION DAM AND 200 FEET OF FLUME NEAR BATTLE CREEK, SASK.