

NEW BRUNSWICK AS A FARMING COUNTRY.

The Colonial Farmer. Frederickton N.B. in discussing the question of the locality of the Provincial Exhibition, speaks in this wise of parts of districts of the province:

There are but few finer farming districts in the Province, or even in the Dominion, than the whole region around Woodstock. Choice breeds of cattle and sheep have been introduced from time to time, which must have left their impress upon the present stock, and their owners would have an excellent chance to compare notes. The residence of New Kincardineshire and Hellerup could talk to strangers of their rise and progress, and not a few visitors would take away with them a fuller appreciation of the abounding natural resources of our provincial North-West.

Adieu and bye when the Intercolonial road is completed. Chatham may expect its turn. With a railroad will commence an active development of the great resources of Northumberland. The traveller through the northern Counties is struck with the regular and even ploughing for which the farmers there are famous, and the Napian district has already gained for itself encomiums in this and other respects, and when the time comes for the Board of Agriculture to gather together the various industrial resources of the North Shore people by the banks of the Miramichi, there will be much to admire and a more willing appreciation according to a portion of New Brunswick that has thus far labored under many disadvantages.

AGRICULTURE IN GREAT BRITAIN.

From an address before the Rural Club of New York. By John R. Dodge.

England, Scotland and Wales, known to gather has Great Britain, a manufacturing and commercial country, in which but six per cent. of the population are actually employed in agriculture, furnish an example of the cleanest culture, the most rational processes, the most extensive use of money in permanent improvements and in fertilization, and the highest rate of production known to the industry of Europe and of the world. The total area of Great Britain is 56,964,260 acres, of which England comprised 32,590,397—the whole scarcely equal to the area of two of the Western States of average size. The population to be supported, 26 millions, is one in rather more than two acres; in England one to 1½ acres are yet little more than half of the total area, 31,000,000 acres is under cultivation, nearly 24,000,000 of which is in England proper. A key to agricultural prosperity is found in the fact that not exceeding one-third of the occupied area is allotted to exhaustive crops as the cereals, while two thirds are given to restorative crops, as roots, clover and grasses in rotation, and permanent pasture. The proportions last season were, for the whole country, 30.9 per cent in grain crops, 11.6 in green crops, 14.5 in clover and grasses, and 40.6 in permanent pasture.

The production of meats is the first object of British agriculture; the growing of wheat is the consideration of next importance. Both cattle and sheep are well known to excel all others in meat production, attaining greater weight in a given time than continental animals. The official average of net weight of course of British cattle of all ages is 600 pounds; of cattle imported, 500 pounds; of British sheep and lamb, 60 pounds; of imported, 50 pounds. The present tendency is to the increase of live stock, and the diminution of the live grain area. There has been a decrease, since 1850, in the breadth of wheat, oats, peas, and beans, and an increase of barley, roots, clover and permanent pasture, the reduction in "white crops," which now average, 7,500,000 acres, exceeds 1,250,000 acres; wheat now occupying a little more than 3,000,000, or about one-sixth of our wheat area, although the product sometimes exceeds one-third of ours. The decrease has been about ten per cent. in twenty years, not in product but in acreage, the yield having increased 1½ bushels, and five bushels in 100 years, being now 28 bushels, the largest national average. The supremacy of turnips has therefore not weakened in the least, and the importance of sheep which suffered some decline during the area of low prices for wool in 1867, is now steadily advancing. There are now about 28,000,000 sheep to 30,000,000 acres of productive area. It was recently assumed, on good grounds, that one-fourth of the cattle were annually sold at the rate of £16

each in England, £14 in Scotland, and £10 in Ireland; that one-third of the English sheep and one-fourth of the Scottish are annually sold at about 35s. each. The tendency has since been to still higher prices. Not only is the proportion of stock large, both to area and population, but the extra size of animals and extra feeding contribute both quantity and quality to home resources of fertilization, and afford a valid reason for enlarged production.

DRAINING.

One of the most serious drawbacks under which our agriculture labors is the insufficient capital employed in it. No other industry is carried on in such a hand-to-mouth manner as is our farming. It is very much as though the present commerce of the country were carried on upon rafts, or the old-fashioned galleys propelled with oars, instead of the modern clipper or the costly steamer of huge proportions; or by means of the ancient caravan instead of the modern railroads. Such a system is not conducted to profit in these days, and our farming is confessedly not so profitable as the other industries. Our plan is not yet that of producing the greatest effect from the least expenditure of material, but, on the contrary, it is that of making up by quantity what we lack of quality. Our average yields of crops are very low; we therefore cultivate more ground. The consequence is we expend twice or three times the labor that is really needed to produce the required result. This unfortunate system has covered the Southern States with abandoned "old fields," for there has been pursued to a greater extent than to the north and west, but even here its effects are seen in fields half covered with crops which struggle for existence against much adversity.

But the misfortune of the affair is that we cannot remedy this evil without commencing at the very bottom, and that our farmers are very loth to do. They cannot be made to see that a field of ten acres should and may bear a crop equal to that now grown upon twenty acres by the expenditure of an increased amount of labor at the first, or in other words, by the investment of more capital. It is difficult to convince them that by expending twenty days' labor upon a piece of ground, in draining for instance, an annual saving of ten days' labor is gained, not upon this particular piece, but upon another piece which need not then be cultivated because the drained piece is increased in producing capability fifty per cent. That one drained acre will produce as much as one and a half or two, or perhaps three acres undrained. But it is a well-known fact, it has been exemplified thousands of times without one single failure, and if we can by this effort induce any of our readers to try for himself the result of an experiment upon one single acre, we are assured that he will repeat the process to the utmost of his means.

There are some lands so admirably under drained by natural that artificial methods are not needed. But the great majority of lands absolutely require this improvement for the complete development of their fertility; and as to the rest, it is doubtful if the greater part would not be improved by it to a sufficient extent to make the outlay needed a judicious one. But to indicate those lands which absolutely need drainage, we may mention the following kinds:—All clay lands of whatever character; all lands with clay subsoil; all lands with compact gravel beneath them, and generally, all upon the surface of which water will remain for twenty-four hours. It is very evident that their rare few lands that are not included in this category.

The purpose of drainage is to remove the water held in suspension in the soil, not the moisture but the superfluous water. The means whereby this is done is to dig ditches of such a depth and at such a distance apart that this objectionable water may rapidly find its way into them. The effect of the operation is to lower the surface of saturation—called by civil engineers the water table—to such a point that the roots of plants are not brought into contact with the stagnant water, and their growth thereby arrested. The disappearance of the water from the stratum of soil above the drains leaves innumerable vacancies and interstices which are instantly occupied by the atmosphere, which not only carries warmth with it, but the great fertilizing agent, chemical reducing agent, and the great fertilizing agents, nitrogen and carbonic acid, the first

of which renders particles of the solid subsoil, and prepares and fits them for plant food, while the latter directly furnish the most important elements thereof. While stagnant water is present in the soil these absolutely necessary agents of plant nutrition are forbidden to enter, nor could they enter into it, would they be otherwise than inert and inactive. This aeration of the soil is the most important and effective aid to agriculture. Among other effects that of the consequent hastening of the growing season in spring is not to be overlooked. The departure of the frost from the ground leaves it in a sodden condition, in heavy farm operations are impossible, and many weary days of waiting and watching are spent by the farmer before he can put in his plough or his seed. Then in many cases favourable opportunities of preparing the ground and sowing and planting are lost, and the summer season is shortened by several days. Then, too, the tender germs of the sown seed, if indeed the seed ever sprout, is destroyed by the ungenial cold and wet, drowned in fact, and replanting is made necessary. The ill effects of late planting we need not enumerate, but they are all felt in these cases to their fullest extent.

In addition to this, the season is also equally shortened at the other end, and the growth of fall farm crops is arrested by the early saturation of the soil by the fall rains. In this condition of weakness and suspended animation the frosts arrive and the young plants are "heated" out of the soil and cast wrecked and ruined upon the surface. Thus both spring and fall are shortened, and the season in which growth may occur and work is done is curtailed at both the beginning and the ending. The effect of draining is to obviate all this and render it impossible. The promise of seed time and harvest is only fulfilled to the letter to the farmer whose land is drained, all others enjoy it but with limitations. The seasons may come round, but it is only when he is fully able to seize upon their opportunities that the farmer can read all their promises. There has been enough pointed out in this article to enforce the need and the advantage of draining, and on a further occasion we propose to enter upon the methods and cost of doing it.—*N. Y. Times.*

ENGLISH PRIZE FARMING.

It is not from English farmers who merely rent their farms that we hear the complaint that their business is not profitable, but from the owners of American farms; yet these English farmers each every year pay large sums for rent, and still larger sums for permanent improvements upon the land, from which they derive but a temporary benefit. At the same time we own our lands, and in our estimate of profit the interest on their cost rarely enters into the calculation as a charge upon the receipts; yet the complaint is general that our farming does not pay. Possibly there may be something in our want of good management, and a comparison with the methods followed by English farmers who have been competitors for the prize of \$500 offered by the English Royal Agricultural Society, might help to point out the weak spot. The farm which was awarded the prize was one occupied by Mr. W. G. Walgate, of 400 acres, of which 120 are in grass. His rotation is one of five years, viz: turnips or other roots, grass grain (wheat oats or barley), clover, wheat and oats, or peas and beans. The stock consists of 160 heavy long-wool sheep, or as many more as may be needed to consume the roots; a large number of pigs, many of which are purchased for fattening, and not reared upon the farm; 40 bullocks for fattening, and 12 horses. The labor costs \$8 per acre. All the manure made goes to the root crops, with 600 pounds of bone dust and 400 pounds of superphosphate per acre in addition. The consumption of oil cake and other purchased feed is immense; the bullocks eating 6 pounds a day while grazing, with 7 pounds of meal per day added when finally fed on turnips; the manure is therefore very rich. The wheat is sown in drills 9 inches apart, and 8 to 10 pecks per acre is sown. This crop is horse-hoed, also hand-weeded. The clover fields are sown with 14 pounds of white and 7 pounds of red clover seed per acre, with a little Ridgegrass (Narrow-leaved Plantain) mixed. This farm is said to have been evidently under profitable management, and on no other farm was there such an excellent lot of stock in the fields. Mr. Walgate has been a tenant of his farm for 25 years, and had built the greater por-

tion of the farm buildings himself. One of the other farms was admired for its neatness both around the farm steading and the fields. The report says a more charming garden, tidier fields, better roads, and more perfect fences were never seen. The other of the three farms competing was managed in a similar manner to the prize farm, but the special object of admiration was a magnificent wheat field.

Now in comparing the condition and management of these farms with that of the general run of our farms, there are a few leading points of difference. They are the root culture, liberal feeding of cattle and production of rich manure, clean cultivation of even the wheat crop. Heavy manuring at the commencement of the rotation with two hoed crops in succession, beans (which takes place of our corn) and turnips, and a clover crop between two grain crops. An abundance of labor is rendered necessary by this system of management. It is not necessary to point wherein we fall short in any respect; it speaks for itself. There is nothing here impossible of achievement by any American farmer.—*American Agriculturist.*

THE THEORY OF FARMING.

I am well aware that farmers, as a class are opposed to theories, for the reason that many theories cannot be practised by a large majority of them.

The theory that I have is an old one, and also one that can be practised by every farmer, poor as well as rich.

I will divide it into two heads; First—raising grain.

For corn, manure a sod early in the spring, plow just before planting, and the cut worm will work on the sod instead of the corn. Never pasture corn ground or the cut worms will work on the corn.

Plant no more corn than you can work well, or you will lose in the end.

The corn should be followed by oats, and by wheat. Top dress with well rotted manure for wheat, and the next spring seed down to clover and timothy. By following this we will be sure of good crops and the land will be getting richer.

Second.—In regard to raising stock, keep no more than you can keep right, and keep the very best stock. Many farmers patronize the cheapest stallion whether he is the best or not, and the same way with other stock. This is certainly wrong. It just costs as much to keep poor stock as good stock, and good can be sold at any time and always at an advantage, while poor stock is hard to sell and is generally disposed of at a loss. Never pasture. I know farmers that have always pastured, will be hard to convince that it is not the true way of farming.

They argue that stock does better and are less trouble. It has been proved that stock does just as well, if not better to be kept up the year round. I admit it is less trouble to pasture, but without trouble and hard work, and good management, we can never enrich our farms and become successful farmers. Stock can be kept on a great deal less when kept up. But the great point is manure. Those that have never tried soiling, have but a faint idea of the amount of manure that can be made by keeping stock up; and with manure we can always have good crops and good crops only, pay.—*Cor. Farm Journal.*

CHANGING SOILS PERMANENTLY.

Every farmer and gardener knows that manure does not last a great many years in the soil, and that he has to manure again; and that a farm or garden in fine condition, if not fed with fertilizers, will run out after a while. But I have tried one way of improving the soil that is permanent, and the improvement, I calculate, will last a hundred years at least. My soil is heavy, too heavy for gardening, and I have made it lighter by drawing on sand in winter, from a knoll composed mostly of sand. When the horses and hired man had little else to do, I had them hitched to the sled, and covered a part of my garden with a stratum of sand two or three inches thick. In a year or two, when it became well mixed through the soil, I should like you to have seen the crops that grew there! I measured a crop of carrots at the rate of 1200 bushels per acre. This was nearly twenty years ago, and is now the best part of the garden. It don't exhaust. The sand stays there—it cannot evaporate. It would be too much to draw sand for a farm, yet I think it will pay well on some particular spots for root crops. If the sand is handy two men and a team will cover ten square rods in a day, costing say sixty dollars per acre, and well worth it on a small scale. Have not some of your readers sand knolls that they could get at for winter drawing?—*B. X. in Cultivator.*