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The Agriculturist.

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

ANDREW LIPSETT, Publisher.

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ANDREW ARCHER, Editor.

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Agriculture.

KINCARDINE AGRICULTURAL EXHIBITION.

During the last six weeks there has been hardly a paper that did not contain a notice of some agricultural exhibition. The season of shows and fairs is now over. The last, but not least in interest, which we shall have occasion to record is that held in the Kincardine Settlement on the 15th of October. The ambition of our energetic and industrious Scotch settlers, who, it may be said is just emerging from the wilderness not to be behind hand than other more advanced places is to be admired, and should be encouraged. A correspondent writing to us about the exhibition on the 15th, says: "The weather was fine and a large number of people visited it during the day. There were 400 entries. The varieties of potatoes as shown, were not of so large sizes as those of former years, but other roots and the grains, were above the average. The cattle and horses were improved over those shown on similar occasions in former years.

We subjoin the Prize List: CLASS 1.—CATTLE. Cow in Milk.—1st, W. H. Squiers; 2nd, George Morehouse; 3rd, John Jackson. Heifer 2 years old.—1st, James Hutchison; 2nd, Robert Watson; 3rd, John McRobert. Heifer 1 year old.—1st, 2nd and 3rd, Robert Stewart. Heifer Calf.—1st, Robert Stewart; 2nd, William Low; 3rd, Thos. Watt. Bull 2 years and upwards.—1st, Jas. Kelman; 2nd, John McRobert. Bull 1 year and upwards.—1st and 2nd, Robert Stewart. Bull Calf.—1st, John Morrison; 2nd, John McKenzie. Working Oxen, 4 years and upwards.—1st, Arthur Robertson; 2nd, J. A. Hallett. Working Oxen under 4 years.—1st, William Duncan. Steer, 2 years old.—1st, W. H. Squiers; 2nd, James Hutchison. Steer, 1 year old.—1st, James Kelman; 2nd, Robert Watson.

CLASS 2.—HORSES. Breeding Mare.—1st, Samuel Caughey; 2nd, Alex. Thompson. Best Pair Working Horses.—1st, Charles Pickett; 2nd, C. Tompkins. Colt, 2 years old.—1st, Elisha Whorton; 2nd, Robert Stewart. Colt, 1 year old.—1st, Samuel Caughey; 2nd, Robert Stewart.

CLASS 3.—SHEEP. 2 Ewes.—1st, Peter Ledingham; 2nd, John Miller. Ewe Lamb.—1st, Robert Stewart; 2nd, Peter Ledingham. Ram, 1 year and upwards.—1st, Peter Ledingham; 2nd, Charles Inman. Ram Lamb.—1st, Robert Stewart.

CLASS 4.—SWINE. Boar.—1st, Robert Stewart. Breeding Sow.—1st, David Watt. Pig, under 1 year.—1st, W. S. Smith; 2nd, George Morehouse; 3rd, David Watt.

CLASS 5.—POULTRY. Cock and 2 Hens.—1st, Thos. Cunningham; 2nd, W. H. Squiers; 3rd, W. S. Smith. Cocker and 2 Pullets.—1st, W. H. Squiers; 2nd, Thos. Cunningham; 3rd, Robert Stewart. Drake and 2 Ducks.—1st, William Bruce; 2nd, James Kelman. Drake and 2 Ducklings.—1st, David Watt; 2nd, Thos. Watt. Turkey Cock and Pullets.—1st, John Jackson. Gander and Goose.—1st, Charles Inman; 2nd, John Ledingham. Gander and 2 Goslings.—1st, John Ledingham; 2nd, Charles Inman.

CLASS 6.—DAIRY PRODUCE. Fresh Butter.—1st, James Kelman; 2nd, Alex. Cocker; 3rd, D. Low. Salt Butter.—1st, John Kilburn; 2nd, James McNeil; 3rd, D. Low. Cheese.—1st, John Kilburn; 2nd, W. H. Squiers; 3rd, Alex. Cocker.

CLASS 7.—SEEDS. Timothy.—1st, John Ledingham; 2nd, Robert Stewart. Wheat.—1st, Robert Stewart; 2nd, Henry Acton; 3rd, John Ledingham. Russian Oats.—1st, Wm. McKenzie; 2nd, Samuel Brown; 3rd, John Ledingham. Oats, any sort.—1st, Robert Stewart; 2nd, John Connon. Barley.—1st, William Philip; 2nd, Mrs. Stratton. Buckwheat.—1st, John Ledingham; 2nd, Alex. Hunter; 3rd, John Webster. White Field Beans.—1st, John Ledingham; 2nd, Alex. Thompson. Beans, any variety.—1st, Robert Stewart; 2nd, John Jackson. Peas.—1st, Alex. Thompson; 2nd, William Bruce. Corn.—1st, Elisha Whorton; 2nd, Charles Inman.

CLASS 8.—ROOTS. Potatoes, Christmas.—1st, Robert Watson; 2nd, James Kelman; 3rd, John McRobert. Early Rose Potatoes.—1st, Alex. Thompson; 2nd, Mrs. Stratton; 3rd, James Kelman. Potatoes any variety.—1st, James McNeil; 2nd, James Kelman; 3rd, Arthur Robertson. Swedish Turnip.—1st, Robert Watson; 2nd, Robert Stewart. Yellow Turnips.—1st, Robert Stewart; 2nd, Samuel Brown.

ter or cheese how to make any better goods than they made before? If Mrs. A. exhibits ten pounds of butter and Mrs. B. gets the first premium, and Mrs. C. gets nothing, how many committees have ever been kind enough to inform Mrs. B. wherein her butter was faulty, that she might be better prepared to win next time? Does the report state that a certain sample was too fresh, or too salt, or too yellow, or too white, or too much or too little worked, that it tasted of weeds or turnips, or the stable? We have seen such reports, but they are very rare. The trouble is we do not make our exhibition enough educational. We have been extravagant in building halls and grading trotting tracks, and have felt the need of more money than we could get without great effort. So we contrive all manner of ways for drawing a crowd. Money seems to be the chief aim of the managers of most of our societies—money to pay off the societies' debt.

AGRICULTURAL FAIRS.

The New England Farmer appears to be quite disconcerted with Agricultural Fairs as now conducted in the New England States. Last Saturday, in a long article, it asks if it pays to hold Agricultural Fairs? do Fairs answer their object in promoting agriculture and improving those engaged in it, and it answers in a pretty decided negative—they do not pay or answer their object as at present conducted. The New England Farmer passes in review all the trouble, and expenses that managers of the New England Fair are put to, the extravagant parade they indulge in, and the shifts and dodges they have resort to in getting them up; it is particularly severe in the way the judges are appointed and act, and asserts that people have lost confidence in their reports, and believe them in many instances to be biased and bought.

The Farmer then begins to ask questions:—Our question is, What shall be the object of our fairs? Shall it be to determine which of all the horses, cows, oxen, sheep and swine in the country are most worthy of propagation? Shall it be to learn which animals of an breed are most desirable as breeders? Shall it be to give dealers and breeders an opportunity to advertise their goods? Shall it be to please the populace, on the same principle that cock and bull fights are gotten up in other countries? Shall it be solely to give the public holiday at the public's expense, and with small personal gain to the managers? Are not these questions pertinent.

Again:—Shall our fairs be held to give a favor of the leading politicians an opportunity to exhibit their candidates before the voters? Shall we make an annual display of our farm stock and products, that some aspiring citizen may gratify himself in displaying his horsemanship or knowledge of military manoeuvres? Shall we hold an annual fair in the interest of the railroads, the hotels, or the tavern stables? Shall we maintain our societies for the purpose of improving and purifying the trotting and gambling fraternity, and if so, how long will it take to raise the rate we have seen it at the past twenty-five years? Shall we hold our fairs to give breeders, dealers, manufacturers, inventors, or peddlers an opportunity to dispose of their wares, or to advertise them at a cheaper rate than would be possible under any other arrangement known? Or shall our exhibition days be made purely and simply holidays? For holidays are needed, and farmers as a class have none too many. Whatever they are to be, let us have a clear understanding in the matter. If they are to be holidays only, then let us call them holidays. If they are to be chiefly beneficial to aspiring politicians, inventors, or salesmen, then let us insinuate them in that light; but if their object shall be to improve our stock, to disseminate valuable information and to increase our knowledge of the better methods of cultivating them, then let us see to it that these objects are kept uppermost in the minds of those whom we select to fill the offices, and let us all, each in his individual capacity, do all in our power to make these organizations, as promoters of agriculture, more and more useful, as the years roll round.

We quote the opinions of the Editor of the New England Farmer on agricultural fairs not because we think them particularly applicable to such exhibitions in New Brunswick, but in order to show the way that an intelligent and influential journalist looks on such affairs, and on what passes in them under his personal observations.

Still some of his shafts do fly and hit in this direction. When he speaks of the remissness of the judges in the performance of their duties, their want of discrimination in making their awards, in pointing out the particular merits of articles coming under their eye, and in stating the reasons that cause them to class articles, second or third or as unworthy of notice, he hits some of our judges at our provincial exhibition. Nothing is gained or learned from most of the reports. We conclude our excerpts from the New England Farmer's article with his remarks, bearing on this point, on dairy exhibits:—Coming down to the minor matter of the dairy exhibit, who ever learned from the committee's report on but-

ter or cheese how to make any better goods than they made before? If Mrs. A. exhibits ten pounds of butter and Mrs. B. gets the first premium, and Mrs. C. gets nothing, how many committees have ever been kind enough to inform Mrs. B. wherein her butter was faulty, that she might be better prepared to win next time? Does the report state that a certain sample was too fresh, or too salt, or too yellow, or too white, or too much or too little worked, that it tasted of weeds or turnips, or the stable? We have seen such reports, but they are very rare. The trouble is we do not make our exhibition enough educational. We have been extravagant in building halls and grading trotting tracks, and have felt the need of more money than we could get without great effort. So we contrive all manner of ways for drawing a crowd. Money seems to be the chief aim of the managers of most of our societies—money to pay off the societies' debt.

HEREFORD CATTLE.

All farmers who visited the fall exhibition and inspected the stock, must have been struck by the fine appearance of the field of Milltown's fine herd of Herefords. We can hardly, however, accept the statement that those cattle were exhibited just as they were driven off a cut pasture, and that as a class the Herefords thrive, keep in better condition than any other breed of cattle. Still it cannot be questioned that they are rising in favour, not only in the old country, but on this continent with antipodes.

The American Cultivator says:—

Though the Hereford breed of cattle has not as yet been extensively introduced into this section of the country, its excellencies are commanding the attention of many agriculturists, notably in England, Australia, South America and in our own western country. It is a matter of record that not only in the London market have they been quoted from one to two cents a pound above the Short horns, but the records of the Smithfield show will witness that the Hereford steer has a record over Short horn, and the same record shows that the Hereford steer has made as good weights as the Short horns, at any given age. And now the Bath and West of England Society has awarded the two champion, for best male and female in the show, to the Herefords. Compiling this with the fact that during the same record he has always brought a higher price, and another established fact that he has always been a more economical feeder and grazer, is it not strange that the press and agricultural societies have not been more ready to encourage them?

At a recent sale of one hundred Hereford bulls in England for shipment to the grazing regions of Buenos Ayres, shows the estimation in which this famous stock is there held. The Herefords have made more rapid progress in public favor at the west, in the last five years, than ever was made by any other breed of cattle in America in the same time. In Colorado and Wyoming there are several herds of from 20,000 to 50,000 head, that are using all the Hereford bulls they can get; and already at the Union Stock Yards at Chicago, and at the St. Louis and Kansas City Stock Yards, these steers are commanding the top prices, while five years ago they were not known in these yards. In five years more they will be quoted at all of these markets, as they have been in the London market in England for the last one hundred years or thereabouts.

The Hereford cattle are tough, hardy and thrive on a diet, both in quality and quantity, that would be unprofitable to any other breed. Their cattle are very large sized, make excellent beef, are fair milkers, especially when crossed with other breeds, and are withal quiet handsome, being red bodied with white markings and a white face, the latter being an invariable mark of the kind. Among the herds of cattle exhibited at the recent New England Fair at Worcester, none attracted more attention than the herd of Herefords, among which was a three year old Highland Chief, the largest on the ground, but five years old and weighing 3,000 pounds, having a length of eleven and a half feet, one bull and two heifers, all three calves, five months old, which he engaged parties who design sending them to a ranch in the west, where they are breeding stock to ship to England. The price stipulated was \$300 for the trio. The Hereford sows on exhibition weighed between 1,500 and 1,600 pounds. An enlarged popularity in this country is predicted for the Hereford breed of cattle.

The Agricultural College at Amherst is running a sugar mill, consisting of three upright rolls, geared together, and run by horse power. Just now they are running night and day on amber corn raised by the farmers near by. The cobs run through the rolls, and the juice is gathered into a pipe which takes it to the first vat or pan, where it is brought to the boiling point and skimmed. It is then drawn off into the second pan, which is used as a reservoir for the third or "boiling-down" pan, where it is brought to the proper consistency, 75 to 80 per cent of sugar, where it is drawn off into barrels and is ready for use. This syrup has a peculiar though not unpleasant flavor, and is said to be good for any of the domestic uses for which other syrups are used.

AN EXHIBITION OF BEES.

The N. Y. Observer says:—

Among the interesting exhibitions abroad, the present season has been one of Bees and their Hives, held last month, under the auspices of the British Bee-keepers' Association, in the gardens of the Royal Horticultural Society, at South Kensington. We find an account of it in one of our English papers, and there are so many interesting features in it and so much information, culminated too by classical allusions, that we copy it entire:—

Among the most interesting exhibits, the report says, were those of glass, or "observatory" hives, which were mostly in one of the band pagodas. Among these, that shown by Mr. Bruce Wilson, of Newbury, attracted great attention, its chief feature being its folding and revolving construction, with a tunnel for the queen bee to pass through when the compartments are close together. The "Siberswald" hive, invented and exhibited by the Rev. T. F. Scott of Hartlip Vicarage, Sittingbourne was also an object of great interest. In one of the glass hives at the time of visit the queen bee was busy laying eggs in the cells, an operation which she performs in the height of summer at the rate of two thousand eggs per day. A swarm of Hungarian bees were the admired tenants of one of the observatory hives. Another interesting hive was that shown by Mr. John Hunter, the well known apiculturist. In this was a Ligurian queen bee (worth about 10s. at this time of the year). The hive is known as the "Cheiro" or "Frame" hive, which won the first prize at the Crystal Palace in 1874. It is so arranged that any number, say from ten to fourteen, of bars can be suspended across it. To these sheets of wax are attached, rolled out by machines with the impression of hexagonal worker cells on them. On these the bees work according to the pattern set them, and this is prevented the raising of useless quantities of drones—the ignis fatuus of Virgil—the bees being unable to breed "workers" in the sized cells as marked out for them. This art is allowed to improve upon nature, and the most educated of insects are themselves educated.

Hart by the pagoda is the "bee tent," only recently constructed by the direction of the Committee of the Association for the purpose of giving spectators a full view of the operation of "driving," "tran-ferring," &c., which means the destruction of the bees is avoided. Inside the outer tent there is an inner one made of thin netting, round which the spectators stand and see the manipulation of the bees without any real or supposed danger of being stung. The exhibitions of the above process were most interesting, and showed in the most conclusive manner that the old fashion of stifling bees in order to secure the hive is based on ignorance, and indeed cruelty. Bees when alarmed have a strange habit of filling themselves with food. This they do when the hive is tapped with a piece of wood a few times, and when they are repeted with food they never sting. Hence their transference from one hive to another only requires a little cunning or self possession on the part of the operator. Indeed, when bees are not alarmed, and when repeted with food, they have no natural inclination to sting human beings. Thousands were flitting about and alighting on visitors without doing them any harm, while the beekeepers handled them with as much impunity as a boy would marbles.

The exhibition of hives is a very complete one, and it is evident that the "bar frame" principle is thoroughly accepted. The "super" system has also been greatly improved, especially by American beekeepers. Years ago the "supers" were all large, and as they consequently contained a large weight of honeycomb, they were to a great extent unmanageable, the cutting of the comb caused the honey to run out. The American principle is to have a large number of what are called "sensational" "supers," holding one or two pounds of honey each. These can be taken from the hives as required, and retailers are enabled to sell to their customers small quantities without loss. Mr. Hunter has imported large quantities of these "sensational" "supers" from America, and distributed them at cost price for the sake of apiculture. They consist simply of four sides of thin wood which diverge into one another, and they cost less than one halfpenny each. In the honey classes every variety of form of comb may be seen in the "supers" where the bees have no "guide-comb" to direct their work. The run honey shown in

A MODEL FARM.

Why should farming not be scientific? Because the manufacturer

laborer in a scientific way, his profits are greater and surer than those of the agriculturist who has neither machinery nor system; but it is the unreasonable custom of many to sneer at all innovations, and to look at all methodic variations upon old usage as the fanciful and unprofitable schemes of visionaries with more money than common sense. It is the people who sneer that are usually most deficient in the latter quality, however; and had they a little more of it they might perceive that careful book-keeping and the adoption of improved methods and implements are as necessary in farming as in any other business.

In a side hollow of that hill from which Litchfield first became visible to us, several very distinct echoes can be obtained, and this responsiveness of the "purple glens" gave a name to this farm. It is Echo Farm—a pretty and poetically suggestive name, indeed which conjures up visions of loveliness, and sets one to dreaming of intertwining vines knitting their plant tendrils and sweet-scented leaves through the hospitable porch and open lattice; the chequered orchard of fruit abundance; the garrulous brook that never tires of its own monody; the reverberant hills that appease life's turmoil with their easy undulations; lily barns, mossy with age; and clattering mills down in the seclusion of grassy hollows. But, alas! dear reader, model farming is not idyllic or Arcadian; it is inflexibly utilitarian, it keeps all its buildings in a perfect state of repair; it subordinates the picturesque, if it ever recognizes it; it pulls down the old mill because that venerable is in the way of the rectangular new dairy; it diverts the brook from its ferny course into the most commonplace of earthen pipes; it tears away the vines obscure the light, and it looks upon everything with a pair of the most practical eyes set in a head that weighs, measures, audits, and analyzes with chemical exactness. The proprietor of Echo Farm conducts it as a manufactory. A record is kept of the milk and butter produced by each cow for each day, each month, each year; all the feed is weighed, and the quantity entered upon books, both that purchased and that produced, and a separate account is kept of the yield of each field. Nothing is wasted, nothing done by guess, and nothing passes unrecorded. The implements are of the latest or most approved model. Three sets of "horse" hay-forks are in use, by which hay is unloaded at the rate of a ton in four forkfuls and in four minutes, including in some instances the carriage of the hay 150 feet. The other machines also embody some novel labor-saving principles. No manure or fertilizers are found

necessary, except the 1500 loads made upon the farm, and a sort of manure, of which there are several beds.

The history of the is interesting. A gentleman of education, intelligence and wealth came to Litchfield some nine years ago in search of a summer home. He had the most superficial knowledge of farming, and entertaining no intention of entering that business. But having purchased sixty-six acres and cleared them, he purchased additional tracts, which became the nucleus of Echo Farm, whose area is now about 400 acres. His interest was enlisted in the raising of choice stock, and beginning with a herd of five, he has gradually increased the number to 100, all the herd being pure Jerseys, with authentic and valuable pedigrees. The rocky fields were cleared, laid out, and inclosed by massive stone walls. Old and inadequate buildings on the consolidated land were demolished, and new ones of improved pattern erected. In 1863 a barn 66 feet by 25 was built; an addition, 100 feet by 40, was made the following year; and in 1875 another addition was made, of 191 by 35 feet. These three buildings form the three sides of the barn-yard. They are built of pine, upon massive granite foundations, about two feet wide, which are laid in cement. All the wood work is painted a soft drab color, even the proprietor's residence, and the telegraph poles that line the roadway. A desire for simplicity and durability in preference to ornamentation or showiness is visible everywhere; there is now litter, and there are no gaps in the fences or walls, which are from eighteen inches to twenty-four in thickness, every crevice being filled like a mosaic with a stone that exactly fits it. Care, thrift, and ingenuity have acted like three charms. When the fields were being cleared, such large quantities of stones were gathered that some perplexity arose as to where they should be put. Many hundreds of loads were used in the foundations of the buildings, in the fences, and in filling ravines, but more remained, and these were deposited upon several sterile hillsides of no value, where masses of swamp grass were laid over them, and covered with a light dressing of soil. Grass seed was sown upon the soil, and it took well, soon transformed the barren heath to verdant knolls, whose blades are remarkable hardly. It was not so much for the sake of the land gained that the stones were thus disposed of, but it was rather to prevent the formation of nurseries for weeds, shrubs, and brambles, which the heaps, would have quickly become.

Two and a half acres are planted with beets, which are the only roots fed to the cattle, the crop averaging 1000 bushels an acre, and more than 2000 tons of hay are housed a year.—Harper's Magazine for October.

LIME AS A MANURE.

It is singular that there should be such a diversity of opinion among practical farmers in regard to the use of lime as a manure or fertilizer for their lands. Brand, in his "Dictionary of Science," says: "It is a curious fact that the use of the lime as a manure is entirely a European practice, its employment in this way having never been so much dreamed of by the nations of Asia and Africa.

From Europe it was introduced into America, and so far as our recollection can possibly extend backward it has been in use here for that purpose, all of sixty years. It is nearly so long ago as that since we worked on a farm, and we can recall one occasion when we helped to "spread lime." Of course we know nothing about the theory of its use, or whether it was applied intelligently or not. It, however, was generally conceded to be "useful to the land, and "lime stone" was always made a point of excellence when it was advertised for sale, or when it was sought for as a local investment. It was entirely useless, or little or no benefit to the land, or did not "pay" the farmers of Lancaster county were a dreadful long time in finding it out, and at a heavy cost.

The barrenness of the "gravel hills" the "Conewago Ridge," and the "Barrens of York" was attributed to their want of lime, and the farmer whose lands and forests produced "white oak and limestone" was regarded as highly favored, if not a subject of envy. It is true they differed very much about the quantity that ought to be applied and perhaps they were generally unconscious of a difference in its quality. It was, however, considered good for the land as a general proposition, but the quantity ranged from fifty all the way up to three hundred bushels to the acre, without being able to tell why they differed. Presently, however, some

very intelligent and expert agricultural chemists have delivered sentiments adverse to its use as a manure or fertilizer to their lands, and hence a prolonged discussion had ensued, in which it is alleged on the one hand, that lime is not and never has been of any material advantage to the soil and the crops; and on the other hand that lime as an element of fertility, is "king," and that without it fertile lands would gradually become barren wastes.

The application of lime to land must however, be subject to certain chemical principles or laws, and those laws are violated if its benefits cannot be as effective as if applied in harmony with those principles or laws. For instance, to apply lime to depleted lands where lime is already in sufficiency or in excess, and to reap no benefit from such application, by no means constitutes a case by which to accurately determine the fertilizing qualities of lime any more than a surfeit would prove that men should subsist without food. But where land in its natural condition is entirely destitute of lime it seems reasonable to suppose that it should be artificially applied, unless the object is to only cultivate such species of vegetation as need no lime; and it is, perhaps, this disproportion and a want of chemical knowledge of the constituent elements of the soil that has finally led to the discrediting of lime and its abandonment altogether. Lime is a simple earthy substance, and is produced by exposing limestone, chalk, or carbonate of lime to a red heat—an operation generally conducted in kilns constructed for that purpose. The carbonic acid, or carbonic acid gas, previously a component of the limestone, is thus expelled, and lime, more or less pure, according to the original quality of the limestone, remains, and is usually called quicklime. Quicklime has a strong chemical affinity for water or moisture, and when this is applied it becomes heated, and is what is called slaked. Slake means to quench or satisfy; to saturate with water. By a longer and a slower process quicklime will absorb moisture from the atmosphere, and finally become slaked. Its hunger or affinity for hot water is satisfied when it is no longer quicklime but slaked lime, or an hydrate of lime. This slaking process, in consequence of the absorption of a portion of carbonic acid from the atmosphere, gradually reverts it towards its original condition, or carbonate of lime, and it loses its caustic quality. Pure quicklime reduced to a powder and applied to vegetation in that condition would certainly be an injury to it—it would burn it—hence many of those who freely use lime haul it to their fields and let it remain in great heaps for weeks or months before they spread it over the land. The longer it remains exposed before ploughing it under, the more carbon it absorbs, and the more it has the more it will have to give off in its decomposition and assimilation with the soil. Vegetation absorbs carbon and gives off oxygen. The animal world absorbs oxygen and gives off carbon, and thus one supports the other. A good healthy aquatic plant growing in an aquarium will give off sufficient oxygen to support a proportionate number of animals, and in turn will give off sufficient carbon to support the plants.

The lime naturally in the soil, from the attrition of limestone rock, is not quick lime, but a carbonate of lime; and the nearer quick lime can be brought to that elementary condition no doubt, the better it will be for the land. The burning of limestone—driving off the carbon in it—and then slaking it and reducing it to a powder is a more effective and rapid mode of bringing it to the proper condition assimilation with the soil than the slow process of natural attrition; and in this is involved the necessity of applying lime to land; and probably it is because there is not sufficient chemical knowledge abroad, relating to the specific constituents of soils that has led farmers to apply lime where it was not needed, and its failure to do any good. Limo has a metallic basis called calcium, hence the prurer, or crystallized varieties of it are called calcareous spar, and although the varieties of its crystalline forms are many—running into hundreds—yet its primitive form is always rhombic, and it will always cleave in that form (an oblique oblong square). But lime is not omnipotent, and therefore land in order to be productive, also needs other elements, especially vegetable mould, and nothing yields this more abundantly and more richly than barn yard manure. It also needs phosphates, sulphates, and ammoniacs, according to the nature of the respective crops that may be under cultivation, or that may be desired. The fact that some farmers have used lime so lavishly—from two to three hundred bushels to the acre—seems

to evince that it cannot be a very dangerous element, or it might have totally destroyed their crops instead of benefiting them. Without committing oneself either for or against lime, we think it will continue to be used as long as the question rests merely on opinion—it must be determined by a practical demonstration.—London Farmer.

THE HEALTH OF FARMERS AND OF THEIR WIVES.—The foreboded farmer does not wait an hour of half-fainting for his breakfast from motive of mere domestic courtesy, nor set moping in a hot room through a long, bright day to keep some old person company; nor resolve his dinner into "a cold snack," because he has come in late and is not willing to trouble the household; nor set up nights to accommodate anybody or to pour over books of his own satisfaction. At the forty years of good digestion, he is stalwart and hearty. Pretty much the reverse of this happen to the farmer's wife. Almost the first lesson an actual life was to check, control or conceal her want and miseries; and by the time she is fully initiated in matrimony, she has acquired the habit of postponing them to the convenience of her husband and the rest of the family. The more strain there is upon her strength, and there is enough by sickness in the house or any misfortune, the more completely she effaces and forgets herself and her physical wants, recklessly relinquishing sleep and neglecting food. When the pressure is relieved, and the nervous tension which supported her is relaxed, the woman breaks down as a matter of course, perhaps never to enjoy health again. The melancholy contrast between the health of American farmers and their wives, should awaken the former to their duties. They should be careful how they impose burdens upon their helpmeets. Remember it is the last feather which breaks the camel's back.—Farmers Friend.

Plants seem to alternate with each other on the same soil. Burn down a forest of pines in Sweden, and one of birch takes its place for a while. The birch after a time again spring up, and alternately supersede the birch. These changes take place naturally. On the shores of the Rhine are seen ancient forests of oak, for two to four centuries old, gradually giving place at present to a natural growth of beech; and others where the pine is succeeding to both. In the Palatinate, the ancient oak-woods are followed by natural pines; and in the Jura, the Tyrol, and Bohemia, the pines alternate with the beech.

Boon straw, says a writer in the Rural, is an excellent food for sheep. When fed with beans or other grain, it makes a very rich warm manure, quite as good as if not better than clover. I know a farmer who every winter fattens a considerable number of sheep, who finds profit in feeding not only his own bon straw but as much more as he can buy at low rates from farmers who grow beans but, keeping no sheep, have no use for the straw.

To show that oats cannot be converted into barley, but that each seed bringeth forth after its kind, the Bedfordshire Field Club of England made a careful experiment, and discovered at the very outset one way in which the erroneous impression may be generated. Taking an average sample of white oats and looking at them very carefully, they found that "quite ten per cent consisted of barley and other grains."

The Germantown Telegraph says that pumpkins for domestic use may be kept in a good cellar, where they will not freeze, for six to nine months, by being put on a scaffolding. Potatoes should be kept in the dark as much as possible, but should not be excluded from the air. A good covering for bins, boxes, barrels, etc., are two or three layers of old newspapers pinned or stitched together.

An idea of the importance of the potato crop in Maine may be obtained from the fact that the farmers in Aroostook county realize from \$105,000 to \$170,000 yearly from that crop. The grain crop in Aroostook was probably never larger than this year, especially the wheat crop.

English farm laborers receive as pay from \$2 to \$3 per week, including beer. Wages have advanced 10 per cent within the last five years, and living and clothing 25 to 30 per cent.

An honest farmer, being asked why he did not subscribe for a newspaper, replied, "Because my father, when he died, left me a good many newspapers, and I have not read them through yet."

RIEDEL HALL.

Riedel Hall, Ottawa, the residence of the Governor General of Canada has been swept and garnished, and fitted up in a style more worthy of a palace than of a residence.

The hall is one of those architectural abominations—an old-fashioned house modernized. Years ago the village of New Edinburgh and large tracts of land on the sides of the Rideau River came into the possession of Hon. Thomas McKay, a member of the Legislative Council of the Province of Ontario.

The house was built by McKay, and was a wealthy lumberman. He had risen more to his credit from a humble station, and determined to eclipse in his later days the swinging, aristocratic life of an officer with whom Ottawa—then by Town—swarmed, and who regarded him as a *novus homo*.

When Her Majesty, acting on the advice of Wellington, decided in 1851 that Ottawa should be the capital of Upper and Lower Canada, the selection was referred to Her Majesty's Council, which consisted of the Governor, the Chief Justice, and the Judges of the Court of Queen's Bench.

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The Agriculturist.

FREDERICTON, N. B., NOVEMBER 2, 1878.

THE COURSE OF THE McDONALD GOVERNMENT.

The length that Sir John McDonald's government will go in reconstructing the tariff, and the consequences that will follow if it does not do so, are subjects that are engaging the attention of political writers in Canada and the United States.

There is another question which has been agitated in Canada and has been brought before the Ontario Legislature as a practical measure, which the leading minds of the people of Fredericton might take hold of.

Disaster is sure to result from universal suffrage, even with an educational test. It is not drawn from the case of a municipal government in England.

It is not generally known that the late Earl Beaufield, who was a member of the House of Commons, was a man of great talents and high character.

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CUMULATIVE VOTING.

After the excitement of the election turning on temperance, there will be a reaction. Local affairs will flatten out unless some question is raised to stir up the city.

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THE PERMISSIVE BILL PASSED.

We have this week received the acceptance of the Permissive Bill by a large majority of the voters of Fredericton.

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THE FISHERY AWARD.

As the time draws near when it will be the duty of the United States to pay over the \$5,500,000 fishery award, if they mean to keep their solemn engagement, a portion of the press is reviving the discussion of the subject, and suggesting difficulties in the way of payment, and in short, raising a cloud of trouble.

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UNIVERSITY.—We are happy to learn that Dr. Jack, President of the University, has so far recovered from the physical injuries he received by the late deeply distressing accident that he has been able to resume the conduct of his classes.

The duty of filling the Chair of Classics, which will be vacated by Prof. Foster at the end of the present term, will soon devolve upon the President and senate. We hear that several applicants have been sent in, some from gentlemen well qualified to fill the important post.

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THE SHAH AND HIS BROTHER.—The Times published an article some time ago concerning the flight of Abbas-Mirza, the brother of Nasser-Din, the Shah of Persia.

The article was based on reports, and was addressed to a Russian journal, and contained a recital of the causes and circumstances of the prince's flight, as furnished by the Shah. The article was published in the Times, when he was in Bagdad, and continued to do so after his return to Persia.

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THE REPORT OF THE PRINCESS THYRA OF DENMARK.

The Copenhagen correspondent of the Standard writes, under date the 1st inst.:—Two months ago I was invited to visit the Princess Thyra of Denmark, who is now in England, and who is the only daughter of the late King Christian IX.

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Literature.

LEONIE.

"Miss Cameron," Leonie Cameron, lazily looking out of a bay-window upon a garden flaming with autumn tints and sunset glow, lifted a pair of soft dark eyes to Mrs. Tollman's face. It was an anxious face just at that moment, and being usually full of placid content, the anxiety was very apparent to Leonie. So after her first careless glance she straightened herself in her low chair and said quietly, yet with every appearance of interest— "What is the matter?"

Only that your eyes were open, I should have thought you asleep." "Your powers of observation are marvelous," she answered lightly. "I was dreaming." "Of what?" "The world in general, my world in particular. It is almost time I returned there."

20,000 Rolls HOUSE PAPER, JUST RECEIVED. English Room Papers!! M. S. HALL. YORK STREET FLOUR STORE! WHITTEK & HOOPER have the following brands in stock: R-Bacon, R-Dickson, R-Clarendon, R-Foxton, R-Union, R-National, R-Union Pacific.

CABINET MAKING. T. W. SMITH, FISHER'S BUILDING, Queen Street, Fredericton, N. B. WOULD BE LEAVE to inform his numerous friends and customers, that the public in general, that he has received from EUROPE CANADA, and the UNITED STATES One of the best and cheapest stock of CLOTHS, CLOTHING, HATS, CAPS, AND Gents' Furnishing Goods ever offered in this market and will be sold CHEAP FOR CASH.

Paints. Paints. 75 KEGS BEST WHITE LEAD; 50 Kegs Yellow Lead, Green, Blue and Black; 50 Kegs Pure Zinc White; 50 Kegs Portland Cement; 50 Kegs Best Portland Cement; 50 Kegs Best Portland Cement; 50 Kegs Best Portland Cement.

LUMBER FOR SALE. The Subscriber begs to announce to the Public that he has always on hand a good and varied stock of SPRUCE, PINE AND HEMLOCK LUMBER, CONSISTING OF Dry Pine Plank, 1 1/2 and 2 inch, thoroughly seasoned and planed; Dry Pine Boards, well seasoned, planed on one and both sides, and tongued and grooved.

Notice of Removal. C. T. WHELPLEY, WOULD BE LEAVE to inform his numerous friends and customers, that the public in general, that he has received from EUROPE CANADA, and the UNITED STATES One of the best and cheapest stock of CLOTHS, CLOTHING, HATS, CAPS, AND Gents' Furnishing Goods ever offered in this market and will be sold CHEAP FOR CASH.

Insurance. NORTH BRITISH AND MERCANTILE INSURANCE COMPANY of Edinburgh and London. COMMERCIAL UNION ASSURANCE COMPANY of London. WESTERN ASSURANCE COMPANY of Toronto. ROYAL CANADIAN INSURANCE CO. of Montreal. TRAVELLERS' LIFE AND ACCIDENT INSURANCE COMPANY of Hartford.