

BUILDING A ROOT-HOUSE.

I would be pleased if you could give, in the "Farmer's Advocate," some practical instruction in the building of an up-to-date root-house. Quebec.

GUS. LANGELIER.

Ans.—In building a root-house the plans to some extent should depend upon the climate of the locality and the amount of exposure to which the building will be subjected. There are, however, four essential points to be aimed at. They are cheapness, convenience, ventilation, and a temperature above 32 degrees Fahr.

As a rule, most stock-barns now being constructed have a convenient portion of the basement set apart for roots. In this case no extra precautions are necessary to keep out frost, as the animal heat is usually quite sufficient to balance the cold from without. Where a storehouse of only limited capacity is required, an arch of brick, stone or cement, the latter preferable, may be built under the driveway. Either of these plans afford ease in unloading, as the wagons can be driven overhead and their contents quickly moved to the space below. A plan of a cement arch for this purpose appeared in the May 1st "Farmer's Advocate." For a root-house which is to be erected separate from other buildings, there is no better material for walls than concrete. While this substance of itself will not keep out frost, it makes a durable wall; and if strips of lumber two inches thick be placed vertically against the sides at frequent intervals, and on them inch boards be nailed, horizontally, or in severe climates two ply, with tar-paper between, no roots are likely to be frozen. For the ceiling, the size and strength of the joists will depend upon whether or not a great weight is to be carried. They should be laid with the ends imbedded in the cement, and the top boarded in a manner similar to the walls. Over this should be placed about one foot deep of dry sawdust or other insulating material. For ventilation sufficient to keep the roots from heating after being stored, a satisfactory method is to have posts 6 inches square extending from floor to ceiling, placed 12 feet apart throughout the storehouse. On each corner of these posts inch strips are nailed, and over them other pieces horizontally, leaving a space of from two to three inches between each. Up the channel thus provided any gas which may be generated among the roots has an opportunity to escape to the ceiling, from a central point of which a flue should lead to the outside of building. For a floor, the earth, if well drained, is all that is necessary; otherwise, cement may be used, as for ordinary stable flooring. All necessary doors and windows should be double, and if convenient, be placed on the side least exposed to frosty winds.

BUILDING SMALL DAIRY.

Please describe in the next issue of "Farmer's Advocate" the best material and method of building a small dairy, size 10 x 12 feet, so that cold-air ventilation may be had in summer and the frost kept out in winter.

Middlesex Co. "CONSTANT READER."

Ans.—For the walls of such a building, two thicknesses of brick, with a hollow between and plastered on the inside, might be used. A very satisfactory wall, and one which would doubtless cost less than the brick, would be cement about eight inches thick for the outside, and on the inside one tier of tongued-and-grooved spruce lumber, laid on scantling two inches thick, to which building paper had first been applied. The two-inch air space between the cement and the boards would prevent the frost from entering. Spruce should be used instead of pine lumber, as the latter is apt to transmit an objectionable flavor to the dairy products. The floor should be by all means built of cement, in the same manner as for stables, only it need not be quite so thick. Care should be taken to secure a smooth, hard surface to the floor, which should have a fall to one point, so that waste water used in washing, etc., can be carried away through pipes into drain. For the ceiling the joists should be laid in the cement or brick wall, and on the bottom lathed and plastered, and on the upper side a layer of building paper or asbestos laid and then boarded closely with perfectly dry jointed lumber. If necessary, dry sawdust six inches deep might be laid, but would probably not be necessary. The doors and windows required should be double, and as far as possible placed on the side least exposed to the sun. In ventilation, we know of no better method than that outlined in these columns for ventilating a farm stable. The pipes need not be large for a building this size, and in winter the inlet may be closed, and, if desirable, the outlet also most of the time. The temperature in summer could be reduced a few degrees by having the cowl attached to a sub-earth duct, as used in ventilating curing-rooms in cheese factories, but the cost to such a small dairy would probably not be justifiable. The roof may be of either shingles, tile or iron, the cheapest being perhaps the most economical; and if both roof and walls be pointed or in some way colored white, a lower inside temperature may be encouraged in summer.

HOG PASTURE—PREPARATION FOR ROOTS.

1. I have a piece of dry, gravelly sod which I would like to re-seed next spring with something suitable for hog pasture. What would you recommend, giving cultivation of soil, date of seeding, and area required for ten hogs?

2. I have also a piece of clay loam at present in grass, and would like to prepare it for mangel's and sugar beets for stock-feeding. Explain how to prepare for spring seeding? Could I grow on such soil any better roots for stock than those mentioned?

Ans.—1. On gravelly soil, nothing will give better results as a hog-pasture than alfalfa clover. If you have any manure on hand, apply it to this land and plow as soon as possible; then roll to pack the sod and harrow to form a mulch on the surface and conserve the moisture to rot the sod. After a time the cultivator may be applied occasionally to destroy weeds or kill any grass which may appear. The following spring begin cultivation to prepare a mellow seed-bed as soon as the soil is dry, and sow of this clover 14 lbs. seed per acre, preferably alone. If a nurse crop is to be grown, it should be sown thinly, to give the alfalfa a chance. Little returns can be expected from this crop the first year, but if a good stand be secured and portable fences be used so as to allow one part to grow while the other is being grazed, half an acre should provide abundant pasture for ten hogs for three or four years.

2. The clay-loam sod should also be plowed at once and cultivated as indicated in previous question. If sufficient manure is not on hand to give the field a good coating, it may be applied during winter and worked into the surface layers early in spring. Have the soil mellow and sow when danger of frost is over. Mangels and sugar beets are probably not excelled by other roots as food for hogs and dairy cattle. Turnips, perhaps, give better results with fattening cattle and some sheep.

ENGLISH PLANTAIN.

I am sending you a plant or weed which I found in my clover field, but I can't find anyone who can name it. I have never seen anything like it, in same field until this summer. Kindly let me know the name and nature of it, as I was thinking of cutting the clover for seed, or would you consider it unsafe? CHAS. HANCOCK. Durham Co.

Ans.—The weed is English plantain or rib grass (*Plantago lanceolata*). Although not generally regarded as a very bad weed, its presence in any quantity is quite objectionable. In uncultivated fields the roots live over from year to year. The seeds when ripe are 1-12 inch long, brown and shiny, with a groove on one side, in the center of which is a black spot. The opposite side, as well as the ends, are rounded. In clover fields intended for seed a reasonable number of plants might easily be pulled or cut near the crown and removed. Where the number is too great for this, it would be unwise to leave the crop for seed. For method of eradication see answer to "Rib Grass" elsewhere in this department.

SEDGE—YARROW—EVERLASTING

I send you a specimen of weeds for identification. No. 1 is a kind of grass quite common on some farms in this neighborhood. It evidently comes with timothy or clover seed. It is seldom seen in first year's cutting, but the two years in pasture it grows rapidly. No kind of stock eat it. It appears first in bunches, but ultimately swards over, especially in damp loamy soil. No. 2 is abundant on roadsides, along fences, in orchards, and places not cultivated. In some places it vies with ragweed and golden-rod for supremacy. It may also be seen at this season in many fields, by the pure white flower. I think it spreads by the roots. No. 3 looks not unlike No. 2 at a distance, although the flower is not so pure white, nor the leaves so fine. It is not so common as No. 2, but seems as persistent to maintain its ground where it gets a hold as any other weed. I do not recognize any of them among the hundred weeds common to this part of the Province given in Agriculture by C. C. James, M. A. Middlesex Co. A. A. BRODIE.

Ans.—Specimen No. 1 is a species of sedge, closely allied to the lower forms of grasses. Being such, it thrives best in damp soil, and since this has been a wet season the plant has doubtless made a greater headway on well-drained soil than ordinarily. The seed is so extremely small that it may be easily separated from grass or clover seed, and hence should not be found in well-cleaned samples.

No. 2 is yarrow (*Achillea millefolium*). This weed is a perennial, growing up from the root year by year. It never gives trouble in cultivated fields.

No. 3 is common everlasting (*Gnaphalium polycephalum*). This, also, is a perennial, a fact which accounts to some extent for its persistence in grass fields and out-of-the-way places.

FARM GOSSIP.

Every reader is invited to write something for this department that other farmers ought to know. Do it while you think of it. Put it on a post card if you haven't time to put it in a letter.

Nothing Like It.

Gentleman,—I believe the "Farmer's Advocate" is way ahead—the best farmer's paper published in America—and I have large opportunities of comparing it with other publications of its class, both American and Canadian; and as a Canadian I am proud of Canada's great publication in the agricultural interest, viz., the "Farmer's Advocate." A. E. BRASHER, P.M. Elgin Co., Ont.

Dr. Saunders' Western Crop Review.

Dr. Wm. Saunders, Director of the Experimental Farms, has returned from his annual tour of investigation in the West. During his absence he has inspected and arranged the work of the Western Experimental Farms and made many inquiries as to the general condition of agriculture in the western parts of the Dominion.

EXPERIMENTAL FARM, BRANDON.

The crops on the Experimental Farm at Brandon are very good. The yields of wheat and other cereals will be considerably above the average. Peas, Indian corn, roots and potatoes also promise excellent returns. The hay crop had also been good, and had given from 2 to 2½ tons per acre.

CROPS IN THE PROVINCE OF MANITOBA.

Dr. Saunders thinks that the Manitoba crop, two-thirds of which had been cut when he left, will average a little higher than last year. In general appearance the fields are much the same as then, but the heads are better filled, being plump with kernels from base to tip. In the large number of fields examined, the condition in this respect was uniform. From what ascertained, the condition is learned in reference to this crop, he is of opinion that the average will be about 27 bushels per acre, and with good weather for curing and threshing, a very large proportion of the wheat will grade No. 1 hard. The crops of oats and barley are very promising, although some fields of oats will be late in ripening. The crops of these cereals will probably average about the same as last year.

EXPERIMENTAL FARM, INDIAN HEAD, N.-W. T.

The crops on the Indian Head farm are wonderfully heavy. It is expected that the wheat will average fully 40 bushels to the acre; barley from 50 to 60 bushels; and oats from 80 to 100 bushels or more. Most of the grain on this farm was cut, but cutting in the Territories generally is not very far advanced. The wheat throughout the Territories on summer-fallow land is remarkably even and heavy, and will probably average about 35 bushels; but the crops on stubble land are much lighter and will probably range between 20 and 25 bushels per acre. A large part of the crops is in summer-fallow, and the proportion in fallow is increasing from year to year. The demonstrations which have been annually made on the experimental farms in the Northwest during the past fifteen years, of the great advantage arising from the summer-fallowing of land, have induced farmers generally to adopt this profitable method of treatment of the soil. The average of the wheat crop in the Territories will, it is believed, be higher than in Manitoba. Dr. Saunders met the visiting editors from Great Britain, at Indian Head, and travelled with them through portions of this part of the country, where they were much impressed by the magnificent crops everywhere seen. Besides examining the crops on the main line, Dr. Saunders made journeys north as far as 160 miles, and south to several points varying from 50 to 110 miles.

SETTLERS POURING IN.

The settlement of the unoccupied lands within 20 to 25 miles on either side of the railways is going on rapidly, and many visitors were met going from point to point on railways and in vehicles inspecting and purchasing lands. A number of these were from Eastern Canada, but the larger proportion came from the United States. Among these latter land-seekers were farmers from Michigan, North and South Dakota, Iowa, Nebraska, Missouri, and other States. Along the line of railway to Prince Albert, the sales of land have been very extensive. One company of United States capitalists bought, in April last, 1,100,000 acres, and have since sold 600,000 acres at advanced prices. Another company, organized at St. Louis, Missouri, has recently bought 200,000 acres in that section of the Territories, and other large purchases have been made in other localities by farmers and by individual and associated capitalists. The number of entries for homesteads made in the Dominion land offices throughout the Territories has been very much larger than in any previous year, and the number of desirable homesteads available for settlers within convenient reach of the railways has been greatly reduced. There has been a considerable advance in the price of land throughout the Northwest country, and with these advances the demand for land seems to have much increased.

EXPERIMENTAL FARM, AGASSIZ, B. C.

At the Agassiz Farm the crops are also good. The hay had been very heavy and was well saved, and at the time of the Director's visit the grain was being rapidly harvested. The apple crop was scarcely an average one, but that of plums was good. Plum rot, however, prevailed to a considerable extent, which would lessen the proportion of marketable fruit and interfere with its keeping properties. The crops in the orchards on the sides of the mountain were suffering much less from this trouble. Small fruits had yielded abundantly, and the crops in the nut orchard were good, especially the Japanese and English walnuts, and the Spanish and Japanese chestnuts.

GENERAL CROPS IN BRITISH COLUMBIA.

The crops generally in the coast climate of British Columbia were good. The hay crop was particularly heavy. Oats also promised abundant returns. In the interior country, especially in the Okanagan valley, the fruit crop was a heavy one and was in excellent condition, while grain also had yielded well. The results of the harvest generally will be highly satisfactory, and prove a great stimulus to business in all parts of the Dominion.

Western Ontario Good Roads Association.

At a meeting in Toronto, on Sept. 9th, called at the instance of the Council of Ontario County, Mr. George Gerrow, warden of Ontario, was chosen president, and Lieut. Col. Farewell, of Whitby, was chosen secretary. A resolution was adopted forming the Western Ontario Good Roads Association, and a committee composed of Warden Shantz, Waterloo; Warden Cook, Halton; Warden Quinlan, Simcoe; Nelson Monteith, ex-M.P.P., Stratford; and Peter Christie, Manchester; C. C. Kendrick, Ancaster, and Lieut. Col. Farewell, were appointed to draft a constitution.

Subsequently a constitution was adopted, by which the membership is to consist of members of municipal councils and delegates appointed by them, not exceeding two. The Association may elect such other persons as it sees fit to membership. Mr. Gerrow was elected president; the wardens of the various counties in the territory covered, vice-presidents, and Col. Farewell secretary-treasurer.

Addresses were delivered by Messrs. A. W. Campbell, Deputy Commissioner of Public Works; Nelson Monteith, ex-M.P.P.; H. B. Cowan, Ottawa, secretary of the Eastern Ontario Good Roads Association; Warden Griffiths, Welland; County Councillor Graham, Lindsay; Warden Quinlan, Simcoe; Major Bruce, Barrie, and Warden Austin, of Victoria.

A Legislation Committee, to consist of representatives of ten counties, was provided for, to consider necessary legislation, the Executive to take steps to bring such proposals to the attention of the Government. The second Tuesday of the Exhibition was selected as the day for the annual meeting.