

Agriculture.

NEW EXHIBITION BUILDING.

A large number of men commenced work on the New Exhibition Building on Monday. We have seen the pencil drawings of the Building and think it will be quite as suitable for the purpose intended as the old one; it is roomy and showy and will have a fine appearance. When the plans are completed we will give a more detailed description of them.

The committee in charge of the work is Alexander Thompson, Esq., Henry Chestnut, Esq., and A. Edgecombe, Esq., with John H. Reid, Esq., as Superintendent. The well-known energy of these gentlemen is a guarantee that the work will be pushed on with vigor.

We have received quite a cheering letter from the President of the Kindergarten Agricultural Society—one of the new settlers—in which he says the yearlings from the imported bull show great improvement. He looks forward with pleasure to being present at the Exhibition. We take the liberty of quoting the following from his letter, and wish others would follow his example in turnip growing: "I have got in a pretty large crop although not quite done yet, as I have been clearing some new land, and the season not very favorable for burning has kept me back, but another two days will see all done, except the Turnips, which I will not commence to put in before the last of June and the first of July, which is the best time in this district of New Brunswick. This year I will be able to put in a good breadth of this crop, as my manure pile has grown larger every year, and likewise increased in strength, and will do so with every farmer who raises plenty of turnips and not be like the farmers of St. Croix, seek a foreign market for what they raise over two or four thousand bushels. If I could raise eight or ten thousand bushels every year I would find a market for them on my own farm. I do not believe in selling turnips off the farm."

BOW PARK HERD, ONTARIO.

We have received the catalogue of this fine herd of cattle, which number between three and four hundred animals, many of them as fine animals as can be got in any country. Our readers will recollect that it was from this herd that a large number of the animals imported in 1875, were purchased. The following notice we take from the North British Agriculturist, which is high authority on all such matters:—

"We have received the sixth annual catalogue of this now famous collection of short-horns, sheep, Clydesdale horses, and Berkshire pigs. The style in which the volume is got up is most interesting, being the result of immense labor. After every animal there is an analyzed pedigree of the sires for half a dozen generations back. When we mention that their sires are 20 cows and heifers, and 74 bulls, some estimate of the work necessary to compile such a number of records may be gained by those who are acquainted with the intricacies of pedigree. The herd has been more than once described in these columns, and it is unnecessary to make any remarks upon the general merit of the cattle, save to say that there is a wonderful uniformity of color amongst the animals. There are only ten whites among the whole 354, the remainder being reds and roans. Representatives of both Bates and Booth blood are to be found, and many of the animals have a combination of both strains. Among the Bates females are 3 Oxford, 9 Lady Harringtons, 5 Wild Eyes, 8 Kirklingtons, 5 Duned Yancys, 9 Rosses of Sharon, 5 Acombs, 8 Waterloos, 8 Roan Duchesses, 5 Crags, 12 Princesses, 5 Lady Fawleys, 9 Knightley Grand Duchesses, and many others representing less valuable strains of blood.

The 4th Duke of Clarence stands at the head of this immense herd, assisted by Grand Duke of Thorsdale 2nd, Duke of Oxford 20th, and Duke of Oxford 38th. The 4th Duke was bred by Col. Gunter, and is one of the purest of Duchess bulls, while we are informed that he is a splendid getter. The Grand Duke of Thorsdale 2nd is also a Duchess bull, being from the splendid cow Grand Duchess 20th, a daughter of the 4th Duke of Thorsdale. Her grandaunt, however, was Prince Imperial, a bull full of the best Warley blood, being from Bridecake, one of Mr. Booth's Blis tribe, and got by Grand Duke 2nd, a pure Duchess bull. The Oxford bulls are from the Duke of Devonshire's far-famed herd at Auster.

On the Booth side of the house we also find a large number of good animals, as, for instance, 2 Mantalins, 3 Fames; 1 Frill, 5 Paulines, 5 Duchesses of Doreham, &c. Vanguard, a Mantalini bull, stands at the head of this division of the herd. There are also a large number of Cotswold and Border Leicester sheep, while some very valuable Clydesdale mares have recently been sent from Scotland, which, along with the others, are intended to form the nucleus of a Clydesdale stud."

It is not only for the beauty, but the health of the plant requires that in house plants, all the dead leaves and faded blossoms be removed as fast as they appear.

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE, LITERATURE, AND NEWS.

ANDREW LIPSETT, Publisher.

"AGRICULTURE THE TRUE BASIS OF A NATION'S WEALTH."

TERMS: \$1 50 per year, in Advance.

VOL. 1.

FREDERICTON, N. B., JUNE 29, 1878.

NO. 12.

HOW FARMS GROW POOR.

The soil is the farmer's raw material, out of which he manufactures food and clothing. Much plant-food is indeed derived from the air, more even than scientific men have been hitherto in the habit of thinking. That portion comes freely to all farmers like the sun, that shines on the evil and on the good, and like the rain, that falls on the just and on the unjust. But a large part of what the plant needs it must get from the soil, and every farmer knows that the same thing cannot be made forever from the same soil. Something is taken from the soil with every crop, which if not returned, leaves it so much the poorer. Of what that something is most of our farmers know nothing and care little. The product of their stables they know to be good food for land, and they have misty notions about mineral manures which have worked miraculous benefits sometimes, and at others have disappointed the enterprise that invested in them. But why the success in one case and the failure in the other they have but a hazy and probably erroneous idea. One man has turned up the subsoil of his field and made himself a new farm; another has, by the same process, almost ruined a very good soil. It was all experiment at the best. Neither knew before he did it what the result would be, unless he learned it from his neighbor who had tried it before him. Turnips, we are told by our newspaper, work marvels in restoring soils that are weary of bearing grain, but when we test this at home we find our land won't yield turnips, and we have no notion why it won't. Following land, and leaving it in pasture, are both remedies in universal repute, but the former is simply a process for getting at the reserve capital of our soil, so as to exhaust that also; and the latter, while it restores certain substances to the soil, robs it of others which must, in turn, be supplied; otherwise the land may be really poorer than it was, having gained a fitter of what might have been supplied otherwise, but having lost we perhaps do not know how to supply. All this uncertainty and resultant loss arise from ignorance of what every farmer might learn, at least in a general way, from studying a text-book on agriculture, and what every farmer's son—who intends to stick to his father's profession—should learn thoroughly, by taking one or two sessions at an agricultural college. It is possible to learn exactly what is taken from the soil by every crop, and exactly by what process this can be restored. Most of what grows on the farm naturally goes back to it, and is, therefore, no source of loss. That of which it is robbed is the part which actually goes into the manufacture of food and clothing. Let us take wheat as an example, a very important one to Canada. Western Ontario is now beginning to find what the Province of Quebec found fifty years ago, that it cannot produce wheat forever. Lands that once yielded a splendid crop every year produce a short spindling straw and a light imperfect head of grain, which is very subject to the depredations of animal and vegetable parasites. Ontario must, therefore, soon, as Quebec has already done, cease to cultivate wheat. Yet wheat grows abundantly in England on very much older lands than ours. There are certain substances of which the wheat plant is composed, and unless all these are within reach of its roots it will not grow. They must be in the soil, and they must be there in a soluble form, available for use. It is obvious that whatever one of these substances exist thus in the soil in least proportion to the demands of the plant, will be exhausted first, and that the quantity of this one substance will be the measure of the period during which the land will produce the plant in question. The farm may still be rich in everything else; lacking this it will produce no more of the desired crop, and no amount of manuring with other substances will make it a bit better. One process for restoring the productiveness of soils is breaking them up and exposing them to the air and frost, by which means many substances hitherto insoluble are brought into a form available for use, but this, as we have said, is only a process for further exhausting the possessions of the soil. The object of the far mer should be to find out what he is exhausting, and to see that that is, if possible restored. On our wheat lands what usually disappears first is the phosphoric acid, which is needed to build up the bones and feeds the brains of animal life, and which, though it is little used by the rest of the wheat plant, is abundantly required for the grain itself. As the grain itself is what is sold off the farm, and the substance is usually there in very small quantities to begin with,

it is the first to tell, by its lack, upon the health of the plant. Phosphoric acid is easily obtained from phosphate of lime, which is rendered ready for use in agriculture by being manufactured into hypophosphate. The phosphate is now found in extreme abundance in this Province, and close to it we have plenty of iron and copper pyrites, or sulphates of iron and copper which yield the sulphuric acid needed for this manufacture. Yet we send our phosphates in their crude state to Britain and the continent of Europe. Green crops, with manure, are used to keep the land in heart, but green crops are a vastly more exhaustive of the mineral substances of the soil than are grain crops, so that the introduction of rotation of crops renders doubly necessary the study of agricultural chemistry. A crop of turnips on an acre of land will use one hundred and forty-five lbs. of potash, where a crop of wheat will use less than four lbs. The turnips will use twenty-two pounds of phosphoric acid where the wheat will use five and a half lbs., so that it is evident that mineral as well as animal manure needs to be used with the turnips. We have not gone into this subject with a view of telling any farmer what he should use, but with a view to provoking the enquiry in the mind of every farmer whether increase of knowledge might not be to him increase of wealth. The farmer who has observed an inexperienced theorist come to his neighborhood and make a wreck of his fortune, is too likely to laugh at the knowledge which the other is supposed to possess, instead of at the experience with which it is applied. Were the same knowledge guiding the hands of a man brought up on a farm, a very different result might be looked for.—Montreal Witness.

THE CUT-WORM—HABITS, PREVENTIVES, ETC.

Among foes to Agriculture stands conspicuous, the cut-worm. He is an old offender. I was, as I then supposed acquainted with him half a century ago when he, as he does now, cut up the corn, the cabbage plants, beans, etc., and if he could do no better, the potato. But I then knew him only as a worm, and what became of him, and where he wintered, I supposed to be none of my business. His habit of climbing trees, shrubs, and grape vines, and taking out the germs of the young buds I had never heard of, and would not have believed if I had. But for the past ten years I have been obliged to believe it for like the man who knew there were ghosts, "I have seen them." Aye, seen them they are, lamplight moving about the trees as subtle as a honey bee; moreover, I have taken at one sitting, from under a small raspberry bush, fifty-four just under the surface of the earth, and even more under a young currant bush. I shall take some liberty to mention some of the peculiarities of this pest, not, to my knowledge, mentioned by the entomologists, and also the means I have used as a remedy; not claiming for them any originality but only as a measure of success.

We find them in the spring just under the surface near the foot of a small tree, shrub, or vine; therefore I conclude it is at such places that the moth lays her eggs. They are not, at night, when they commit their depredations, the slow, sluggish things they appear as you turn them out of their berth, where they have cut off a cabbage; this I learn by lamplight; therefore I conclude they emigrate with considerable celerity and to quite a distance if necessity requires. Stupid and innocent as they appear by day, they are great climbers by night, and can climb out of a tin box to get away from you, but they have the sense to know or think it useless to climb any dead matter to seek for food. For vegetation that starts early they are a little behind time, as it gets too large and coarse for their young and delicate stomachs; therefore they are more sure to attack trees the season they are put out, and if the trees survive the mutilation it is by a new or forced set of buds, coming about the last of June; of course the branches are late and weak and backward, the next spring, just in the condition the worm wishes, and not until the third or fourth spring does the tree or vine recover so as to get ahead of them.

Entomologists tell us there are several varieties of the cut-worm, a statement which I will by no means deny, but I see no difference except in color, which is from pearly white to almost black and mixtures of all shades between. The very dark ones have a distinct stripe along the back; and I have sometimes found these dark striped ones (or a very near relation) under the wollen bands I have put around the trees for the apple worm. Unlike most other insect pests, the cut-worm is not very particular about

his diet, but eats with thankfulness whatever the insect-Providence sends him, preferring, however, among herbs, the horse-radish, and among trees, the pear; but any herbs, grass, or tree buds answer him rather than abstinence; he not hesitating in a famine to eat the bark in a circle around the small twigs of trees. He is peculiarly happy in taking out the germ of the bud you have set to change the variety of a fruit.

SKIMMED MILK AS FEED FOR CALVES.

We have taken occasion heretofore, through the columns of the FARMER, to speak of the advantages of feeding skim milk to calves. In looking over the last report of the Commissioner of Agriculture, a copy of which we have just received, we were considerably interested in reading the results of several experiments which have been tried, not with a view of testing the merits of that particular method of feeding, but with a view of ascertaining the best capacity of growth and early maturity of young creatures. A correspondent says:— "I tried an experiment in 1874, with a miscellaneous lot of ten calves, fed wholly upon skim milk. The milk was all weighed daily, and the calves each week. It required of milk for one pound gain, first week, 11.02 pounds; second week, 12.18 pounds; third week, 13.17 pounds; fourth week, 13.40 pounds; fifth week, 14.60 pounds; sixth week, 15.05 pounds; seventh week, 16.71 pounds; eighth week, 16.80 pounds; ninth week, 17.01 pounds; tenth week, 16.08 pounds; eleventh week, 16 pounds; twelfth week, 15.90 pounds. The decrease of milk to make one pound of live weight, beginning the tenth week, was caused by the calves learning to eat grass. These calves were each weighed separately, as was the milk fed to each, and the gain was very unequal in lot; but the result stated is the average of the ten. We regard this experiment with great interest, not only as showing the gradual increase of cost to put on live weight as the animal grows larger and older, but as showing the value of skim milk in growing calves. It has a value, when properly fed, much above that usually attached to it."

Another instance of the efficacy of similar usage is illustrated in the case of a pair of grade Short-horn twins raised by William Wallace, of Grant Park, Ill. They were dropped April 2, 1870, and weighed on the 2d of October following, at the age of six months, 1310 pounds. Their food was sour milk, of which it is said truly, "this produced as fine a growth as whole milk."

Another case strikingly illustrative of the same results, occurred the past year, (1876.) "It relates to a grade Short-horn calf and its mate, fed wholly upon skim milk. The calf was dropped March 1, 1876. At four years old this calf weighed 160 pounds, and was purchased by C. H. Farnum, of Concord, N. H., for a mate to another one that weighed, at the same age, 205 pounds. His purpose was to raise these for oxen, if they should grow alike in form and size. Their food was exclusively skim milk, but it soon became apparent that the 160-pound calf was outweighing the other, and he abandoned the project of rearing them for oxen. At 8½ months old the one originally the largest, but now the smallest, was slaughtered. His girth was 52 feet 2 inches, and his dressed weight 525 pounds. This was a remarkable dressed weight, as its live weight must have been 800 pounds; but the other calf was much better that it was determined

to feed it, on experiment, till one year old. The last three months its feed was principally skim milk and shorts, and his girth, at the end of the year, was 6 feet 5 inches, and he was so fat that his hips were hardly discernable. He was slaughtered on the first day of March, 1877, at just one year old. His live weight was 1200 pounds, and dressed weight 902 pounds; meat 748 pounds, hide and tallow 154 pounds, and was sold to the butcher for \$90.20. These cases clearly show that new milk is not indispensable in growing the best calves, and, further, that the system of giving up the whole milk of the dam to suckle the calf is wasteful and unnecessary." We remember to have urged also, heretofore, through your columns, the superior advantages and desirability of securing early growth and quick maturity, as a matter of great economy in stock raising, when compared with the old system, which has been too much in vogue, of long keeping and slow growth, by which many of our domestic animals may be said to have eaten themselves up many times over. In confirmation of this view, the writer before quoted says: "Many more cases might be cited to show the practical effects of high feeding at an early age. It may be stated as an established fact that calves, according to breed, may, as an average, be grown to the weight of 800 to 1000 pounds at one year, and from 1200 to 1500 pounds the second year; and it may be further added that the animal shall also have arrived at the same stage of maturity as is usual at three and a half to four years of age, under the old system."

EARLY PROFIT OF STOCK-RAISING.

Further: "Nature has most clearly pointed out to us the road to success in cattle feeding. It is found in this law that the young animal takes the least amount of food to produce a pound of growth, and that, all other things being equal, each succeeding pound of growth on live weight up to maturity of the animal costs more than the preceding pound. This has been established by so many facts that it may be laid down as a law. Hence, in feeding animals, as in other things, the shortest time consumed in reaching a given weight, or the desired result, is a most essential element of success. This reminds us, by way of contrast, of a fact which happened in a neighboring town, of a person who had kept one and the same hog for several years, without any gain of weight or other profit whatever, for a long time; finally he concluded to kill it and accordingly engaged a butcher. When a butcher arrived he found the water hot with which to scald it; but the owner had repented, for, said he, "I have got to keep some hog to eat my waste food, and I have got to eat this one, and may as well keep this as any." JOHN N. BARLETT. So. Royalton, Mass., Feb. 4, 1878.

THE WEATHER AND CROP PROSPECTS.

A run through the country at this moment can leave but one impression on the mind, and that a very satisfactory and encouraging one. The oldest inhabitant,—proverbially ill to please—has never seen anything like it; the shrewdest and most market-of-fact observer is for once inclined to agree with that "aged party" and the veriest croaker from Halifax to Vancouver is compelled to acknowledge that the present season promises rather better than of the "splendid years" when he was young." The grass is exceptionally abundant; and this is telling surprisingly on the condition of live stock and the yield of milk and butter. So far the other crops are in a most gratifying state of advancement and abundance; and the only fear of the farmer seems to be that he will have too much stuff to sell, and that consequently prices will go down to a low figure. Pity that he could not be protected from harvesting more than he knows well what to make of, and then selling it for "next to nothing!" His friends of the "National Policy" sometimes seem to urge him in this direction, but happily with little effect. The ordinary Canadian yeoman knows that a year of abundance is always a bad time for him, though prices may not rule high; and at any rate he is too wise and too reverent to rail at Heaven and grumble because his barns are too small, and the price of wheat less than he would like. The country prosper, and he is pleased and profited too. The poor have plenty of food, and the general quiet and contentment are worth much more when a higher standard is taken. It is now all but certain that there will be no war, and at this every man of right feeling will rejoice. This will also tend to keep down the price of breadstuffs; but it will do much in many other ways to quicken trade and revive languishing industries.

CANADIAN CATTLE FOR ENGLAND.

(To the Editor of the Toronto Globe.) Sir,—My first cargo of Canadian cattle this season had to be shipped by way of Boston, as all the Canadian steamers were early engaged for all the summer. But although I had to go through a foreign country to embark my cattle I met with such courtesy and attention as made it pleasant and agreeable. The Steamer Sberia of the Cunard Line is one of four steamers that the Messrs. MacIver have placed between Boston and Liverpool, and they deserve every praise for the admirable manner they have fitted up for these ships for this great and growing trade. Ventilation perfect, water in abundance, and special men detailed for the express purpose of watching over the interests of these non-inquisitive passengers. An officer of the ship with a thermometer in his hand goes among the cattle every four hours to test the temperature, and it was gratifying to observe very little change, 68 in the forward part of the ship, 74 near the boilers, and 66 in the after part. We docked our ship at 2 a. m. Sunday, unloaded 300 cattle and 20 horses in three hours, and after undergoing 12 hours quarantine they were removed to the market, and all were sold by 11 o'clock Monday, a. m. Beef and mutton are scarce and dear, and there are thousands in Lancashire who would think Canada a Paradise if they could get such a liberal supply of animal food. Yours, etc., G. F. FRANKLAND, Liverpool, May 28.

CURRENTS.—What a faithful friend

the old-fashioned currant is! It survives neglect, bears fruit with regularity, never winter-kills nor mildews, resists the competition of weeds and the robbery of grass, and with a little help will triumph over its few enemies. And then how grateful it is to the taste, and how healthful to the system, with its sparkling acid, and its rare sweet that is not too sweet! What the apple is to fruits, the currant is to berries—sturdy, faithful, reliable, easily grown, health-giving. And yet the currant repays care as well as the daintiest berry; and the choice, large, new varieties show that it is susceptible of improvement. Take the form in which it is most commonly grown—the bush—and cut out the old stocks, thin out the spindling growths, cut back the vigorous shoot so as to make them stock; hoe them as clean as you would a row of strawberries; give them all the old chips from the wood-yard, with a mixture of ashes and manure; and you will be surprised to see how the quantity and quality of the berries will be increased. That destructive pest, the currant worm, can be destroyed, and the bushes preserved in all their greenness, for a few shillings' expense and by a very little care. A little powdered white hellebore sifted over the bushes when the worms first appear, with an additional dusting at their re-appearance for four or five times during the season, will do business effectually. We have preserved a splendid row of currants for years, in this way. The fruit is best started by slips, either roots, or fresh cut, and grows quickly. La Versailles, Red Dutch, and Victoria, are the best sorts, and the White Grape adds a more pleasant variety. Set four feet apart, and mulch in dry weather.—Golden Rule.

THE BREEDING OF HORSES.—In an article on the recent demand for our

horses from abroad, the American Agriculturist, in giving some hints on the methods of improving our stock says: "It has been too frequently the case that farmers have not only begrudged the cost of the services of a good sire, but they have also resorted to breeding only the poorest of mares, lest the better ones might be forced to lose a few weeks work in the spring. Spavined, wind broken, worn-out mares, have been used for breeding, until a vast number of horses are constitutionally prone to disease, and are of little value from their birth. It costs no more to raise a good colt than a poor one, and if farmers would keep a good brood mare or too, and would secure good sires, a mare might be made as profitable in her increase as two good dairy cows, without considering the value of her work, which at the least, will pay for her feed. It is an established fact, although it may seem at first sight to be an anomalous one, that the more we substitute railroads and steam-engines for horse-power, the greater demand we create for the services of horses. Horse-power is, after all, only a feeder for steam-power, and the more steam-power we use, the more horse-power we shall need to supply it."

HARD SENSE.—Ex-Senator Chandler

had something wise to say about farming, as well as something significant about politics, when he addressed his neighbors at his farm in Michigan, not long ago. He declared that farming was not only the oldest but most respectable occupation known to man. "I would rather put him in an eighty-acre lot that had never had an axe or a plough upon it, than place him in the best Government office in the land?" Agricultural papers will please copy that remark, and farmers' lads who are growing up dissatisfied with country life, and who cannot overcome a restless desire to go to a city and enter a profession, will do well to remember it. "Make your homes pleasant, continued the Ex-Senator.—"Make them so attractive that your sons and daughters will love their homes better than any other place on God's earth. Make this business of farming so agreeable that your sons will see that it is the most healthful and profitable occupation in which they can engage. Build good houses and buy good implements. Don't get an old cracked cook-stove, but put in a good range. In fact have every convenience that you can, so that your wives and daughters will deem it a pleasure to perform their household work. In this way you can bring up your sons and daughters on the farm; but when you make the home repulsive, you drive them into clerkships and other mental positions, where they ought to be. God's appointed lords of creation. These are plain words, but they are crammed with hard sense.

KEEPING BUTTER.—Farmers are

certainly slovenly in making and preserving butter, and much that comes into the market is very inferior in quality; but if a good, sweet, cleanly article is purchased it is often spoiled by the conditions under which it is kept by the purchaser. Butter is a substance extremely sensitive to surrounding influence, and any odors in the vicinity where it is stored are rapidly absorbed, even if it is in a closed skin. Great complaints are often made by the purchasers of the "gilt-edged" butter, produced from the famous dairies in the vicinity of this city, that the enormously high-priced article is soon spoiled after delivery to the customers. And no wonder! It is often placed in an uncleanly ice chest along with cooked or uncooked fish or meats and other odorous bodies, and it soon smells and tastes like the unsavory substances with which it is associated. If not placed in the ice chest, it is often put in a cellar with decomposing vegetables or meats, and hence the delicate taste and odor are soon changed. Great care must be used to preserve butter, and it will not do to trust it to the Bridgets of the kitchen, who knows nothing and cares nothing. Those fond of the delicate freshness and sweetness of the best butter should have a cool place in the cellar, where it can be kept apart from everything else. The wealthy can furnish a place with a little care and skill, and few are so poor that they cannot contrive to keep butter under better conditions than they do.—Journal of Chemistry.

THE CULTIVATION OF CABBAGES.—

Will you or some of your subscribers, be kind enough to furnish some information in regard to the proper cultivation of cabbage. In the Eastern sections of Ontario the cultivation of this vegetable has been almost entirely discontinued, owing to the ravages of insects, &c. Farmers, horticulturists and others are not a little benefited by the many useful hints to be found in the weekly issue of your paper, and I for one, and I have no doubt, many another also, will feel very grateful for any suggestions which may throw light upon the subject of cabbage-raising for man and not for the insects.—Cor. Montreal Witness.

of the number of weeks an advertisement is to be inserted should be clearly stated. When this is not done it will be continued until ordered out, and charged the full time it has been inserted.