

dissolved bone black, Carolina rock, basic slag, bone meal, or wheat bran.

Potash was apparently almost or quite as necessary as phosphoric acid.

Barn Building.

Comfortable quarters for stock have become a prime necessity on every farm on which stock feeding or dairying is to be practised. It is also quite as necessary to get all buildings under one roof, and thus save labor and roofing. Again, in these days of diminished profits it is of vital importance that the most economical means be made use of in designing farm buildings, as in these expenditure may be overdone as easily as in any other apparently needed improvement. In many cases building is deferred until the owner feels that he can afford to build a barn as large and as handsome as some richer neighbor, and, when an improvement of this kind is contemplated, we often find that old buildings are valued at very little, although they may have served their purpose in the past. Now, inasmuch as lumber is exceedingly dear, and building timber scarce and difficult to obtain, it would be the height of folly to discard any building that is sound and in a moderate degree of preservation, and the purpose of this article is to show

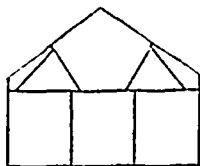


FIG 1

how readily a small barn may be enlarged and laid out to quite as good advantage as an entirely new structure.

The mode of procedure is as follows, and will be better understood by looking at the accompanying illustrations: Fig. 1 shows the end elevation of a frame 36 ft. wide, Fig. 2 the mode of reconstruction, and Fig. 3 when it is enlarged to 52 ft. wide, outside measure, which will allow a convenient width for laying out the basement, in which two rows of cattle may be tied, running lengthways, and one row of box stalls built, leaving ample room for cleaning out with a horse.

In laying out the frame there are two plans generally adopted by which the desired purpose may be attained, and whichever one is best suited to the old barn and its surroundings should be selected.

A favorite plan which is very frequently pursued in some localities in Ontario where

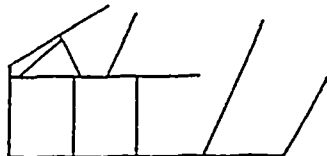


FIG 2

much building is now being done is particularly applicable when the barn is on the ground. If the barn is upon the intended site, it is raised to the desired height with screw jacks. Cribbs of cordwood form the best supports for blocking, and are built up as the barn is raised. One of these cribs is built on each side of the sill, under which a stick of timber is placed, which rests on these cribs, which must be built far enough away to allow the basement walls to be built, for the barn must rest on these supports until the walls are ready to receive it. When the barn is at the proper height take off one side of the roof, take down the purline bent, also the wall

plate, and let down the side posts, as shown in Fig. 2. Then frame another purline bent with posts of the proper length running from the centre of the long cross beams so as to catch the end of the rafters, as shown in Fig. 2. Next frame long posts to be placed on the old tennons. Then frame and place tie beams and girts, and place the old posts on these. Put up the old purline bent as before, place the plate on the top of the long

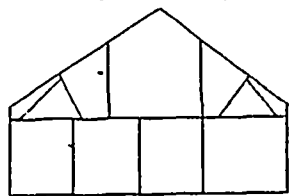


FIG 3

posts, and the old wall plate upon the old posts, and your frame is complete when the rafters are put up.

In the other plan proceed as follows: Frame two long sills the length of the barn in which gains are to be cut for joists. Then frame two long posts, as in Fig. 4, to each cross beam; let them project four feet above the peak of the old roof. Halve the first pair into the cross beam and bolt firm, next enter your girts that run lengthways of the building, and support the end of the old rafters. Then put up your next pair of posts until all are in place. Then place the plates on the top of the long posts, take a crosscut saw and cut through the cross sills and cross beams between, and your barn is cut in two and one side is ready to be moved out. When this is finished, put in your new tie beams and girts; place your rafters on the new centre addition, and the job is finished, leaving all the old siding and sheeting intact, and even the shingles, if these are sound. By this means you can spread your 36-foot barn to 66 feet if you wish, as shown in Fig. 4. If 18 feet are added to

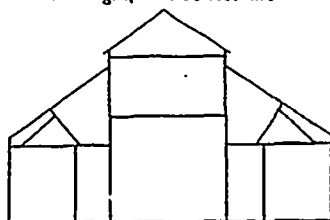


FIG 4

the centre of a 36-foot barn, as here shown, you double the capacity of the barn. If a still larger barn is required, and you have two old barns that you wish to enlarge and form into one, this can also be done, even should they be of different widths. The floors may be run either lengthways or across the barn, as is most suitable.

In our next issue we intend to show how concrete walls may be best placed under these barns, and also how the basement should be laid out; also how to build concrete floors.

Questions and Answers.

Mammoth Clover.—Subscriber, Millbrook, Ont.: Which growth of Mammoth Red clover is the best for seed, the first or second?

Ans.—If seed is to be taken from the Mammoth variety, it must be from the first cutting.

A Large Crop of Mangels.

Editor Canadian Live Stock and Farm Journal:
Sir,—A large number of farmers take your paper to learn something about farming, and would like to learn how to grow large crops of different kinds of grain, roots, and grasses. Last season I had a very good crop of improved yellow mangel-wurtzels. The land was black, sandy loam, underdrained, manured late in the fall with coarse barnyard manure, plowed

just before winter set in, harrowed down well in April, then drilled in on the flat, as I can grow larger crops that way than any other. I sowed from two to three hundred pounds of salt per acre.

The mangels got a good start, and were hoed the second time the last few days in May. The very dry summer kept them back somewhat. The latter part of October I measured one rood square (16 1/4 ft.); we pulled and topped them and took all the dirt off them, and drew them to the town weigh-scales, and the rood weighed 1,170 pounds. I would like to know if any of your readers had a much better crop.

Last year several farmers in this county had eighty bushels of oats to the acre, of the ordinary sorts, but the land was very rich.

Two years ago, one of our best farmers in the township of Plympton grew five hundred bushels of shelled corn on five acres. The land was a rich clay, well underdrained. The corn was the ordinary yellow and Dent variety. I might say that Mr. William Gammon, the gentleman who grew it, lives only three miles from Lake Huron, and in a good locality to grow corn.

ALVIN RAWLINGS.

Forest, Lambton county, March 5th, 1895.

[We are very pleased to give Mr. Rawlings' experience with mangel growing, and should be only too pleased if many others of our readers would let us hear from them as to their experience with mangels, or any other crops, or with live stock. By so doing they would greatly assist others who have not so much experience, and that is what we should all do in these times of depression and low prices. Let us hear from those who know of any methods likely to be of service to their less fortunate brethren.—Ed.]

Distribution of Samples of Grain from the Experimental Farm at Ottawa.

Editor Canadian Live Stock and Farm Journal:

Sir,—During the past eight years samples of those varieties of grain which have succeeded best on the Experimental Farms have been distributed on application in 3-lb. bags to farmers in all parts of the Dominion, free, through the mail. The object in view in this distribution has been to improve the quality and character of these important agricultural products throughout the country. This work has met with much appreciation and a considerable degree of success.

Last year I was instructed by the Honorable Minister of Agriculture to forward, as far as practicable, two samples to each applicant, but the applications received were so numerous that on this basis of distribution all the available stock had been promised by the middle of February, and all later applicants could not be supplied.

This year my instructions are to send one sample only to each applicant, with the hope that with this limitation every farmer in the Dominion who so desires may share in the benefits of this useful branch of the work of the Experimental Farms.

The distribution now in progress consists of some of the most promising sorts of oats, barley, spring wheat, peas, field corn, and potatoes. Already more than 7,000 applications have been filed. All farmers desiring to participate in this distribution should send in their applications early, and state which of the above-named samples they would prefer, and their wishes will be met as far as practicable, until the available stock is exhausted. The grain can be sent early, but the potatoes will not be distributed until the danger of being injured in transit by frost is over. Letters addressed to the Central Experimental Farm may be sent free of postage.

WM. SAUNDERS,

Ottawa.

Director Experimental Farms.

Orchard and Garden.

A Much Needed Measure.

Hon. John Dryden, Minister of Agriculture for Ontario, has introduced a bill into the House for the prevention of fraud in the sale of fruit. The bill provides for the classing of apples and pears into two grades, and the marking of the grade upon the packages. A penalty is provided for selling fruit without a mark and for forging a mark, and also for dishonest packing. All persons receiving fruit of any kind for sale in bulk on commission are required to send to the consignor, within a week after the sale, written notice of the prices received, and a penalty is provided for should this be neglected.

California Oranges.

The disastrous cold wave which reached Florida last December, and destroyed the greater part of the orange crop, did also great damage to the trees, and it is estimated that it will be four or five years before Florida growers recover from the blow, and stand where they were before as regards their orchards.

The absence of Florida oranges has caused attention to be centred on the crop in California, and large deals in this have been already reported.

The California orange crop is a very good one this year, and it is estimated that 6,500 cars will be required to move it away. Prices are firm, and advancing, and the growers of Riverside, San Bernardino, Orange, and Los Angeles counties, which comprise the orange-growing district of California, will reap great benefit from the calamity that has overtaken their fellow growers in Florida.

Increasing Difficulties of Fruit Raising.

Without any doubt, the difficulties attending fruit raising are increasing. The time was, and not very long ago, when leaf blight had not yet made its appearance in our country. The yellows had not yet affected the peach tree. The codling moth had not yet done much harm. And very many of the pests that now harass and perplex the orchardist were unknown. Some of those diseases now prevail to such an extent as to render fruit raising in some of its lines hazardous, if not positively unprofitable. To so great an extent has leaf blight prevailed that in some instances apple orchards which should be coming into bearing are being torn out, and the lands on which they grew are being devoted to other uses.

Under these conditions what is to be done? Is the orchardist to be driven off his ground? Will fruit growing have to be given up? Never, in a country such as ours. The soil is too well adapted to fruit raising. The climate is far too congenial to the industry for us to think thus for a moment. Our country will more and more want fruit as it grows older, and as its population increases. And, as the population of the provinces of the Dominion other than Ontario increase in population, the demand for Ontario fruits will also increase, for many of these provinces cannot grow the more tender fruits as Ontario can. The demand for fruits, too, in the prepared form will also increase. There will always be wisdom, therefore, in many of our farmers turning their attention to fruit growing.

But what about the insect enemies that must be fought and vanquished if we are to succeed? Why, fight them and conquer. Deal death to the various fungous diseases that are doing so much harm. This may mean that much labor will have to be expended and constant vigilance exercised in order to succeed. But in all departments of life the price of success is seldom much less, if it is to be a marked success. Had those pests prevailed to such an extent years ago as they do now, the industry would have completely failed; it would have been wiped out of existence. What saved it? Why, the discoveries of science saved it; that is to say, it furnished the means of saving the industry.

But it should be remembered that the means that enable us to do a thing are one matter, and the turning of these means into use is quite another thing. Hence, if the teachings of science and its discoveries are to be made to