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OR

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OF UPPER CANADA.

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The Forming of Composts.

Much that is practicable yet remains to be done by Canadian farmers, in compounding and economising manure. Various are the substances, more or less at hand, which, when properly applied, yield to plants their necessary nourishment, and which are essential indeed to their healthy growth and maturity. Farm-yard dung comprises in general all that our cultivated crops require, and consequently is the farmer's sheet anchor. But this manure varies considerably in its composition and nutritious power, according to the manner in which animals are fed and looked after; and experience has long since taught the agriculturists of Europe that it may often be more economically employed as a manure in connection with other substances,—such as gypsum, woollen rags, guano, peat, or other earthy matters. Composts of vegetable and calcareous substances will contribute largely to augment the quantity of manure produced on a farm. These composts can be formed of all animal or vegetable materials which readily decompose by fermentation, which the presence of lime accelerates. The leaves of deciduous trees possess a highly fertilizing power, and in most places in this country can be readily procured by collecting and adding them to the manure heap, there to be mixed up with dung and earth, or they may be directly carted to the yards and stalls of cattle, and used for bedding or litter. Ferns are also beneficially employed for this purpose, when they can be readily obtained in sufficient quantity, though they do not contain equal amounts of fertilizing elements as the leaves of trees. All vegetable and animal matter, is valuable when saturated with the liquid of the manure heap and fermented. Peaty deposits or the earthy matter of swamps can be made available as manure, when the antiseptic properties are neutralized by the action of lime. Peaty deposits are usually present in the vicinity of argillaceous soils, and when applied to adhesive clays their porosity is increased, and consequently their fertility augmented. Peat, or black muck, such as is found more or less in swampy ground, is a substance, when dried, very suitable to form composts for such soils. The proportion of farm-yard manure and lime necessary to produce fermentation in peaty substances depends upon the character of the three materials. Seven parts of peat, two parts of farm-yard manure, and one of lime, will generally prove a good manure. To this should be added common salt, at the rate of 4 cwt. to the acre of the land to which the compost is to be applied. The compost heap should be turned once at least previous to being applied to the land. As a manure for the cultivation of turnips, mangels, and potatoes, this compost is very suitable. Peaty substances may also be advantageously used to absorb the liquid which drains from stables or manureheaps, and for increasing its amount; but it is more advisable to form a compost with farm-yard manure and lime.

The usual and most practicable way of form-

ing composts is by collecting weeds, the clearing of ditches, road-scrapings the high headlands of fields, and in short the refuse of all kinds of vegetable and animal matters. The proportion of farm-yard manure and lime to these various substances, should be regulated mainly by the character of the latter. It is necessary to induce decomposition, so as to reduce the decaying vegetable matter, and render the mineral constituents ready for absorption by the *spongioles* of the cultivated plants. The adding of common salt is generally advisable, the quantity regulated by the kind of crop to be grown. When the crop is to be potatoes, the quantity of salt should be limited, or it may be dispensed with altogether; for mangolds it should not exceed five or six cwt. to the acre.

Where other calcareous substances than lime can be obtained at cheap rates, these can be advantageously used in forming composts The quantities necessary are, however, much greater to induce that decomposition in the inert vegetable and mineral matters contained in the vegetable and earthy substances. Lime rubbish and shell-sand, gas lime, &c., are all suitable for forming composts. It is of considerable importance, in making large compost heaps, to select a place in or near to the field to which the manure is to be applied; as the expense of carting these heavy and bulky substances great distances may render the application unprofitable. Economy of labour should be a ruling consideration in the forming and application of compost heaps, as in all other farm operations.

In carting the materials to form the compost it is common to spread alternate layers of them, to the depth of four, six, or eight inches, and afterwards to turn the heap by the spade. Sometimes a plough is used to mix the lime and earth, when the compost is formed of a high headland, the spade being afterwards employed to throw the heap into a more rounded form. Whatever method is adopted, it is important, while studying economy of labour, to thoroughly mix the substances together by several turnings of the heap, and so to form the heap as to render it as little liable to absorb rain water as possible. With this precaution compost heaps in this climate, do not require, as they do in wetter countries, covering over with turf, litter, or other material.

The horticulturist bestows great attention i forming composts,—these proving to him th most important fertilizers. In this country th farmer too much neglects this important mean of restoring fertility to overcropped and ex hausted soils, which with deeper and cleane cultivation would, in most cases make a grate ful and profitable return. The economisin and mixing of manures in connection with more thorough system of cultivation, (includ *ing draining where necessary*) must alway form the basis of every successful system o husbandry.

Oats given to Horses before or afte Drinking.

It is well known, but not so generally practi ed as it ought to be, that oats or other grai given to horses are more readily digested, an consequently more nutritious, when supplie in a bruised or reduced state; and we hav now improved a very convenient machine for e fecting this very desirable purpose. The healt and durability of the Horse greatly depend o the mode of feeding and treatment during h hours of rest, as well as on the quality of h food, and the amount of labour which he is r quired to perform. The following abridged o servations of a practical French writer in th *Journal d' Agriculture Pratique*, are deser ing the attention of all who have horses und their care.

The same quantity of oats given to a horse pr duces different effects according to the time the are administered. *I have made the experimen* on my own horses, and have always observe there is in the dung a quantity of oats not d gested, when I purposely gave them water i mediately after a feed of oats. There is deci edly, then, a great advantage *in giving hors* water before grain is fed to them. The is another bad practice, I observe, that of givi grain and hay on their return to the stable i mediately after hard work. Being very hungr they devour much food eagerly, and *do not pr* perly masticate it; the consequence is that it not so well digested and not nearly so nu tious. When a horse returns from work, pe spiring and out of breath, it should be allow to rest for a time, then given a little hay; h

n hour afterwards, water, and then oats, or ther grain. By this plan water may be given ithout risk of cold, as the oats act as a stimu-ant.

The Provincial Exhibition.

From the Journal of the Board of Arts and Manufactures for U. C.

The history of the Provincial Association in relation to our Annual Provincial Exhibition full of interest to Canadians. It is the narra-e of the rise and progress of a national insti-tion from which immense benefits have sprung, d many more are expected for a long series of ars to come.

The Provincial Exhibition is one of the tests our improvement in all that relates to materi-wealth and solid progress. It is an examina-n of the state of our industry, intelligence, rity and knowledge. It enables us to com-e our condition as a people with that of other ions; to discover in what respect we fail to in to the standard of excellence at which ers have arrived; in what particulars we ex-, and how we may best improve the natural ntages by which we are surrounded, and liorate the disadvantages which are insepar-e from our geographical position.

No event of equal importance to the Provin-Exhibition occurs during the year in C nada, of the field of politics; for good government ds at the head of all national interests, and desire to be governed wisely and well is rior to all aspirations towards excellence in iculture, art or mechanical skill.

Politics cannot be broached within the walls oted to the objects of the Provincial Exhi-on. All allusions in the annual addresses to jects of a party or political nature are neces-y forbidden by tacit consent. Early in the ory of the Provincial Association was the tion given by the Hon. Adam Fergusson, on 22nd October, 1846, at Toronto, where the Exhibition was held:—"I feel, gentlemen, more intensely than I can possibly express, *our very existence*, as a useful institution, altogether depend upon a firm and scrupul-exclusion of all such topics from the Board. k God, we have a great and magnificent upon which every man in Canada may tend, in honorable and patriotic competition, ited by party jealousies or strife; and most ently should we all pray, that party feeling arty intrigue, may never be known amongst

The first Provincial Exhibition was held in onto, in October, 1846. It extended over days. The whole amount offered in prizes ed nearly £400, and the number of entries 1,150. Ten years later, the amount of s was £2,309, and the number of entries 3,791, or more than three times as many. It is curious and instructive to compare the thoughts and opinions of men at that period, based on what they saw around them, with the condition of things at the present day. The Hon. Chief Justice Robinson, now in the progress of events in Canada, where merit paves the way, Sir John Beverly Robinson, Bart., said at the first Exhibition, "There was no country possessing the advantages—advantages almost illimitable—that Canada does. Looking to the great waters at her feet, and the innumerable rivers leading thereto, and the water power afforded, he would ask, where was the country that could boast of like advantages with Upper Canada? Even with London and other towns far removed, the inhabitants had the advantages of good plank roads, by which the produce reached the great waters, on whose surface it was to be borne to Europe."

The Association began its existence boldly—it relied upon the country it was to serve. It has served it well, and well has it been sustained. It commenced its career wholly without funds, relying upon members' fees and on "contributions," particularly from County Societies, to enable it to pay the premiums offered by itself, and the expenses incurred in its own nourishment and growth.

In the second year of its existence, the annual Exhibition was held at Hamilton, when not less than 550 more entries were made than in the previous year, and premiums to the amount of £750 offered; but the Association found itself £300 in debt at the close of the year, but still full of hope. Col. E. W. Thomson, the President of the Association, a household name among farmers in Upper Canada, spoke in the annual address of the near completion of the internal water communications in the Province; but, he continued, "railroads, plank and macadamized roads must follow in every direction." He saw the necessity of progress—manufactures accompanying progress in agriculture—for he warned farmers of "the necessity of cultivating flax and hemp and the finer kinds of wool." Lord Elgin, with elcquence so natural to him, said of our country at that meeting: "Canada springs at once from the cradle into the full possession of the privileges of manhood. Canada with youth's elasticity in her tread, has the advantage of all the experience of age. She may avail herself, not only of the capital accumulated in older countries, but also of those treasures of knowledge, which have been gathered up, by the labor and research of earnest and thoughtful men, throughout a series of generations."

When three years old, the Association determined to hold their Exhibitions at Cobourg, and notwithstanding their indebtedness, they offered prizes to the amount of £775, and extended the time the exhibition was to last to four days. In

a pecuniary point of view this Exhibition was successful, and the number of persons who visited the grounds was about 6,000.

Great improvement began to be visible at the fourth Exhibition, which was held at Kingston in September, 1849. Evidence of improvement in home manufactures began to be apparent. Agricultural implements were no longer only represented from Rochester and elsewhere across the boundary line. Although our neighbors held their own, and indeed surpassed Canadian manufacturers, yet still there was great improvement visible, and it was evident to all that the annual Exhibitions were taking hold on the people and producing good results. The tree had only begun to blossom, but the show of fruit was good and promised well.

Mr. Sheriff Ruttan, who is one of the oldest born of this country, and who has seen it rise from a wilderness wherein people starved if the wolves killed too many deer, to a wealthy Province, exporting its sixteen million bushels of wheat, and numbering over a million and a quarter industrious inhabitants, said in his address, which he delivered in 1849, "We must *henceforth* encourage all sorts of manufactories throughout the country, and until we can be thence supplied, set a-going within our own dwellings the old-fashioned spinning wheel and loom. We must, male and female, wear our own manufactures."

The year 1850 ought to have been expressly distinguished by progress—it was the year before the great International Exhibition at London. The Provincial Exhibition was held at Niagara. The prizes offered amounted in value to £1,276, and the results were particularly satisfactory. This year will be celebrated in the agricultural annals of the country by the establishment of the Board of Agriculture, which became a corporate body by act of Parliament on the 10th August, 1850. In 1851 the Board was organized, and the names of the elected members published in the *Canada Gazette*. They were E. W. Thomson, Esq, Hon. Adam Fergusson, Henry Ruttan, Esq., R. L Denison, Esq, David Christie, Esq., J. B. Marks, Esq, John Harland, Esq., the Hon. Inspector General, and the Professor of Agriculture in the University of Toronto.

Brockville was the next place where it had been decided to hold the Exhibition for the year 1851 J. B. Marks, Esq., *the President*, saw what many began to see dimly, others more clearly, but did not deem it wise to express their views openly, that "the powerful influence of manufactures in increasing the population and wealth of a country is too certain and obvious to admit of doubt. They not only afford direct subsistence, and the means of attaining to affluence, to an immense number of individuals, but they act powerfully and beneficially on the agricultural and other classes,—supplying them with an infinite variety of useful and necessary accommodations at a low price. A flourishing agriculture greatly depends, in fact, upon flourishing manufacture." The foregoing sentence told much in few words. What would be the use of the most successful agriculture if there was no market for surplus produce? and if foreign markets failed, as they frequently do, what would the farmer do with his grain and stock if all had to sell and there was nobody to buy? The results of this Exhibition were not very favorable. Brockville is not situated in a good farming county of great extent. The entries, as well as the amount of the prizes awarded, were less than those of the preceding year; but the finances, chiefly in consequence of the Government grant, which in 1852 was increased from £500 to £1,000, were prosperous.

The seventh Exhibition was held at Toronto, on the site of the present magnificent building—the Toronto University. Here is another instance of the changes, rapid and most unexpected, which constantly occur in Canada. Where the products of the farm and the manufactures of Canada were exhibited in an open field, ten years ago, is erected the most splendid building in British America and one of the finest on this continent. The writer of this notice had an opportunity of describing the Exhibition at Toronto, in 1852, in the pages of the *Canadian Journal*.* It will not be out of place here to introduce a few brief extracts, to show how the progress of Canada then was considered something extraordinary and marvellous. We may compareit with our impressions of to day, written at London, nine years since the Exhibition to which the quotations refer :—

* The *Canadian Journal*, first series, October, 1852.

"But few, perhaps, among the thirty thousand visitors to the Exhibition ground on Thursday, September 23rd, permitted their thoughts to wander back to the time when the spot, so densely occupied by the 'pale faces,' and crowded with their works of patient industry and skilful art, was a wild and marshy forest, tenanted only by a few wandering Messassaugas; or, at a later date, and in memory of numbers then present, the forest suburbs of a village, which numbered but a few hundred enterprising settlers.

"Sixty years ago, an Indian wigwam stood alone on the spot now occupied by a city containing thirty-two thousand inhabitants, and furnished with nearly all the requirements of modern civilization, and much of the energy and skill which characterizes the age.

"Sixty years ago, the population of Upper Canada consisted of a few thousand families dispersed over a territory containing upwards of forty-six thousand square miles, enjoying but a very limited means of communication between themselves, and deriving few advantages from chequered intercourse with the world beyond their own great lakes.

"At the time we write this extensive Province is peopled with one million freemen, in possession of those civil and religious blessings which can alone be won and enjoyed by an enterprising and vigorous people."

The number of entries at this Exhibition was upwards of 3,000 ; the number of visitors computed at about 40,000, and the total expenditure amounting to £2,400.

In 1852 another change, greatly affecting the interests of agriculture and the mechanical arts in the Province, took place. A new department was added to the Provincial Government, under the designation of the "Bureau of Agriculture."

The object of the new governmental department was "to centralize and perfect, by means of the appointment of a member of the Executive Government specially charged with such duties, the system or organization under which Agricultural Societies, the Provincial Agricultural Association, and Boards of Agriculture, had been for some time in existence ; to give these bodies, in both sections of the Province, more direct means of communication with the government ; to increase the facilities for carrying out their objects, so as to produce more valuable results ; and to afford to the Legislature, and to the Province generally, a ready means of ascertaining what those results were.' The Hon. Malcolm Cameron was the first incumbent of this new office, under the title of "Minister of Agriculture."

The eighth Provincial Exhibition was held in Hamilton. The whole amount of prizes offered was £1,602, being an increase of £130 on the previous year ; the number of entries was 2,820. This Exhibition was considered as an improvement on that held at Toronto. The general display of mechanical work and of domestic manufactures was very good, showing both progress and confidence in home productions. The number of visitors was about 30,000. In the annual address, the senior Vice-President, Mr. Treadwell, who in the absence of the President, Mr. Matthie, was called upon to perform that duty, said : "Our railways have been located, and are in progress of construction." Time and money have finished the work, and we are now reaping the benefits of those gigantic enterprises which at these earlier Exhbitions were only spoken of or slowly progressing.

In 1854 the Board of Agriculture presented a report to the Government, in which they expressed their opinion of the character of the Provincial Exhibitions, and the use they had been to the country in the following words :—

"The last two Exhibitions, held at Toronto and Hamilton, respectively, were attended by a vast concourse of visitors ; and not only were the stock and articles for competition much larger in amount than at previous shows, but several new things were introduced, and the general quality of the whole was of a higher character than heretofore. In implements and machinery a very marked improvement was obvious, and in the varied productions, adapted to a northern climate, it is believed that the Exhibitions of the Upper Canada Association are not excelled by any on this continent."

The year 1854 brought the ninth Exhibition to London. The site selected was the old Parade ground, about twenty-eight acres in extent. The influence of railways began now to be felt. The Great Western Railway Company offered to convey articles to and from the Exhibition free of charge. The influx of visitors was very great, and at one time it was stated that 25,000 person were present,—while the total number of visitors was thought to be not less than at Hamilton and Toronto. The amount offered in prizes was £1,794, and the number of entries 2,933. The pecuniary condition of the Association was rapidly becoming more flourishing, the balance in hand, on the 21st Sept., 1854, being £1,332 14s. 4½d.

The tenth Exhibition was held at Cobourg. The prize list for 1855 amounted to £2,304, or about £520 more than had been offered at any previous Exhibition. In agricultural implements and domestic manufactures it fell short of its predecessors ; but in the cattle department it was considered to be equal, if not superior, to any which had taken place on this continent. The President David Christie, Esq., M.PP., stated in the annual address that, "We think we can mark in each succeeding Exhibition unmistakable proof of the rapid progress which Canada is making in the social scale. But such evidence is not confined to our Provincial Exhibitions. At the Industrial Exhibitions of London, New York and Paris, those great milestones in the pathway of the world's progress, the word 'Canada' is broadly marked."

The eleventh Exhibition was held at Kingston in September, 1856. Here the first permanent building for the purposes of the Association was erected. The Government granted a license of occupation for the term of twenty years on a part of the Penitentiary farm lot, of about twenty acres in area. Here the Local Committee erected a building of wood and glass. This structure is of the form of a Greek cross, the transepts being 190 feet long and 56 broad. The height of the cupola is 60 feet, but the general height of the building not more than 34 feet. The grounds are enclosed with a permanent board fence. The entire expense of the building, offices, &c., amounted to £3,918. The number of entries at the Exhibition was upwards of 3,790. Agricultural implements, manufactures in metals, carriages, cabinet ware, woollen goods and manufactures generally were well represented, and the entries considerably exceeded those of any former Exhibition. The amount offered in premiums was

£2,309, but the amount awarded was only £1,699. This was owing, no doubt, to a large number of articles which were entered for Exhibition not having been sent in time.

The twelfth Exhibition was held at Brantford, on an area of about twenty acres, on which temporary buildings had been erected by the local committee. The amount of prizes was £2,517, and the number of entries reached 4,337. The agricultural implements were very well represented, being nearly double the number exhibited at either of the two previous Exhibitions In manufactures of leather, furs, metals, &c., the entries were more numerous than in former years, but there was a falling off in woollen and flax goods.

The subject of having permanent buildings erected in suitable localities for the Exhibitions of the Associations was publicly discussed at a general meeting of members of the Association. At a banquet given to Sir William Eyre, the Administrator of the Government, and other distinguished guests, the Hon. P. M. Vankoughnet, Minister of Agriculture, very appropriately remarked that "the mechanical department of the Exhibition has justly attracted great consideration, and an exhibition of those articles is more interesting to many than the mere productions of the earth." "The importance of our agricultural interests could be no better exemplified than by the mixed display here shown, which proves just this, that from what was the first product of the laborer's toil have been built up those arts and manufactures, specimens of which are here exhibited." The Rev. Dr. McCaul thus described the condition of Canada in 1857: "A few years ago, the Chief Justice of Upper Canada stated that there were men now living—and it is possible that they may be still alive—who could remember the time when there was not a single cultivated farm within the limits of the Western Province. And what have we now, within the duration of human life? Millions of acres under cultivation, well-managed, well-stocked farms, rewarding the industry, the enterprise, and skill devoted to them—millions of bushels of wheat exported—our agricultural products worth millions of pounds sterling—some thousands of mills and other manufacturing establishments—large and populous and thriving cities, towns and villages, where formerly there were but tangled woods and dreary swamps—commerce spreading the sail or driving the paddle-wheel alike over the watery highway, that stretches from the far-off gulf of ocean to remote Superior, and over the smaller lakes that gem the interior of the country—and the whistle of the locomotive, heard above the hum of business, as it sweeps through our frontier towns, from the rocky fortress of the St. Lawrence to the grassy banks of the Detroit, or waking the echoes of the primæval forest, as it rushes far back beneath its leafy arches."

The Hon. George Alexander, M.L.C., the President of the Association, adverted in his address to the importance of fostering manufactures, giving due acknowledgment to the prior claim of agriculture:—

"But while Agriculture is and will continue to be our chief and leading interest, there are other objects which must enlist the enterprize of our people. The husbandman raises more than he can consume, while in this age of high civilization, he is the creature of a thousand wants. We must look to commerce and manufactures to supply those wants, and to give a marketable value to all our surplus produce. We must foster in every way those branches of industry which will give population to our towns and cities, secure to us a home market—*diminish the amount of our imports*, and consolidate our wealth. Canada has already been successful with her Foundries, Tanneries, Asheries, Soap, Chair, and Nail Factories, Cloth, Oil and Paper Mills.—Toronto, Hamilton, and Kingston, have produced their Locomotives, and Galt her highly finished edge tools; but she has done more, and it is with pride we chronicle the fact that Galt has exported to Australia during the present season, a steam engine and other manufactures.* There is a marked spirit of enterprise abroad in our country, and when we look at our noble St. Lawrence and those great inland seas, which along with our railways afford such facilities for carrying on all commercial exchanges—when we regard the boundless extent of water power—the certain local demand for all manufactured products—while we have territory that can sustain a dense and teeming population—I say that we cannot behold all this without feeling that our country presents an unlimited field for human enterprise,"

The financial position of the Society still continued favorable; the amount received and paid by the Treasurer, R. L. Denison, Esq., reaching the very imposing sum of £13,799 16s. 6d., and the balance at the credit of the Association slightly exceeded £460.

In 1858 the thirteenth Exhibition was held in Toronto. An imposing permanent building was erected on a portion of the military reserve, ceded to the corporation by the Government, comprising an area of about twenty acres. The local contributions towards the building were $20,000 from the City of Toronto, $4,000 from the County of York, and $800 from Agricultural Societies. The amount of prizes offered was about $11,000, and the number of entries reached 5,559, being over 1,200 more than at any previous Exhibition. The following description of the building was given in the local papers, at the time of laying the foundation stone :—

* Messrs. James Crombie & Co., exported a 20 horse-power high pressure engine. Messrs. Wm. Quarry & Co., exported manufactured harness.

"The building is situated upon 20 acres of ground suitably enclosed, and will afford exhibition space of 32,000 feet. It is to be built in the style of the English exhibition of 1851. It will extend 256 feet in length, 144 in breadth, and will be 56 feet in height, the wings being so formed as to admit of subsequent extension if necessary. 2,000 square feet of glass will be fixed upon the roof, and fully 6,000 feet below. The glass will be of the rough-rolled plate description, manufactured expressly in England, being for the sides one-eight of an inch in thickness, and for the roof one-sixteenth of an inch thicker. The gross weight of the glass will be 12 tons. It is worthy of mention that the roof has been adapted to our climate. There are no gutters, as gutters if broken when frozen would have a tendency to burst the framework, and in a year or two destroy the building. The circular portion of the roof will be covered with tin. The castings were all made by the Messrs. Hamilton & Sons, at the St. Lawrence Foundry, in this city. The contractors' cost of the building will amount to £4 878. To assure perfect safety the girders have been tested to a strain of double the pressure to which they can by any possibility be subjected, and are calculated to bear five times the ordinary strain of pressure."

At the ceremony of laying the foundation stone, Col. Thomson, President of the Board of Agriculture, said: "As to the objects of the Exhibition, they were intended not only to advance the interests of agriculture, but also to encourage arts and manufactures. The Society was anxious that arts and manufactures should advance equally with agriculture."

The thirteenth Exhibition was inaugurated with unusual ceremonies. The Metropolitan Choral Society, composed of 250 vocal and instrumental performers, officiated with great success. Prayers were offered up by the Lord Bishop of Toronto; and an address was presented to His Excellency Sir Edmund W. Head, Bart., Governor General.

The Rev. John McCaul, LL.D., President of University College, delivered an excellent address in the Exhibition building, which by the way, has very erroneously been called "The Crystal Palace," on "The state of Agriculture amongst the Romans."

The President of the Association, D. B. Stevenson, Esq., was unfortunately unable to assume the duties of his office on account of continued ill-health. His place was supplied by W. Ferguson, Esq., the first Vice-President, who dwelt upon the manufacturing interests of the Province to a greater length than any of his predecessors. The subjoined extracts will explain the views entertained by that gentleman, and we should be glad to see other members of the Board of Agriculture more thoroughly imbued with the spirit they embody:—

"It may be alleged that this country is not sufficiently advanced, to require or maintain manufacturing on an extensive scale; and that the reclaiming of our forests, and a better cultivation of our cleared lands, should for many years be our chief object. This course might be found to answer, if the whole immigration to this country consisted of farming people; but as it does not, and as a very large number of those annually arriving at our ports, consist of artizans in the various mechanical branches, from the principal manufacturing towns, and places in the old world, why should the suicidal course be persisted in, of encouraging or necessitating them to take to farming as the mode of earning their future living, or in the event of their not doing so, oblige them for the want of employment in their own line of business, to seek it in the neighboring republic, where with their skill and industry they contribute to build up the manufactures of foreign competitors at the expense of our own, and at the same time essentially advance the farming interests of that country by increasing the home consumption of the products of the farm.

"Thousands of the most skilful artizans and workmen from the Old World, are year after year following their friends, and seeking homes on this side of the Atlantic; and for want of suitable employment for them under our national flag, they as regulary leave our shores for the United States, where, with the wealth of their skill and labor, they enrich that country and make happy homes for themselves.

"As a proof of what Canada has done with the little encouragement which the Legislature has afforded her manufactures, we have but to examine within the limits of this Exhibition ground and we perceive an excellence displayed in almost every department of Arts and Manufactures, in many instances not excelled by the older countries in Europe and America.

"And to what eminence our manufactures might arrive if properly encouraged, seeing the extensiveness of our forests, and the richness and profusion of our mineral productions, not even the most sanguine can predict. Notwithstanding the discouraging circumstances under which some of our infant manufactures are laboring against foreign importations, yet many are still successfully working, not only against want of proper protection, but also against the absence of that patronage to which home manufactures have so just a claim."

It is almost needless to say that this Exhibition was most successful, and illustrated in a very complete and satisfactory manner the remarkable progress made in the country in agriculture, manufactures and art.

(To be continued.)

The Wheat Crop.

Wheat is essentially the bread-corn of the northern temperate zone, and claims the first place in our consideration of the "farm crops" of our own country. This place, indeed, has been assigned to it since the earliest records of our agriculture; for although, in earlier times peas, beans, barley, oats, and rye entered more largely than at present into the ordinary food of the people, experience generally, but surely, showed that no other grain assimilated so well with the human constitution, and so well represented the two great classes of constituents necessary to sustain the tear and wear of human life. Thus, keeping pace with the increasing civilization and knowledge of the people, wheat has won its way to the head of our market lists, where it now stands, acting as a great social barometer, whose variations are watched with eager anxiety by the peer as well as the peasant.

A few words will suffice to show how wheat fulfils the conditions necessary for human nutrition better than any other of our cultivated grains. The valuable researches in physiological chemistry by Liebig, Mulder, and others, so ably followed up by some of our own chemists, have demonstrated clearly that to sustain the functions of animal life two classes of food constituents are required—the one to support the necessary temperature of the body, through the agency of the respiratory system; the other to furnish materials for building up of the material parts of the body, such as the bones, flesh, skin, &c. Thus, "food fuel" is being constantly required for the one, and "food materials" for the other. The regularity of this requirement constitutes health—and continued departure from it, disease.

It is generaliy conceded that, under ordinary conditions, these constituents are required in certain proportions; consequently, any substance containing these classes of constituents in the required proportions would by itself sustain human life for a longer period than other substances in which the relative proportions were not so suitable. These constituents we are accustomed to classify under the heads of—1, Non-nitrogenous, or heat-giving and fat-forming compounds; and 2, Nitrogenous, or flesh-forming and plastic compounds; and from experience, both scientific and practical, we have been led to look upon the proportion of six of the former to one of the latter as that which will, under ordinary conditions, most satisfactorily meet the requirements of the human frame in the northern temperate zone. Now, wheat happily possesses the two classes of constituents in these desirable proportions, and has, therefore been taken as the standard by which the nutritive value of all our other food grains has been gauged.

In barley, oats, and rye, the relative proportions, though they vary but little, are not so suitable. If they are used exclusively as substitutes for wheat they generally derange the bodily health of the consumer, and we only find them forming the food of the people under circumstances where wheat cannot be procured. Beans and peas show a large excess of the nitrogenous or flesh-forming compounds; while in Indian corn and rice of the hotter and tropical climates, the non-nitrogenous constituents form a large proportion of their whole substance. These latter food grains, therefore, would require to be usually accompanied by some additional substances to secure the necessary balance between their nutritive constituents, before they could form any basis of the diet equivalent to that represented by wheat. Wheat seems to have been given specially to man as the fittest source of supply of his daily food, the subordinate animals, companions of his daily toil, and necessary for his existence, contenting themselves, nay, preferring either of the other grains—barley, oats, or beans—when left to their own selection.

The wheat plant appears to have been known and valued from the earliest periods. In the Bible we have frequent mention of it as being known by the Jews and Egyptians; therefore, we may fairly assign to it an eastern origin. Its range, however, is greater than that of most of our other food plants—its cultivation extending from within the tropics to well-nigh the limit of the temperate zone of the northern hemisphere.

This wide range of climate, which enables the inhabitants of many different countries to enjoy the advantages of its cultivation, is occasioned by the numerous species and varieties of which the genus wheat is composed, some being suitable for the clime of India, others for that of northern Europe, while all seem to thrive well in the zones of intermediate temperature. If we look for the principal wheat-producing countries in Europe, we shall find them to be England, France, Germany, Northern Spain and Italy, Prussia, Hungary, Southern Russia, Poland, and the countries bordering the Black Sea. In Asia, the countries lying between the Black Sea on the north and the Persian Gulf and the Red Sea on the south, comprising those regions mentioned in our Bible records, represent the area where wheat is most commonly cultivated. Egypt, Algeria, and the countries running down to the shores of the Mediterranean, are the principal wheat districts of Africa; while the present produce of Canada and the United States has already shown us the well-nigh illimitable area of wheat-producing soils which America possesses, and which will be gradually brought into cultivation as its surface becomes occupied and its population increases. In Australia and New Zealand the soil and the climate are both admirably adapted to the growth of wheat. The beautiful samples of Australian wheat sent to the great exhibition in 1851, and the Paris ex-

hibition in 1855, told their own tale as to quality of produce.

The botanist tells us that the genus of plants yielding the various kinds of wheat is called TRITICUM, and that it belongs to the natural order GRAMINEÆ (grasses) of which it is the most prominent and important member.

The name *triticum* is, according to Varro, a Roman agricultural writer, derived from "*tritum*," ground or rubbed, because the fruit or seed in its preparation as a food for man requires the process of grinding or trituration We learn, too, from Varro and other authors of that period, the place which wheat occupied in the agriculture of the Romans, and the great pains and consideration they bestowed upon its cultivation. Indeed many of their rules and recommendations form good comments upon the negligent tillage of our own times, and might be consulted and followed with advantage by most of us at the present day. The Romans appear to have been acquainted with two species of wheat, the *triticum* or ordinary wheat, and the *far* or spelt wheat; the first they recommended to have sown on good, warm, loamy soils, while they consider the other best adapted for cold clay soils, and for high and exposed districts. Their rules for getting the land into proper condition preparatory to the wheat crop are well worthy of our attention. They insisted upon the necessity of having the land in good heart, so as to be able to produce and perfect a good plant; that it should be carefully freed from all noxious weeds, which abstract from the soil the food that should support the growing crop; that the soil should be broken down into the finest tilth possible, and that it should be ploughed as deep as the farmer's force would permit, so that roots of the plant might be able to penetrate the subsoil in search of its necessary food.

The Romans were evidently keen observers of *results*, though they were not so well acquainted with their *causes* as we are. Their farmers had not the advantages which chemistry places in the hands of ours; and yet many of their practices and precepts are even now entirely neglected by the majority of us, and only to be seen exemplified on the farms of our most enlightened and intelligent agriculturists. On heavy lands they recommended fallowing, and exposure to the sun and to the frosts; on good loams soils they recommended that wheat should follow a crop that differed from it in its habit of growing and its requirements from the soil; and on light sandy or gravelly soils, that the soil should have the necessary firmness given to it by means of the roller or other implement. They were more particular, too, in keeping the seed pure and unmixed, in selecting the best for the purpose of sowing, and in changing their seed and adapting it to the soil in which it was to be used. These are all points which we shall have to refer to as we discuss the subject of this treatise, and which never can be neglected with impunity in the cultivation of wheat.

In describing the different species composing the genus triticum, well-nigh every writer has adopted a different arrangement, and consequently considerable confusion and misapprehension exist, not only as to the species, but as to the correct nomenclature of the endless (so-called) varieties, which enter into our ordinary cultivation. By common consent, M. Louis Vilmorin, in France, and Mr. Lawson, in this country, are looked upon as the best authorities on the subject. Therefore, we cannot do better than to follow the division and classification of the genus, so ably drawn up by the former, while the descriptions and agricultural characteristics of the cultivated varieties, by Mr. Lawson, will enable us to form correct opinions of their nature and suitability to our several requirements.

M. Vilmorin divides the genus "wheat" under seven heads or "species:"—

1. TRITICUM SATIVUM—Common Wheat.
2. TRITICUM TURGIDUM—Turgid Wheat.
3. TRITICUM DURUM—Hard Wheat.
4. TRITICUM POLONICUM—Polish Wheat.
5. TRITICUM AMYLEUM—Starch Wheat.
6. TRITICUM MONOCOCCUM—One-grain Wheat.
7. TRITICUM SPELTA—Spelt.

The first four species have their seed or grain naked, while the seed of the remaining species has the chaff scales adhering to it

No. 1, *T. sativum*, is arranged in two principal divisions, "bearded" and smooth, or "beardless." Of the bearded there appear to be seven, and of the smooth or beardless twenty seven distinct varieties; and these are again divided into sub-varieties according to their colour, as white, yellow, or red, and according also as the chaff-scales are smooth or rough.

No. 2, *T. turgidum* has two principal divisions—those varieties having simple ears, and those having compound—the sub-varieties being determined by the colour, white, red, or dark, and by the rough or smooth character of the chaff scales. of these M. Vilmorin enumerates eleven distinct varieties, ten having simple ears, and one having a compound ear.

No. 3, *T. durum*, has three verieties.

No. 4, *T. polonicum*, only one.

No. 5, *T. amyleum*, only one.

No. 6, *T. monoccum*, only one.

No. 7. *T. spelta*, is divided into two—the bearded and beardless varieties.

Of these seven species only the two first are cultivated in this country, the others being merely grown for experimental or illustrative purposes.

The *T. sativum* comprises all the varieties of winter and spring wheat under ordinary cultivation; the *T. turgidum* being limited to certain districts where the soils are cold and strong, and where a large yield of a coarse quality is desired.

It would not be within the limits of this short treatise to attempt to give a decription of each, or of half the various wheats cultivated in different parts of the kingdom; it must, therefore,

be confined to those most generally esteemed varieties met within our best cultivated districts, their characteristics being given in the briefest possible manner. The simplest division between them for our purpose is that of colour, white or red, the yellow varieties being classified either with the one or the other, according to the darkness of their tint. Amongst the most esteemed of the white varieties, we meet with,

Brodie's Wheat.—Fine sample, superior to Hunter's; straw longer, about a week or ten days earlier at harvest, and more productive; suited for spring sowing, cultivation increasing in good districts—Lothians, Berwickshire, &c.

Chidham.—Fine quality; short, compact grain, with fine, transparent skin; meals well, and fetches a good price at market; largely grown in the southern countries; increasing in Scotland.

Dwarf Cluster.—Short, firm straw; tillers well; yield generally good both in quality and quantity; suitable for rich, humous (vegetable mould) soil; grown chiefly in the south, but stands the north climate very satisfactorily.

Essex.—Resembles Chidham; probably the same wheat slightly altered by cultivation in a different district; fine thin-skinned variety, with square head and no awns; esteemed highly by millers; yield good in good district.

Fenton.—Hardy, with short, strong straw: rarely falls; good cropper; suitable for rich soils; quality of grain good.

Hopetoun.—Resembles Hunter's, rather finer quality perhaps; hardy; good cropper; largely cultivated in the north; esteemed in the markets.

Hunter's.—Rather thick ear, tapering towards point; grain rather large, plump; top dull white or light brownish tint; quality excellent: hardy; grown extensively in the north; succeeds well in the south.

Pearl.—Resembles Chidham and Essex; fine quality of grain; straw long and stout; early at harvest, and suitable for either winter spring sowing, on rich, warm soils; meals well.

Spring.—Bearded; ear shortish; grain thin, with transparent skin; straw generally shortish and weak; ripens quickly even when sown late in spring.

Talavera.—Ear long and thin; grain very large, plump, with rounded ends quality excellent; meals well, and always tops the market; tender habit; sown in spring, and requires good soils; has not succeeded in the north.

Uxbridge.—Apparently same as Chidham, improved by climate; ears larger; grain small, short and plump; fine white colour; sample beautiful, and much sought after by millers for finest flours; good cropper, succeeds well in good districts of the north.

Velvet-eared, or Rough Chaffed.—Straw short and stout; grain medium size, of pearly white colour; excellent quality, and good cropper; requires dry climate, or apt to mildew; largely grown in the eastern counties.

(To be continued.)

A Diet for Acute Diseases.

The necessity for supplying a certain quantity of nutriment to the system does not cease upon the occurrence of disease, although it may be considerably modified at least for a time. This circumstance renders it advisable to decide upon the precise object desired, before any system of dieting be arranged. The simple inquiry what is necessary, in reference to each case, would generally find an answer, and prevent a host of errors in the treatment of animals suffering under disease; applying this principle we come at once to the question, what is the object of diet in acute affections?

In very few, perhaps in no instances, can it be said that food is at all indispensable to support the system; under the immediate disturbance of an active disease, aliment of any kind will stimulate, and, consequently unless absolutely necessary had better not be administered at all. We can hardly understand that harm can result from a day's or night's abstinence, while we have often had reason to regret the consumption of too much, when the digestive organs were unable to perform their office. We have probably no more safe or direct sedative effect resulting from any system of treatment than from total abstinence for a time; no more direct source of irritation than the introduction of a quantity of material into the stomach which is incapable of appropriating it. The anxious inquiry, What will he eat?" applied to man or beast, is expressive of solicitude, which, however genuine, is unfortunate for the patient, as it commonly leads to the selection of tempting food, to excite an appetite which naturally would not exist until the organism was again sufficiently restated to permit its indulgence with advantage. It may be accepted as an absolute fact, that under every form of acute disease no benefit can possibly result from allowing the patient to eat at the commencement, even should a desire to do so be manifest, there is no immediate want of sustenance, and no debility will result from a temporary abstinence; although even were these consequences imminent, food would not furnish the means of prevention, as the impaired digestive action reduces it to the level of mere waste material, unproductive of any benefit to the system.

Our anxiety is always to remove every particle of food from the animal's sight for the first twelve hours of an acute disease, allowing only water, rendered medicinal by the admixture of some saline, such as nitrate of potash or the sulphate of magnesia or soda; by this plan we prevent an irritating thirst, and at the same time the too large consumption of fluid, thus made distasteful; while the quantity which the animal's feelings prompt him to swallow will act beneficially upon the secretions.

At the end of ten or twelve hours, a little hay or green food, or mash, may be offered, as the

the excitement of unappeased hunger would be injurious; but if the patient still manifest an indifference, the material should be at once withdrawn; in this way in the absence of appetite, an animal may safely fast for a considerable time, according to circumstances, until, indeed, the acute state of the malady has slightly subsided, when the assimilative functions are partially restored, and food of a proper kind may be given with benefit.

The most succulent articles of diet are universally preferred for sick animals to dry food, even although the latter might be more nutritious. As the nutriment is not in so available a form, we gain nothing by selecting it, while the moist diet is more easily masticated, besides being much less stimulating. For these reasons carrots or green food are desirable: the last, in particular, is usually very harmless, and tends to secretation by the amount of water it contains, besides acting beneficially by means of its saline constituents. The amount of nutritious matter contained in such diet is exceedingly small, but quite equivalent to the present wants of the system.

In the absence of succulent food, mashes are the nearest representative, but as bran is irritating in some states of mucous membrane, its use is not at all times allowable; where any contrary indications are present, flour gruel, or linseed tea, or a mixture of the two, will generally be taken by the patient with readiness, and will afford sufficient support to the system, without causing any excitement of the membrane of stomach or intestines. It is hardly necessary to remark that succulent vegetables are not to be permitted in cases of diarrhœa, as their action is ordinarily laxative, in consequence, probably, of the quantity of water which they contain; nor, by the same rule, will carrots or turnips be legitimate diet during polyuria, as under any circumstances, a diuretic effect generally follows their use: the white carrot we have noticed to be particularly active in this respect.

Against the system of abstinence at the commencement of an acute malady, it may be urged that the disease and the necessary depletive treatment will sufficiently weaken the patient, and that supporting the body by nutritious food is the only method of compensation. It might be easily shown that the same objection would apply to any kind of depletive treatment. It is unfortunately true that we cannot attack acute disease successfully without, to a considerable extent, lessening the tone of the system. If it were the case that nutritious food would furnish a remedy for this untoward consequence, without adding anything to the present excitement, we should be justified in defending its use; but as the system owes its support to the matter assimilated, and not merely to the food swallowed, we can hardly expect much from the consumption of nutriment which the digestive system cannot appropriate; nor would it be consistent, even if it could, to allow a liberal diet, while our other therapeutic measures have a direct opposite tendency. The stomach would probably suffer in many cases if allowed to remain empty for any long time, from the solvent and irritating effects of its own secretion; hence a bland diet, easy of digestion and not stimulating or highly nutritive, is advisable; and upon it the animal can well subsist until the organism is capable of assimilating its ordinary aliment. In some instances an extreme disgust at the sight of food compels the employment of force in its administration, a necessity which cannot but be deplored from the disturbance occasioned to an animal whose life almost depends upon perfect quietude; nevertheless for the reasons given, some diet is necessary, and the only thing to be done under the circumstances is to administer it as carefully as possible, always remembering that a small quantity of aliment taken voluntarily will be more advantageous to the animal than twice or thrice the amount forced into the stomach. Linseed tea and gruels of oat-meal, bean-meal, or flour, according to circumstances, may be easily administered by the ordinary drenching horn, two or three times a day. Any medicines which the case may require will, as a matter of course, be given at the same time.

When from any causes, such as tetanus, throat disease, or extreme irritability of stomach, it becomes impossible to exhibit food by the mouth, we have recourse to enemata; animal or vegetable food in fluid mixture may be injected into the rectum; small quantities only are permissible, and consequently their more frequent administration is necessary.—Professor Brown, of Cirencester, in *Veterinarian*.

Jethro Tull, the Introducer of the Lois-Weedon Culture System.

"Perhaps," says the *North British Agriculturist* (August 22, 1860) "the system, even to the width of the three rows and intervals between these rows, is exactly the same as the system pursued by Jethro Tull and others more than a century ago. The following are extracts from *Select Transactions of the Society of Improvers, Scotland,* published in Edinburgh in the year 1743:—

A letter concerning Mr. Tull's method of improvement, to a person of distinction in Scotland, and by him communicated to the Society.

I have been at the Lord Ducie's, where I have seen several new methods of husbandry, particularly with wheat. This way was found out by one Mr. Tull, a gentleman who was bred a scholar, turned his philosophy towards plants and husbandry, and by experience found that the constant expense of manure, which was ne-

cessary in the common way of husbandry, ate up so much of the profits, that it did not answer. This gentleman I did not see; but his son lives with this Lord, and from him I had the following directions:

If wheat land be out of order, by being foul, or run out, begin to fallow it at Christmas, and again in March. Be sure you plough the second time the same way as at first, because by that means you'll probably break some hard lumps that may have remained after the first ploughing. But the third time it may be cross ploughed, which will certainly mellow the ground. If you can plough it a fourth and a fifth time, it will do the ground more good than if you dunged it. And by this method he thinks his dung rather an encumbrance than of use for corn; because it brings up weeds, which take away the nourishment the corn should get. The earlier the wheat is sown the better. Wheat must be sown with a drill, which is a machine which holds the corn to be sown in a box. There are three holes, which open by a spring as the drill turns on an axletree, which lets the corn fall in three rows about a foot apart.

There is a little thing like a plough, no greater than a large pruning knife, which cuts the ground at a certain deepness before the hole that drops the corn; and a little harrow fixed to the machine, that closes the ground upon the corn after it is sown. This is the only harrowing it must get; because the common harrows bury a great deal of the corn so deep that it never comes up. When you come to the end of the field you must turn the drill, and leave a space of about five feet betwixt these three rows of corn and the next, and so on. The five feet space that is left betwixt the rows of corn is to be ploughed with a hoe-plough as often as you can, the oftener the better, though even six or seven times; and that interval is to be kept in ploughing both to destroy the weeds and mellow the ground. Besides, the keeping the ground moved, makes the corn grow the better, and in greater quantity, and the straw stronger than the common way. I saw a proof of this —for the two sides of Lord Ducie's corn were both taller and better coloured than the middle row, where the ground was not loosened. And to mend this, they have sown the rows at a foot distance, whereas they were formerly at six inches; because you may pull up the weeds, and stir the ground with a hand hoe betwixt the rows, The drill is drawn with one horse, a boy to lead him and a man to follow it, who lifts the drill quite up from the ground when he turns at the end of the field; and the lifting stops the corn from falling out till the wheels it runs upon are set agoing again. The hoe-plow must have two horses, a man to hold it, and a boy to lead them. They sometimes use oxen to the hoe-plough, or more horses if the ground is strong; but whatever draws must be muzzled, for eating the corn. By this drill you only sow half a bushel to the acre, which is a great deal of seed saved. If it is dry weather, and the fallow-ground not broke enough betwixt the rows of the corn, you may harrow and roll it. By this method you have a greater crop upon an acre than in the common way, though the ground is dunged. And next year you manage the same ground after the same way; and sow it again with wheat only; the corn must be sown where the interval was the year before; and the place where the corn is to be sown should be raised into a little ridge, to be all winter. They have had four years' experience of this way, wheat after wheat, and it grows always the longer the better.

I objected that the ploughing so much would be a vast expense. He said, that it did more than answer. And now I say to you, try it, and you'll know whether it is so or not, for I do not know.

On the Production of the Sexes among Sheep.

[Abridged from the *Journal d' Agriculture Pratique*, as translated in the *Mark Lane Express.*]

The general law which Giron de Bazareingues has recognized on the subject of the procreation of the sexes is as follows:—The sex of the product would depend on the greater or less relative vigour of the individuals coupled. In many experiments purposely made, he has obtained from the ewes more males than females, by coupling very strong rams with ewes either too young or too aged, or badly fed; and more females than males by an inverse action in the choice of the ewes and rams he put together.

But the following fact has nothing in common with those related by Giron de Bazareingues, and which has been repeated, with small variation every year, from 1853—the period at which the observations I have noted down began. This fact consists:—

1st. In that, at the commencement of the rutting season, when the ram is in full vigour, he procreates more males than females.

2nd. When, some days after, the ewes coming in heat, and in great numbers at once, the ram was weakened by a more frequent renewal of the exertion,—the procreation of females took the lead.

3rd. The period of excessive exertion having passed, and the number of ewes in heat being diminished, the ram also found less weakened, the procreation of males in majority again commenced. The abstract results have furnished two remarkable facts:—

1st. The ewes that produced the female lambs are, on an average, of a weight superior to those that produced the males; and they evidently lose more in weight than these last during the weakening period.

2nd. The ewes that produmales weigh less, and do not lose, in nursing, so much as the others.

If the indications given by these facts come to be confirmed by experiments sufficiently repeated, two new laws will be placed by the side of that which Giron de Bazareinques has determined by his observations and experments.

On the other hand, as, at liberty or in the savage state, it is a general rule that the predominance in acts of generation belongs to the strongest males, to the exclusion of the weak, and as such a predominance is favorable to the male sex, it would follow that the number of males would tend to surpass incessantly that of the females, amongst which no want of energy or power would turn aside from generation; and the species would find in it a fatal obstacle to its reproduction. But, on the other hand, if it was true that the strongest females, and the best nurses amongst them produce females rather than males, nature would thus oppose a contrary law, which would establish the equilibrium, and, by an admirable harmony, would secure the perfection and procreation of the species, by confiding the reproduction of either sex to the most perfect type of each respectively.

Agricultural Intelligence.

Agricultural Exhibitions.

From the reports we have seen in the papers of the fall shows, both of county and township societies in different sections of the Province, we infer that these useful organizations are, upon the whole, in an efficient and improving condition. Our space would not admit of the briefest notice of the proceedings of all these societies, even were the reports fowarded to us. And this becomes the less necessary, since a detailed report is annually sent to the Board of Agriculture from each Society in Upper Canada, according to the requirements of the Agricultural Statute, and a condensed statement of these reports is published in that portion of this journal which is devoted to the Transactions of the Board.

The two Riding Societies of the county of WENTWORTH, and the Electoral Division Society of the City of Hamilton, united and formed one Exhibition in the Crystal Palace of that place, and it was eminently successful. The weather was fine, and the number of visitors very large, so that the capacious and delightful grounds assumed a very animated and pleasing appearance. The horses, cattle, and in short almost everything which goes to make up these shows was of excellent quality. Indeed the magnitude even of several of these *united* Exhibitions is said to equal the earlier shows of the Provincial.

The Township Show of ETOBICOKE was not, perhaps, quite equal this year to some former occasions, nevertheless, in point of quantity and quality, it was very good. This small township has for many years, as many of our readers are aware, taken the lead of township societies generally, and its great success has been the means of infusing new life and energy into the societies which were falling behind.

The WEST RIDING OF YORK, and the TOWNSHIP OF YORK, united this year and held an Exhibition in Yorkville, which proved eminently successful in all the departments. It was said to be superior, in every respect, to the first Provincial Exhibition held in Toronto 15 years ago. These are pleasing signs of progress, and prove the advantages of two or more societies uniting, (occasionally at least,) in getting up an exhibition which, while it is replete with instruction, commands the respect of all intelligent observers.

A friend has sent us an elaborate report in the *Ingersoll Chronicle*, of the NORWICH SHOW, which appears to have been quite, if not even more successful than the preceding. For a single township the number and quality of the animals, and articles on exhibition was not only satisfactory, but far beyond the most sanguine expectation of its projectors. Last year the number of entries was 550, but the number this season amounted up to 1,061! In the horse class we find there were no less than 156, and many of these animals of superior merit. Indeed the whole affair was excellent, and the greatest interest was displayed by a much larger number of visitors than is usually seen on such occasions. Much praise is due to the President, Gilbert Moore, Esq., and an efficient body of directors. The Society has erected a neat and commodious permanent building in the village of Norwichville, of the form of a cross, covering an area of 2,800 square feet. Persons not members were charged 10 cents for admission, which while it greatly increased the Society's funds was not felt as a burthen by individuals, who went away with the satisfaction of knowing that they had contributed something to so good a public object. We should like to see this principle carried out wherever practicable. The report concludes with a notice of "an agricultural pic-nic to be held in the Society's building, when addesses would be delivered by the Hon. David Christie, and the Hon. George Alexander,—the proceeds to be applied towards freeing the building of debt." We are happy to find these gentlemen, who are members of the Board of Agriculture, as well as of the Legislature, devoting themselves to an object so truly praiseworthy and patriotic.

The subjoined extract from the report will be found suggestive and interesting:—

"The peaches exhibited by Gilbert Moore were of the very best descriptions we have seen in Canada. We believe that he was the only exhibitor; no peaches of Canadian growth exhibited at the late Provincial fair at all equal-

led them. We were so astonished at their size and richness that we sought out Mr. Moore and made enquiries as to his mode of culture, that all our readers might be in a position to grow his choice fruit. He informs us that the secret of the non success of peach growing in Canada is that farmers do not understand their culture, and entertain the mistaken idea that the young trees require great care and a rich soil.—The consequence is that the trees grow too fast and do not mature. In 1860 he raised 200 bushels of splendid peaches. His mode of culture is to plant on gravel soil—the most barren that can be found. The trees grow very slowly and become domesticated to the soil and hardened against the climate. Where farmers have no suitable soil a good plan is to dig a hole for the trees, fill it with gravel, drawn from gravel pits, and plant the trees on it. No care should be expended upon them. They will grow best to be let alone. Would it not be a good idea for our farmers to take a note of Mr. Moore's mode of cultivating the peach?"

New York State Fair—1861.

Held at Watertown, September 17–20.

THE EXHIBITION OF LIVE STOCK.

(From the Country Gentleman.)

The Exhibition of Cattle was good, and included fine animals of Durhams, Ayrshires, Devons, Herefords, and Alderneys. Several of the great Durham herds of the State were not represented, but the great number of smaller contributors shows the extensive dissemination of these fine anima's; and the excellent grades from them, on the grounds, indicate the great improvement which they have effected of late years. Among the Ayrshires were several very fine animals from S. D. Hungerford, and by James Thompson of Milton, Saratoga county; Brodie, Campbell & Co., had fourteen head on the grounds, one cow of which had given 84 lbs. of Milk in 24 hours; George Morton of Canada West, brought sixteen head, eleven of which took prizes; and Simon Beattie of Scarboro', C. W., exhibited a fine imported cow.

The Holland cattle of H. Holbert, Goshen, N. Y., remarkable for their singular markings of black and white, and claimed to be excellent milkers, were also upon the grounds.

Among the Herefords, were animals from the herd of H. Bowen of Sennett, Cayuga, Co., who exhibited 8 head; M. C. Remington of the same place, who had 9 head; and E. Corning, Jr., of Albany, who had 13 head, all of which took premiums. A. Stevens of Batavia, had 5 head of fine Devons; and A. B. Conger of Rockland, a large herd of Devons, Ayrshires, Durhams, and Alderneys.

The exhibition of Sheep was large and excellent. Mr. Chamberlain exhibited a large herd of Silesian, an George Campbell, Spanish Merinos. The chief exhibitors of South Downs were Samuel Thorne, Green & Mather, Thomas Aycrigg, of Passaic, N. J., and R. H. Avery, of Wampsville, N. Y., who presented 20 head. Fine Cotswolds and Leicesters came from our Canada neighbors—some, of great excellence. Among these exhibitors were S. Beattie and J. Snell, who had about 15 head each. Brodie, Campbell & Co., had 23 Leicester, and 3 Scotch Mountain Sheep—the latter newly imported, long wooled like the Leicesters, and handsomely mottled with black and white on the face. They are curiosities, and have great hardiness to recommend them.

The display of Swine was perhaps the best ever made at a State fair. There were large numbers of the Suffolk, Essex, and Yorkshire breeds. Elihu Griffin and A. M. Underhill of Duchess Co., showed several fine specimens of Essex; E. B. Benham, of Dryden, Tomkins Co., Yorkshires; and V. W. Smiley, of Watertown, a number of handsome young animals of a cross between the Yorkshire and Suffolks—an excellent cross, of which we have before seen excellent specimens. There were many other exhibitors of exceilent swine, among them J. F. Converse, James Thompson, Hungerford and Heustis, and A. C. Clarke.

AGRICULTURAL IMPLEMENTS.

The collection of Agricultural Implements was excellent, but not so extensive as in some years. Nearly all the principal mowers and reapers of established reputation were on the grounds, such as Wood's, Ketchum's, Kirby's, Hallenbeck's, the Ohio, Cayuga Chief, the Buckeye and others. The mower and reaper made by J. & G. Lord & Co., of Watertown, called the Young America, and which has been mostly confined in its use to Jefferson county, appears to be among the best. The gearing is mostly shielded from dust and scattered hay, by an iron cover. Russell and Tremain's screw mower, which has now been in use a year or two, and has been tried and approved by some excellent farmers, has no cog-machinery, the motion being obtained by means of friction rollers acting on an endless screw. The rollers are 21 in number and are placed on the inner face of a driving wheel. The screw is about six inches in diameter. As the onward motion causes the driving wheel to revolve, the rollers one after another run on the flange of the screw and turn it. The only complete test of a machine is obtained by wearing it out, and more time is needed to prove the ultimate value of this mower.

Wood's self-raker, attached to his reaping machine, is one of the most simple contrivances for this purpose, that gives any promise of being useful. Johnson's cornstalk cutter is a simple attachment to a mowing machine, and was exhibited in connexion with Ketchum's one-horse

power. The knives cut off with ease one row of corn at a time; the stalks drop in a trough, which opens at regular intervals, and leave the bunches on the ground. It will therefore cut as much as a horse can travel over in a day, taking a row at a time, or about six or eight acres. The stalks are yet to be placed on end in shocks together, a large portion of the labor—which is obviated when the stalks are cut by hand, the workman taking three or four hills of stalks in his left arm, as he cuts each one with a blow successively. The amount of labor saved may be known when it is determined how long a time is required to elevate the stalks on end and secure them.

The large exhibition of endless chain horse powers, shows the increasing estimation in which they are held by farmers. Among them were those of Emery & Co., of Albany, J. M. Harvey & Son of Amsterdam R. & M. Hardee of Cobbleskill, Westinghouse of Schenectady, Wheeler of Albany, and of the Watertown Agricultural Works. The grain separater of W. Dada of Hannibal, Oswego Co., is furnished with a screen for effectually separating oats from spring wheat, consisting of a smooth zinc plate, thickly perforated with holes that let the wheat pass through, but over which the oats slide in a horizontal posture. A horse fork for pitching hay was exhibited by W. H. Palmer of Jefferson Co., which operates by dropping, like Gladding's, but with a shorter arm, which is loosened and set free by a very simple contrivance. The "pinion hinge" gate of E. C. Leonard of Binghamton, excited interest for ingenuity and simplicity. A small cog-wheel or pinion is attached to the heel of the gate, in such a manner that when it is opened either way the pinion rolls in a rack, which carries it from the centre, thus causing it to fall shut by its weight. Carriage gates are opened by a cord attached to a post, without the driver dismounting from his seat, the self-shutting tendency closing it again. Experience, the only test, may prove this to be a valuable contrivance. It may be of value to some of our readers who wish a light and strong gate, that is but slightly acted on by the wind, to give the dimensions of the different parts of the gate to which we found these hinges were attached: heel piece, 3 inches square; head piece, 2 by 3 inches; the upper and lower horizontal bars, 2 inches square; the five intermediate ones, 2 by 1¼ inches. All these horizontal bars being thus of the same horizontal thickness, and mortised in the ends, are braced and secured by two wooden bars placed diagonally, and extending downwards from the top of the heel piece to the bottom beneath the latch, which are bolted or screwed at each crossing. These braces are 2 inches by half an inch, and being let into the head and heel pieces, exactly at their thickness. The windmill of E. W. Ellis of Onondaga Co., was in motion on the grounds, and is self-regulated by centrifrugal force. It is a small one, 6 feet in diameter, and sold for forty dollars, and is said to work well for a small force. Good collections of plows were exhibited by Lord & Co., of Watertown, and by Remington & Markham of Ilion.

J. Wait of Watertown, exhibited a very compact and apparently good grist-mill for grinding food for animals. The effective part was made of steel saws, which cut the grain into meal of a moderate degree of fineness. It will grind about ten bushels an hour. It does not grind so fine as buhr-stones. Its durability, and the amount of labor to keep the saws filed sharp, we could not determine; possibly formidable objections may exist here. The cost is $50, besides the horse power to drive it.

Boll's patent Stone-lifter came on the grounds with a granite boulder of about four tons weight grasped in its iron claws. The two wheels on which it moves, are very large, strong, and so far remote from each other as to allow very large stones to ride between them. These stones are drawn out of the ground by oxen working on a windlass, similar in operation to a stump-puller. Such as are three-fourths buried are readily drawn out, by drilling slight depressions into the two upper sides to receive the claws. They are easily carried and deposited in a stone wall. This is obviously a valuable machine for rocky regions of the country. Its cost is over $200.

Bullard's Hay-spreader, a model of which was shown, is apparently the best thing of the kind yet invented. Its singular and rapid motions excited a great deal of interest and amusement among the spectators. It was thought by some that the inventor had derived his leading idea from the motion of the hind legs of the grasshopper, but he disclamed any thing of the kind. The machine runs on two wheels like a cart, and the operating part consists of eight vertical pitch-forks, point downwards, which are worked so as to throw the hay backwards, each one striking the grass at a different moment. The motion is given to them by a revolving axle, nearly resembling a three-throw crank. One horse, drawing this machine, spreads in a most thorough manner a strip eight feet wide, and will go over three acres in an hour. Although such a thing is less needed since the introduction of mowing machines, yet if meadows are as heavy as all good farmers should have them, a few teddings while drying would greatly accelerate and perfect the drying process, and perhaps often enable the farmer to escape storms of rain.

DAIRY HALL AND ITS CONTENTS.

Dairy Hall contained a moderate but good collection of articles—among the rest were three large cheeses nearly three feet in diameter, and eighteen inches thick, from the large dairy of Jesse Williams of Rome. The Salt Company of Onondaga county had a large collection of vari-

ous kinds of salt, from the coarse crystals of solar evaporation, as large as walnuts, to the snowy white table salt, almost as fine as flour, and consisting of grains or crystals less than one hundredth of an inch in diameter. The collection of Vegetables was small and of moderate merit. Domestic Hall contained a good collection of various articles of domestic fabrics, and sewing machines in large numbers. The improvement in the facilities for the manufacture of cheese, was indicated by the large collection of Cheese Vats, for holding the milk and giving to it the proper temperature, as well as for ease in the management and transfer of the materials. All of these were heated by means of a plate or stratum of hot water surrounding the milk. Among others, we observed those exhibited by D. W. Maples of Homer, Cortland County; O. O'Neil & Co. of Utica; H. & E. F. Cooper of Watertown. (Roe's vat and heater;) and Wm. Ralph, Holland Patent, Oneida Co. The cost of these vats of equal size, was about the same, varying from size to thirty to fifty dollars. A. H. Emery's anti-friction cheese press, is constructed on a principle similar to that of Dick's, but with longer rolling surfaces, and with an iron axle, worked by a winch, working between and in contact with them. We estimated its power by calculation, if strong enough made, to be that of 25 tons, for a hundred pound force applied to the winch. *It cut through and broke off short pieces* of strong scantling. Those who are familiar with the labor of working butter by hand, will not wonder why there is so much bad butter owing to the amount of buttermilk left in it. Machines which abridge the labor some twenty times or more, have humanity as well as economy to recommend them. Two were on exhibition; Hotchkiss's is worked by a lever working on the knee-joint principle, and pressing the unworked substance between two surfaces; and Rhoade's, which has a corrugated roller passing alternately over it.

One of the most really meritorious machines, was the Clothes Wringer, manufactured by the Metropolitan Washing Machine Co. It must save labouring women a great deal of severe labor. It is attached by screwing to the side of a wash-tub, and the clothes are passed by turning a handle, between two rollers covered with India rubber. The force required is slight, and by moderate motion a large sheet was passed through in five seconds. It was left slightly moist, but dry enough to prevent any sensible moisture being imparted to a sheet of wrapping paper placed beneath.

Agricultural Discussions at the State Fair.

THE ARMY WORM.

On the evening of the 17th Dr. Fitch gave a very acceptable lecture on the Army Worm, interesting for his theory of its sudden and mysterious appearance. He stated that this insect, when done with its depredations, entered the ground to the depth of about two inches, the miller or perfect insect emerging two weeks afterwards, to lay its eggs. It probably deposits its eggs at the root of the grass. It has not been ascertained till recently what this insect is —it was believed formerly to be the common cut worm. Specimens had been sent from the Western States and from New England, and it has been found identical with an insect described 50 years ago in England. It is not the cut-worm, but strictly a grass moth, of which there are several species in this country, secreting themselves in grass. It is one and the same species all over the country—is most remarkable for the manner of making its appearance suddenly in countless millions, and departing as suddenly without leaving any apparent descendants. It resembles in its destructive effects the eastern locust, but unlike that it cannot fly, but can only walk, constituting the infantry or foot soldiers merely. How then does it come? Dr. F. has no doubt that it is a constant resident here in the Northern States and that it ordinarily lurks in the wild grass of swamps. The reason that it is not commonly discovered is that we are driven away from such places by clouds of mosquitoes, or prevented by them from examination. There are no marshes near his residence, *and no army worm has there made its* appearance. "Sportsmen," (whom Dr. F. termed "bird murderers,") have probably observed large spots in such places, where the grass was all devoured. He asked why it had not come up along the Connecticut river this year, where in 1770, ninety years ago, it was so destructive? Simply for the reason that most of the marshy margins of the river are now drained—it being now chiefly confined to the sea coast, where drainage could not be effected. He thinks he has ascertained the reason of the mysterious and sudden appearance, which is this: The season was very dry last year, as is well known by the famine in Kansas, the swamps became dry, and thus gave the insect an unusual feeding range, favoring their increase. This year was very wet, the swamps were overflown, and the insects were driven out among the crops, and scattered their eggs over the country. Thus a dry season favors their multiplication, and a wet one spreads them. This is the present view, although circumstances may modify it, but he is fully persuaded it is substantially correct. In 1815 the army worm was very destructive; in 1816, a very dry year, the insect increased, and he infers that 1817 was wet—and also that 1769 was dry, and 1770 wet. He finds by examining an old medical work that the former year was remarkable for its heat, and from the papers of the day, that 1770 was remarkable for its storms, and he mentioned other corroborative evidence.

It seems, he remarked, that this insect is ordained by nature to keep huddled together in

ps, in order that man may be able to effect struction. He proposes burning the grass dry where no danger can result from the and thinks an acre of them worth more to a of swine than an acre of potatoes. The nance of draining will also suggest itself to one.

MANAGEMENT OF MANURES.

At the conclusion of his address, the subject Farm yard Manure was taken up, and the best s of saving and applying, discussed by cal farmers present. President Geddes said sult of his observation and experiments, first, that the manure yard should be so that none of the manure should run off; dly, that there should be plenty of straw to h all the droppings of the cattle; and ly, that the coarse manure thus made d be placed in piles with square sides, and flat or concave tops, to catch the rains. ite strawy, the heaps should be made as high e labourer can easily pile them, to induce entation, and the tops should be *dishing* ceive water. In July, the outside should be down with a hay-knife, and the outside parts on the top, these being the only undecayed the rest of the heap being already well ed. The manure will thus be in good or- for wheat lands, and will greatly assist the th of the subsequent crop of clover. This e best mode of managing manure on grain s, where an abundance of litter is used for . He has now a stack of straw containing st a hundred tons, (last year it would have for $300 to the paper-makers,) and not cattle ugh to work it down; to put this under shed d be simple folly—where there is little straw much dung, a shed may be useful. Where is much sheep dung, it would fire-fang if ed. Dairymen will want a shed; grain ers, who have much straw, corn-stalks, &c., ot. As for his own mode of farming, he thank no man for furnishing a shed, how- erfect, even with a slated roof, for if the re were under it he would have to cut it nd it would be of no use. He prefers to manure to wheat or grass: if used for it fills it with weeds. He applies it to the e of the wheat, and always drills in the —remarking, in passing, that although opposed to drilling, he was now "convert- the faith," and thinks it the best and most way. If the manure is applied to the , the rains carry it into the soil; but if too deep, it is difficult to get up again. thinks clover manure of the utmost import- It gives a crop of corn that needs no hoeing horse cultivation only. He has thus raised seven bushels to the acre, and the land was cleaner than in other fields with hoeing. Clover also forms an excellent manure for other grain crops, oats, barley, wheat, &c. He has had wheat on clover sod at the rate of 33 bushels per acre for 20 acres, and regarded the clover as at the bottom of this heavy product. But he wants the manure in order to get the clover. He sows plaster on wheat, oats and clover, evenly by a machine, at the rate of two bushels per acre.

Moses Eames remarked that most farmers largely wasted at least half their manure, by not securing the liquid parts He saves all in winter by keeping his cows in stables, and absorbs the liquid by litter. He thinks a load of this manure as efficacious as a load of plaster, and applied to meadows has obtained from them over three tons of hay per acre. He prefers to apply it in the fall, but never when the ground is frozen, as the rains would wash much of it away from his hilly land to that of his neighbors. He usually applies thus five loads of 40 bushels each per acre. He prefers to compost it with muck or earth, to render it finer and more friable, and insure its spreading. Fresh and wet, it does not spread evenly. He remarked that farmers might as well attempt to raise crops without manure as bankers to bank without money. His top-dressed meadows have yielded him this year 240 tons of hay, at about two and a half tons per acre. In one case, he had four tons to the acre, on grass land seeded from the fresh manure, the cattle having eaten hay with plenty of seed in it—no weeds were thus produced but thistles, and these were all killed by mowing the first year. He prefers to apply his winter manure in spring, and plow it in not more than three inches with a gang plow—if buried deep, he never gets "its strength up to the surface again.

In answer to a question, President Geddes said his preference was never to apply manure directly to corn, but for avoiding weeds, to manure his clover, and put on corn afterwards.

—— Andrews of Conn., said that farmers in that state had scarcely enough straw to litter properly their cattle, and he applied it in spring, in a green state, to corn, which was planted on ridges made by throwing two furrows together. The manure is wheeled out during the winter under a shed, piled up, and is ready for spring application. A drain from his yard carries the liquid manure to the meadow, and the irrigation thus given has produced heavy crops. He sows half a bushel of equal parts of clover and timothy per acre; and has found that thick sowing produces fine fodder for cattle, instead of the coarse feed resulting from thin sowing.

A gentleman whose name was not heard, had never found any evil result from drawing out and spreading his manure during winter—his land was not hilly, and the rains did not wash it off, on a frozen surface. He uses muck, pea-straw, and other refuse matter for his hogs, and makes from them over twenty loads of good manure yearly; and whenever the supply of

straw is small, carts in large quantities of leaves from the woods for littering his cattle.

T. S. Faxton of Utica, spoke of the great improvement which had been made among farmers generally in the saving and managing of manure. He said that so long ago as 1820, it was common for the Dutch farmers to draw out their manure in winter, and place it on the ice of the Mohawk river, in order that it might be carried off out of the way on the first thaw. The manure "filled the land with weeds," and that appeared to them a sufficient reason for regarding it as a nuisance. The subject is now better understood. He has found out conclusively that the sooner manure is applied to land after being dropped from the animal, the more we get from it. If piled a year much of it wastes.

S. Walrath of Canton, St. Lawrence Co., said he had learned much in twenty years—his most valuable crop now is his manure crop; then it was his poorest. He carefully excluded foul seed from his manure, allows no weeds to ripen, and cuts his hay green, or before the seeds have formed. He can make finer and sweeter butter than his neighbors who allow cows to eat bad flavored weeds.

T. C. Peters of Genesee Co., remarked that one class of farmers cannot do as others may be able to—they differ in their management, but both are right for the kind of agriculture each practice. He thought that dairy farmers managed their manure best—that manure sheds are not necessary for our climate, a d that any amount of rain will not injure manure if the discharge from the eaves of the barns does not fall upon it. He makes a distinction between *barn yard* manure (often containing much straw) and *stable* manure; stable manure proper should be applied to the current crop; but yard manure should be first piled to rot.

To embody the substance of the discussions, the following resolutions were adopted:

1. Manure which consists chiefly of the droppings of animals, should be applied as soon as practicable to the soil.

2. Manure consisting largely of straw, cornstalks, or other fibrous matter, should be first rotted to become fine.

3. Manure should be applied at or near the surface of the soil, should be slightly buried.

4. For hoed crops, and especially for corn crops, it may be buried deeper than for straw crops.

Beet Root Sugar.

EDITORS OF THE AGRICULTURIST.—In answer to the enquiry of *Briar* in your last number, the following mode is pursued in Germany (according to Professor Lampadius) in making beet sugar upon a small scale. The roots having been washed, are sliced lengthways, strung on pack-thread and hung up to dry. The object this is to let the watery juice evaporate, and t sweet juice being thereby concentrated is tak up by macerating the dry slices in water. It managed that all the juice shall be extracted l a very small quantity of water. The Profess obtained four pounds of fine white grained sug from 110 lbs. of roots so treated, and the re duwm yielded seven pints of spirit. Acka says, that a ton of roots treated after the sam manner, gave 100 lbs. of raw sugar, which ga 55 lbs. of refined sugar, and 25 lbs. of treacl I have Chaptal's mode (which is much mo elaborate, while the result is nearly the sam The syrup is to be boiled and skimmed until sr ficiently concentrated, which is known as follow The skimmer is dipped into the syrup and dra out, some of the thick syrup which adheres to is taken between the thumb and forefinger, a held there till the heat is reduced to that of t skin; the finger and thumb are then separate and if the syrup is of proper strength a thre will be drawn out which snaps, and has t transparency of horn, or rather barley sug this is called *Proof*. The fire is then put or and the syrup is carried to the cooler, a ves sufficiently large to hold all the syrup; here t sugar is to crystalize. As soon as this co mences, the whole is well mixed and stirred fore it becomes too stiff. Earthen molds then filled little by little, when full, are carri to a cool place. As the crystalization goes the crust formed on the top is frequently broke and the whole stirred till the crystals are c lected in the centre, it is then allowed to go without further disturbance. In three days t pegs in the moles may be removed, and t treacle allowed to run out; in a week this mostly run off. The process for refining is same *as that* pursued in the West Indies.

P. S. Two pounds of the residue of the roo and half a pound of hay, are considered suffici food for a day, for a fair sized sheep, and keep them in fine condition.

I am, &c.

R. H. A.

Etobicoke, Oct. 4, 1861.

Horticultural.

Labels for Fruit Trees.

A good, durable, and very cheap label standard or bearing trees, is made of sheet t Cut the tin in siripes about six inches lo somewhat in the form of a wedge, about a fou of an inch wide at one end, and three-fourths the other. Write the name near the wide e with any sharp steel instrument, as an awl, end of a file ground sharp, bearing on h enough to go through the tin coating, reaching the iron. (In a few months the by penetrating to the iron, will rust it, make

ame quite conspicuous.) The label is then ached to the tree by bending the narrow end ce about a side limb. As the tree grows this ll will expand, and not cut the bark. On this unt thin tin plate is better than thick. The l should pass around but once, or it will not ve way freely to the increase of growth.

This label is so simple that it can never get of order, being nothing else than a single ip of tin; and any tin worker will cut them scrap or refuse plate for about ten or fifteen nts per hundred We have given them a full l and know their success:

Grape Culture.

The following is a brief outline of an address the culture of the grape in Canada, de- ered by the President, J. Hurlburt, LL.D., fore the Fruit Growers' Association of Upper nada—a copy of which was asked by the iety for publication in the *Canadian Ag ulturist:*

THE CLIMATE OF CANADA AS ADAPTED TO THE CULTURE OF THE GRAPE.

Gentlemen,—In the discharge of that part of duties which enjoins upon the presiding er of this society "To deliver an address on e subject relating to the objects of the As- iation," I have selected the one here an- nced as being of sufficient importance to mand more attention than has been given

The indifference manifested in most parts the country to the culture of the grape is to attributed, no doubt, in part to the impres- what the climate of Canada is unpropituous it, and in part to want of information upon and indifference. Directions as to the best de of culture are easily obtained. If this iety can be the instrument of convincing the ple of this country that many varieties of the pe can be grown here with profit, no doubt experiment will be made. Canada, covered the vine, would appear to Europeans a very erent country from their present estimation it. This one fact would be worth volumes ten on our climate, and would do much to the tide of immigration to our shores.

ask your attention—

First,—To the temperatures and quantities rain in the vine-growing countries of Europe mpared with large areas in Canada where r conditions of climate are found.

he accompanying table will give the condi- of climate as to temperatures and quanti- of rain in the vine-growing countries of the and new world. In all inland countries, e the season is shorter, higher temperatures required than upon the sea coast. While grape is somewhat exacting in requiring a mer temperature between 63 and 80, no definite quantities of rain seem absolutely neces- sary, as it has been found to flourish in localities where there are twenty inches, and in others only one tenth of an inch in summer. In look- ing over this table it will be found that in the grape-growing regions in America the tempera- tures are higher and the quantities of rain greater than in Europe. California and New Mexico present, however, exceptions in the almost total absence of rain in spring and summer.

CLIMATES OF THE VINE-GROWING REGIONS.

EUROPE.	LAT	ALT.	TEMPERATURE			AM'T RAIN, INCHES.			
			summer.	winter	year.	spr'g	summer.	autumn	year.
Lisbon.....	38.42		70.9	52.5	61.4	....	....	....	....
Madeira...	32.37	1200	71.3	61.9	66.9	5.1	2.3	7.0	30.9
Turin, Piedmont....	45.11	857	71.6	33.5	53.1	8.2	9.0	11.5	33.5
Vienna, Lyons in the Valley of the Rhone	45.32	300	71.8	38.7	55.3	10.2	9.5	10.4	31.4
Bordeaux..	44.50	s.lev'l	71.1	43.1	57.	7.3	7.4	10.3	34.
Azores	37.50	....	72.5	57.3	63.5	6.6	3.6	9.5	31.4
Vevay, Switzerland....	46.28	2.50	65.7	55.9	50.8	7.9	10.8	11.1	33.8
Mankion, Rhine...	49.26	258	67.1	33.4	50.3	6.3	8.0	7.4	27.0
Dijon, France	47.19	746	69.6	35.4	52.9	7.1	7.5	9.3	32.2
Chalons, N. E. France.	48.57	492	66.8	37.1	52.2	5.4	6.2	6.1	23.3
Bucharest, Danube..	44.27	(?)	65.3	47.8	46.8	....	....	....	....
Astrachan, Caspian Sea	46.21	s.lev'l	75.9	19.2	50.	....	....	....	....
AMERICA.									
Camden, S.C	34.15	250	77.9	47.4	62 6	13.6	20.8	9.8	54.4
San Antonio, Texas....	29.25	600	82.2	54.2	69.6	8.9	9.4	6.0	32.8
Cincinnati, Ohio....	39.06	550	73.6	32.9	53.8	11.9	14.2	10.0	47.5
Cleveland "	41.42	625	67.6	30.6	48.1	6.5	8.7	7.7	32.3
Ann Arbor, Michigan.	42.10	750	66.3	25 3	46.4	7.3	11.2	7.6	28.6
St. Louis, Missouri..	38.37	450	76.2	33.4	55.7	12.7	11.0	8.7	42.5
Albuquerque, N. M.	35.13	4576	73.1	34.4	53.8	0.6	5.6	1.2	8.4
Rancho del Chino, Cal.	34.00	500?	72.6	54.8	63.3	2 5	0.1	1.6	9.7
Hamilton, Canada W	43.15	332	71.9	....	....	5.87	9.81	8.68	31.77
Ancaster, Canada W	43.15	617	65.1	25.9	45.6	5.87	9.81	8.68	31.77
Toronto...	43.39	3-1	64 8	24.3	44 5	7.16	9.53	10.35	31.35
Montreal. ..	45.31	50	71.4	17.8	45.7	..	11.88	...	17.28
Quebec....	46.49	100	69.1	12.8	41.5	....	....	....	....

Bordeaux, in the south-west of France, famous for its delicious vines, has a less summer temperature than Montreal in Lower Canada, or Hamilton, at the head of Lake Ontario. Indeed Hamilton and Montreal have higher summer temperatures than most of the vine-growing countries of Europe. Bossingault gives some interesting facts relating to vine culture at Schabzburg in Flanders. The lowest summer temperature was 63° 1′, with 311 gallons per acre; the next 66°, and 184 gallons to the acre; the highest was 71°, and 544 gallons; the mean for summer of 67° gave 625 gallons per acre —the highest recorded. (We have a fact analogous to this in the yield of the Indian corn, as

given by Coleman; although a tropical and sub-tropical plant, it produces four times as much where the summer temperature is 67° and 68° as at the south, in a summer temperature of 80°.) Where the temperatures were 63° and 66° the wine was scarcely drinkable, but was unusually good with the summers at 67° and 68°. The lowest temperature given for the vine-growing districts of the United States, is that at Ann Arbor, Michigan; for spring, 45° 5′; summer, 66° 3′; autumn, 48° 4′, and winter, 25° 3′. The next is Cleveland in Ohio; summer, 67°, and winter, 30° 8′; but the cold of winter has very little effect upon the vine. The locality having the least rain is California, one-tenth of an inch in summer, and but nine inches and a half during the year. The place having the most is at Camden, South Carolina, 20. 8 inches in summer, and 54 during the year. The quantity of rain and the degree of humidity in the air most favourable for the vine in the interior climates, are questions of difficult solution, and certainly, impossible with our present limited information on the subject. The European grapes are extremely sensitive to great extremes from drought to excess of rain, but native varieties may be cultivated adapted to our peculiarities of climate. The remarkable uniformity of rain and humidity throughout most of the Valley of the St. Lawrence, are favourable for the vine. Probably the south western portions of Upper Canada, and the districts south and west of Lake Erie, may be found to combine, in the highest degree, those conditions of climate most propitious to the vine of any region east of the rocky mountains. Experience, however, would be our guide here.

Secondly,—The extent over which the wild grape may be found growing in Canada may be some indication of the areas over which the grape may be cultivated, and especially native varieties. Sir John Richardson found the frost grape (*vitis cardifalia*) as far north as the south end of lake Winnepeg on the 50th parallel. Sir George Simpson says, "Even the vine runs *abundant* on the Kaministiquaia, a tributary of Lake Superior from the north, at 49° and 50° north latitude." Native vines are found throughout the whole of the Canadas within the limits just named; they are generally co-extensive with the great forests of deciduous or leaf-falling trees, and as a general rule wherever the maple grows. They are hardy, very acid, prolific bearers, and of good size. Kaemtz assigns latitude 47° 36′ on the Atlantic Coast of France, 49 in the interior, and 50° 20′ on the Rhine at Coblentz as the northern limits of the vine in Europe. In Germany it does not pass 51°, and extends to about the same parallel in Eastern Europe. Our hardy native vines may be made use of in the culture of wine-producing grapes. Their natural luxuriant growth over such extensive areas, is a very significant fact, and may be some indication of the limits within which even European varieties may be successfully cultivated. At all events when a plant found like the vine in Canada spontaneously springing from the soil, we have the best proof that those regions where it has established its are by nature adapted to it. What then may these same vines become under the fostering hand of the skillful gardener. That kind of culture which has educed from the sour crab apple the beautiful and delicious specimens that fruit now before us, and done so much improving every variety of our fruit, cannot be lost upon the wild grape, and may bring forth it berries equally luscious with the European varieties and much better adapted to our climate.

It may here be incidentally mentioned as a very good guide as to the climates favourable to the grape, that it has been found by experience that wherever Indian corn matures the fruit of the grape will also ripen. Johnston, Faigneaux and Moreau, the best authorities place the vine, the last two as high, and Johnson two degrees higher than Indian corn. The northern limits of this cereal on this continent will be found as high as the Saguenay in Lower Canada, a part at least of New Brunswick through most of the Canadas, and as high as latitude 54° on the Saskatchewan. We may considerably curtail these limits and still have an immense field for vine culture. It is a question of the very first importance that attention should be given to the improvement of the native vines, from which we may hope to get varieties better adapted to our climate, and which will be surer and more prolific bearers.

Thirdly,—The results of actual experience in grape-growing in Canada, have been most encouraging. Upon three small and young vines (upon wood of the second year's growth) within sight of where I am writing this, I have counted more than one thousand bunches of at least half a pound each. These are of course grown entirely in the open air. They are the Isabella. Of the black Hamburg, it is not unusual to see clusters of two and three pounds weight, and even much larger when grown under cover. But I need not specify particular instances; the best proofs of success are exhibited at our autumn Shows. The conditions of our climate, temperatures and quantities of rain, the luxuriant growth and prolificness of the wild grape throughout the country, and the success attending the feeble and isolated efforts in the culture of the vine, give us abundant assurance that the grape may be grown with profit over extensive areas in Canada.

Apple Orchards, Varieties, &c,

To the Editor of the Agriculturist.

Notwithstanding all that has been said and written upon the subject of fruit culture in the various periodicals of the day, I find as the res-

observations during a somewhat extensive this season, through the western part of ada West, that much information is yet ed, and to that end we should continue to line upon line, and precept upon precept. the subject is thoroughly investigated. great point in setting out an apple orchard, properly preparing the soil, is to have election of such varieties as are known to dapted to our Canadian climate, and at the e time of such excellent quality as to be ly marketable. Much has been said about failure of trees sent over from the United es, and I am convinced that, it is rather g to the fact that the varieties usually grown e are such as have been propagated with al reference to the wants of the South and st, than to any inherent fault in the trees selves. A variety of first rate excellence Western New York, Pennsylvania, or Ohio es often worthless when grown further north. ther thing I will mention, viz.: the desire the part of farmers to run down prices and cheap trees. The American agents knowing fact that their trees are unsaleable at home, having large stocks on hand, will readily nit to take almost anything offered in order ffect a sale. Our own nurserymen on the r hand have extra difficulties to contend st. Owing to the severity of Canadian ers, many trees are killed between the time ising from seed till they are fit to send out grafted four year olds, and those that then re may be considered as acclimated, and of more intrinsic value than trees grown in a er and more equable climate.

s the result of my observation I give the owing list of apples as especially adapted to a, and although the list is short it embra- all that are really desirable.

Summer varieties:—Red Astrachan, Early est, Keswic Codlin. Autumn varieties:— Pippin, Gravenstein, Snow Apple, St. Law- . Winter varieties:—Northern Spy, Bald- , Colvert, Ribston Pippin, Pomme Gris, bury Russet, Talman's Sweet, and Rhode d Greening.

Some will object to the Northern Spy on ac- nt of the length of time it takes to come into g, but if it does, it proves extraordinary y, productive, and long lived; and I noticed Huron County that of many hundreds of trees out from the U. S. Nurseries almost the remaining survivors were Northern Spys. tree has a habit when young of producing erabundance of wood, which should be kept heck by summer pruning. As a general it is undesirable to plant out trees in the except on light well drained soils. And e trees have been ordered for this fall I ld strongly recommend that they should be ld in, in a dry spot int he garden, and plant- ut in spring; or if planted out this fall they ld be planted shallow, well staked, and a mound of earth a foot high raised round the stem, said earth to be levelled again in spring.

Hoping to see the subject of orchard ng still further discussed in your columns, and promising to contribute my mite to the cause.

JOHN MACKELCAN, Jr.

Hamilton, C. W., Oct. 7th 1861.

Peterborough Horticultural Society.

We have pleasure in noticing that this new Society, the organization of which this spring we recorded in a recent number, has lately had a successful meeting. Amongst the names of exhibitors we find those of the Rev. V. Clementi, President of the Society, Mr. Sheriff Hall, Mr. J. Gilmour, Mr. Kempt, Mr. P. Cooney, &c. We take the subjoined report of the meeting from the *Peterborough Review* of Sept. 27th.

"On Friday last the primary show of the Horticultural Society was held in the Town Hall, the use of which was kindly granted for that purpose by his worship the Mayor. The weather was most unpropitious: the rain clouds which had, for some time previously, been gathering above our heads commenced, early in the morning, to discharge their contents with an intensity and a pertinacity sufficient to damp the spirits as well as the bodies of those engaged in the endeavour to make the exhibition worthy of the patronage of the public.

Notwithstanding this *contretemps*, the tables, when the doors were opened at one o'clock, presented, thanks to the ladies who had furnished them with an abundance of elegant and tasteful floral designs and bouquets, a very charming appearance.

Mr. John Gilmour had converted the dais at the end of the room into an extemporaneous greenhouse, where were displayed choice collections of Cacti and other tender and interesting plants.

The exhibition of fruit was, partly owing to the season and partly to the day itself, on a very small scale. Mr. Carver's plate of plums, however, judiciously gathered, with their beautiful bloom well preserved, was universally admired.

The specimens of vegetables were creditable: had the weather been more favourable a greater quantity would have been, we have reason to know, forwarded to the Committee.

At five o'clock the doors were closed, and re-opened at seven, when a large number of visitors were present, whose ears were gratified by the spirited performances of the Peterboro Band, who, with their accustomed liberality, gave their services to the Society, and by their enlivening strains enhanced greatly the pleasures of the evening. At eight o'clock the President, the Rev. Vincent Clementi, addressed the assemblage, and then announced the result of the labors of the judges.

On the whole we may reasonably consider the Society to be an established fact. It has

been ascertained satisfactorily what can be done in our town for the promotion of a taste for horticulture; and we anticipate next year, an augmented subscription list, greater competition, and even more attractive shows."

Hardy Bulbs.

The time has nearly arrived for planting hardy bulbs,as Tulips, Hyacinths, Narcissus, Crocus, &c. October is the best month for planting them, but any time before the ground is frozen will answer, although it is preferable to have them in the ground a few weeks before extreme cold weather sets in, so that they may have a little start which will make them flower earlier and stronger in the spring. They may be planted either in beds by themselves or in groups in the borders. If the grounds are extensive and the number of bulbs large, a bed in the shape of a parallelogram four feet in width and of any length will be found the most convenient perhaps. An oval bed, where the number of bulbs is not great, will be found as good a shape as any other. The bulbs should be planted with great regularity, the use of a line in planting being quite necessary. A tulip bed where the bulbs have been planted without any regard to this rule, has a careless and slovenly appearance, quite unpleasing to the eye.

The soil for bulbs should be a good loam, rather light, and enriched with a little old, well rotted manure, cow manure being preferable.—The soil should be fifteen inches deep and thoroughly prepared by digging and pulverizing with care. In planting, a handful of sharp sand should be put in each hole before the bulb is placed in it. Hyacinths and tulips should be planted about three inches from the top of the bulb to the surface of the ground, and about six to eight inches from each other. A little protection by means of litter, is of service in very severe winters, but must be removed early in the spring. Small bulbs, such as Snowdrops, Crocuses, &c., may be planted as a border to the tulip bed, or will form very pretty small beds by themselves. Plant them about an inch and a half deep. It is well to cover them slightly during the winter, as although they are perfectly hardy, yet when the ground is bare in the spring, the frost is apt to throw them out when unprotected.

It is usual to take up the bulbs of Tulips and Hyacinths every year after they have done blooming, as they do better than if allowed to remain in the ground, but it is not absolutely necessary. A very good bloom may be obtained for two or three years without removal, but as the foliage of the spring bulb soon decays after the flowering is over, the bed will be bare during the greater part of the summer. For this reason it is well to have a provision of bedding plants or asters to set between the bulbous plants in May or June, which will keep the bed covered and beautiful after the bulbs have been removed.

—Country Gentleman.

Soldiers' Gardens.

The Emperor of the French, ever mind the comforts of his fine army, has not le want escape his watchful attention. By a graph which appeared in a late number it have been seen that his Imperial Majest established a soldiers' gardens all roun camp at Chalons, and that the experiment been attended with the most complete suc Plots have been marked off for the sol gardens, tools and seeds have been prov and a market has been set up in the comm riat, where the products are all purchased the martial gardeners. We are told, for that the men have all taken to these novel suits with the greatest delight, and that, a the numerous busy hands, the dusty plai Chalons is likely soon to be transferred into vast kitchen garden. We do not see why a si experiment should not be tried at Aldersho It is true that the soil there is not of the fertile description; but human skill and pat would do a great deal to warm it into fru ness. The Chinese do wonders in prod fertility in the desert; and in Malta ge orange-groves have been raised by mean artificial soil on the barren rock. The tw thousand pairs of sturdy hands at Alder would soon turn up and render friable the born clay, and there is manure enough at to raise anything. There is nothing tha Englishman likes so well as a garden—no in which he takes so much pride or wor at with so much pleasure; and if, as in the ot Chalons, he were furnished with the tional incentive of a market, there is no d but that the soldier would take to it with a which would banish all dread of his great en *ennui*, whilst it would keep him out of deb and health-destroying amusements. Gar would furnish to our soldiers healthful oc tion for their leisure time: they would hu ize and civilize their tastes; they would en them to make some slight addition to scanty pay: and they would aid the hyg arrangements of the camp by furnishing a c and constant supply of fresh vegetables. if the latter should cost a little more than could be purchased for in the market, money would be well laid out, and there w be this advance, that, being grown on the they would be always on hand, fresh, and r for use. Turning from the useful to the mental, abundance of flowers might be cul ed; and we see no reason why an occas flower show should not enliven the monoto the camp. We see by the daily papers tha has already been attempted, and with a ver amount of success, in a much more unf locality. A parish clergyman has got u exhibition this year in dismal, dirty, murky Giles's, and the visitors have been agre surprised by the pretty specimens which

inhabitants have contrived to raise on the and window-sills of their squalid tenements. s, then, make the attempt on open, breezy, ious Aldershott, and see whether we can transform some of its boggy, sandy surface pleasant patches of flowers and vegetation. *ited Service Gazette.*

Transactions.

etings of the Board of Agriculture.

TORONTO, Sept. 3, 1861.

The Board met this day, pursuant to no- at their office, at noon.

esent,—Messrs. E. W. Thomson, Presi- ; Hon. D. Christie, A. A. Burnham, R. enison, Hon. G. Alexander, Wm. Fer- Jno. Barwick, Professor Buckland, Dr. y, J. E. Pell.

e minutes of previous meeting were read dopted.

ssrs. James Johnson, of London, chair- of the Local Exhibition Committee, and Carling, M.P.P., were present, and sub- a communication from that committee ference to their financial position, em- g a letter from the Mayor of the city ndon, in which the mayor informed the ittee that the council had endeavoured duce the East Middlesex Agricultural y to convey to the city certain lands the city limits, upon consideration of y paying the amount necessary to com- the works for the exhibition, but the had declined the proposition, and the l would not consent to advance the required upon any other terms. The unication from the local committee embodied the following resolution:—

Moved by W. Barker, seconded by J. g, and resolved,—That in consequence e assurances given to the deputation of association by the members of the Gov- nt and the members of the Board of ulture, in relation to the loan of $3000 the deputation applied for, this com- feels itself justified in ordering the to proceed forthwith, and order it ac- gly."

Carling also presented a communica- from the Local Committee, recommend- the acceptance of a proposition of certain in London to light the exhibition ng with gas, on condition that they have the use of the building on three during the week of the exhibition.

Mr. Sheard, architect, was in attendance, and submitted the plans of the building proposed to be erected by the Board for offices and museum.

Mr. Dalton, barrister, also appeared, and presented a draft of lease of the property proposed to be taken by the Board, for the purpose of building offices, &c., upon.

The Secretary presented the following communications:—

From certain persons resident at Riversdale, in the county of Bruce, in reference to some local difficulties in regard to the place of holding the Greenock township fall show, and asking the advice of the Board in the premises.

From the Smith's Falls Branch Agricultural Society, stating that although that society had made their reports and deposits regularly with the South Lanark County Society for the two years last past, they had received no share of the government grant, and would in consequence be obliged to give up the Society, unless they could make their reports direct to the Board, instead of to the County Society.

From Mr. John J. Beatty, of Streetsville, representing the desirableness of effecting an arrangement with the railway authorities, by which exhibiters of cattle would be enabled to avail themselves of the reduced charges for railway carriage on the two or three days preceding the week of the exhibition.

From Mr. J. Crawford, of Scarboro', in reference to the appointment of judges by the East York Agricultural Society in accordance with the request of the Board.

Mr. Pell reported that he had proceeded to London, as authorised by the Board, and had made an agreement with Mr. Campbell, contractor for the exhibition building, to put up the tables, stalls, flower stands, &c., according to plans and specifications, for the sum of $518.58.

It was then moved by Mr. Christie, seconded by Mr. Barwick, that the plans submitted by Mr. Sheard be adopted.—Carried.

Mr. Johnson, chairman of the London Local Committee, represented the position of the committee in regard to finances, and stated that they were desirous of obtaining an advance from the Board, in anticipation of the expected government aid, in order to enable them to proceed with the works for the exhibition without interruption.

Resolved,—That the resolution adopted at

the last meeting recommending the local committee to apply to the government for assistance, be so amended as to guarantee the repayment of the sum so advanced within a period of four years from the date of the exhibition at London this year.

The Board adjourned at 2 p. m. for one hour.

The Board resumed at 3 p. m.

The draft of the lease submitted by Mr. Dalton was discussed and approved, and the President was authorized to sign the same on behalf of the Board.

Moved by Mr. Pell, seconded by Mr. Barwick, and

Resolved,—That the Board will appropriate the sum of five hundred dollars for internal gas fittings to the exhibition building, and open the exhibition on the evenings of Wednesday and Thursday, managing the same, and receiving all the receipts, providing the Local Committee lay the main pipes thereto.

Resolved,—That it be an instruction to the committee appointed to let the booths upon the exhibition grounds, that a condition shall be inserted in the license that no sale of liquors or refreshments shall be allowed after six o'clock, p. m., each day.

Resolved,—That Col. Thomson, and Mr. Denison be a committee of this Board, to call upon the Mayor and corporation of the City of Hamilton, for the immediate repayment of the two thousand dollars loaned by the local committee to the said council at the time of the last Snow, and, therein failing, to take such steps for its collection as they may deem advisable.

Resolved,—that provided a banquet be got up at London, in connection with the exhibition, this Board authorize their Treasurer to take one hundred tickets to said Banquet, provided the price does not exceed one dollar each.

The Board then adjourned to Tuesday, 24th Sept., at the Show grounds, at London.

London, Monday evening, Sept. 23, 1861.

The Board met this evening, by special notice, in the Tecumseh House, London, at half-past seven.

Present: Messrs. R. L. Denison, A. A. Burnham, Hon. D. Christie, Jno. Barwick, Dr. Beatty,

Mr. Barwick, President of the Agricultur Association, in the chair.

The minutes were read and approved.

Mr. Johnson, Chairman, Mr. Cornis Mayor of London, Mr. Carling, M.P.P., a several other members of the local committe waited upon the Board, and submitted t following communications and propositions:

A letter from Mr. Raymond, of New Englar to be allowed to enter the grounds for the p pose of selling an article of merchandise.

A proposal of Major Shanly, of the Lo don Volunteer Artillery, to five a salute up the formal opening of the exhibition.

A request of the five companies of Lond to be allowed a tournament or trial of Engin on the show ground, on Thursday 26th.

A request from the Local Committee f an increase in the price of tickets to the ba quet, proposed to be taken by the Board, as to allow for the furnishing of wine for t invited guests.

An offer of the manager of the gas co pany to supply gas at the evening exhibitic at $50 per night.

An enquiry as to whether the Band of Royal Canadian Rifles, or other Band, wo be engaged for the evening exhibitions.

An enquiry as to the arrangements to made for the trial of plows.

An application of Mr. Barnard to be a pointed Auctioneer on the grounds.

An enquiry as to the direction of the pol on the grounds.

A request that the Board would adva $3,500 to meet the expenditure on the wo for the exhibition, in anticipation of the expe ed aid from Government.

An enquiry from Mr. F. W. Peters whet the committee would require the bells of Paul's Cathedral to ring this year as at the exhibition held here.

A resolution from the local committee questing the Board to furnish each mem of the local committee who has attended t meetings with twenty quarter dollar tic for the use of their respective families, a that their carriages be admitted free to grounds,

Some observations were also made on subject of erecting a general committee ro which had not yet been provided by the l committee.

The members of the local committee t retired.

It was then Resolved, That the reques Mr. Raymond be not granted.

Resolved,—That inasmuch as the Gover- General cannot attend to open the Exhi- , as invited by the President of the As- ation, the Board does not consider it ex- ient to institute any other formal opening, therefore the proposition of Major Shanly re a salute on the occasion is respectfully ined.

Resolved,—That a trial of Fire Engines in the grounds would be quite incompati- with the character of the Exhibition, and ld be an inconvenience, that no such has taken place at any former exhibition, therefore the Board feel it incumbent up- them to decline the proposition of the Lon- Fire Companies on this occasion.

Resolved,—That the resolution in regard to tickets to the Banquet was adopted at a meeting, and the Board does not now feel fied in departing from it.

Resolved,—That Mr. Burnham and Dr. tly be a Committee to confer with the nager of the Gas Company in reference to charge for lighting the building on the ing Exhibitions.

Resolved,—That Mr Barwick, and Hon. Christie be a Committee to wait upon the onel of the Royal Canadian Rifles, and in- the officers and men to visit the Exhibi- , and also state that the Board would be sed to have the band of the Regiment r in the building on the evening Ex- itions.

Resolved,—That the judges shall test such ghs in the field as they may consider ne- ry.

Resolved,—That Mr. Barnard's application g the only one before the Board, he be mitted to act as Auctioneer on the ground, quired.

Resolved,—That the Board has no desire have the bells of St. Paul's Cathedral rung the exhibition days, and that they do not authorized to appropriate any sum of ney for that purpose.

Resolved,—That the members of the City ncil and of the local Committee have com- entary tickets given them, to admit them- s and families, and that no carriages be mitted except upon the payment of a dollar as advertised in the Regulations.

Mr. Denison reported that he had visited milton, along with Colonel Thomson, sident of the Board, and had waited upon members of the City Council, as ordered last meeting; in reference to the money obtained by the Council of that city from the local Committee of the Hamilton exhibition last year, and now due to the Board, but had not received any satisfactory result from the interview.

Resolved,—That the Secretary make a requisition to the Mayor of the City of London, to place ten policemen at the disposal of the Board, to do duty within the exhibition grounds during the show.

Resolved,—That in view of the pecuniary obligations of this Board, which must be promptly met, no other action than that already determined upon in reference to the local expenditure, can be taken at present.

The Board then adjourned to 9 a. m. tomorrow, at the grounds.

Tuesday morning, Sept. 24.

The Board met at 9 a. m., at the office on the show ground.

Present: Messrs. E. W. Thomson, President, W. Ferguson, A. A. Burnham, Hon. D. Christie, R. L. Denison, J. Barwick, Dr. Beatty.

The minutes of the meeting of last evening having been read, it was moved by Mr. Denison, and seconded by Mr. Christie,

Resolved,—That the action taken by this Board at an emergency meeting held at the Tecumseh House on the evening of the 23rd instant be approved by this the regularly adjourned meeting.

Yeas,—Messrs. Barwick, Burnham, Christie, Denison, Beatty.

Nays—Mr. Ferguson.

The motion was therefore carried.

The President, Col. Thomson, reported upon the building for the Board at Toronto that the tenders exceeded the amount contemplated, and that a conditional arrangement had been agreed upon to be confirmed or negatived by telegraph upon obtaining the decision of the Board.

The Board determined that no alteration should be made in the plans.

The Board then adjourned until 9 a. m. to-morrow.

Wednesday morning, Sept. 25.

The Board met in the office at 10 a. m.

Present: The President, (Col. Thomson,) Hon. D. Christie, Mr. Barwick, Mr. Buckland, Mr. Denison.

The minutes were read and confirmed.

A communication was submitted from Mr.

Glackmeyer, manager of the London City Gas Works, stating that the gas would not be supplied for the evening exhibitions in the Building for less than the amount at which it had been offered in a previous communication.

Ordered,—That the gas be used in the Building as offered by the company.

Ordered,—That the price of admission at the night show this evening be a quarter dollar.

Ordered,—That Mr. Carling, M. P. P. be authorized to make arrangements with the Band of the Royal Canadian Rifles to play at the evening shows, and get bills printed announcing the arrangements, and that the exhibition commence at S o'clock, p. m.

The Board then adjourned until 2 p. m.

Two o'clock p. m., 25th.

The Board resumed.

Present: The President, Mr. Alexander, Mr. Ferguson, Professor Buckland, Mr. Burnham, Mr. Barwick, Mr. Denison, Dr. Beatty.

A deputation from the local committee appeared before the Board.

Mr. Carling, on behalf of the said committee, stated that the ground of their complaint is that sundry members of the local committee have become responsible for $3000, and feel aggrieved that the Board by its decision have declined to protect them at present, and, urging the position of affairs on the Board, request that the board will in some manner provide for said amount until it can be realized from the Government.

After some discussion the President informed the deputation that the Board would meet with the local committee, and would with them devise means for satisfactorily arranging the matter so far as they have power.

The Board then adjourned until 9 o'clock to-morrow morning.

Thursday morning, Sept. 26.

The Board met at the office on the grounds at 9 o'clock, a. m.

Present: The President, (Col. Thomson), Mr. Barwick, President of the Association, Hon. Mr. Ruttan, Mr. Denison, Hon. Mr. Christie, Mr. Burnham, Professor Buckland.

Several matters of detail in reference to the awarding of the prizes were brought up and considered, and the Board adjourned till 9 a. m. to-morrow.

Friday morning, Sept. 2

The Board met at 9 o'clock, a. m.

Present: Col. Thomson, President, Barwick, Mr. Ruttan, Mr. Denison, Mr. C tie, Mr. Burnham, Mr. Alexander.

Several protests against the award prizes having been received and submitte the Board, it was

Resolved,—That in consequence of t not being sufficient time to consider the eral protests laid before the Board, it is or ed that the same be referred to the mem of the Board resident at Toronto for adjud tion, and that in the meantime the Secre do withhold the certificate for prizes.

The Board then adjourned to attend annual meeting of the Directors of the sociation.

The Annual Meeting.

The Annual Meeting of the Director the Association was held on Friday, S 27th, at 10 o'clock, a, m., in a large tent u the show ground.

The President, John Barwick, Esq., in chair.

Members of the Board of Agriculture sent: Messrs. E. W. Thomson, H. Rut D. Christie, G. Alexander, R. L. Deni A. A. Burnham, W. Ferguson.

Members of the Board of Arts and Ma factures:—

Dr. Beatty, J. E. Pell, T. J. Cottle, E. McNaughten, W. Wilson, Jno. Wat W. Edwards.

Delegates from County and Electoral vision Agricultural Societies:—

Brant West,—James Maxwell, I. Merritt.
Bruce,—W. Withers.
Durham East,—A. Choate.
Durham West,—M. Joness.
Elgin East,—S. Wade, J. Armstrong.
Elgin West,—H. D. Smith, J. McDong
Essex,—Alex. Bartlett.
Hamilton,—H. J. Lawry, J. S. Wetem
Hastings North,—James Archibald.
Hastings South,—William Wood.
Huron,—William Piper.
Kent,—George Young, R. J. Earle.
Leeds South,—Dr. Richmond, Isaac Br
Lincoln,—J. C. Rykert, J. A. Nelles.
Middlesex East,—J. B. Askin, Sam Pet
Niagara,—John Simpson, G. J. Miller.
Norfolk,—D. W. Freeman, Oliver Bl

thumberland West,—Henry Battel, Alcorn.
tario North,—Robert Ward.
tario South,—John Shier.
ford North,—John Dunlop, Wm. Grey
ford South,—Wm. Peers.
l,—John Tilt, R. A. Hartley.
th,—Sheriff Moderwell.
oe North,—W. E. O'Brien.
oe South,—Capt. Tyrwhitt, John
nto,—Hon. G. W. Allan, Philip Arm
oria,—John Cullis.
erloo South,—James Cowan, J. Mc.-
land,—John Ker, E Jones.
lington South,—Col. Saunders, Wm.
tworth North,—John Weir, Wm.
tworth South,—J. Rymal, James
East,—George Miller.
West,—Alex. Shaw, Joseph Ross.
egates from Horticultural Societies:—
o,—Sheriff Jarvis, James C. Small.
on,—John Carling.
Catharines,—W. McGivern, D. Beadle.
RETARIES,—Hugh C. Thomson, Sec- of the Board of Agriculture, and Wm. s, Secretary of the Board of Arts and ctures.

meeting having been organized, it was by Mr. J. Cowan, and seconded by Weir,
F. W. Stone, Esq., of Guelph, be ent of this Association for the ensuing Carried
ed by Mr. H. Battell, seconded by Mr. ing: That Asa A. Burnham, Esq. of , be 1st Vice President.—Carried.
ed by Mr. W. Ferguson, seconded by . Miller.
Dr. Richmond, of Gananoque, be e-President.
ed by Mr. Carling, seconded by Mr. W.

Jas. Johnson, Esq., of London, be 2nd President.
ed by Mr. J. Rymal, seconded by Col.

Thos. Stock, Esq., of Waterdown, be e-President.
ed by Mr. Alex. Shaw, seconded by Armstrong,

That Hon. G. W. Allan, of Toronto, be 2nd Vice-President.

It was then decided that a poll should be taken of the votes for the several persons nominated, when the following result appeared.

For Mr. Johnson,	30	votes.
For Mr. Allan,	15	"
For Mr. Stock,	13	"
For Dr. Richmond,	3	"

Mr. Johnson was then declared to be elected.

It was then moved by Mr. J. S. Wetenhall, and seconded by Mr. Carling,

That R. L. Denison, Esq., be re-elected Treasurer for the ensuing year.—Carried.

Moved by Mr. John Tilt, seconded by Mr. H. Battell,

That the next Provincial Exhibition be held at Toronto.

Moved in amendment by Mr. J. C. Rykert, seconded by Mr. G. J. Miller,

That the next Exhibition of this Association be held at St. Catharines.

On motion the Mayors of St. Catharines and Toronto respectively, were heard in reference to the proposals made by their respective localities.

The Mayor of St. Catharines was authorized to guarantee suitable grounds of not less than 50 acres in extent, and also all necessary and suitable buildings, sheds and offices for the use of the Association.

The Mayor of Toronto stated, that in addion to the buildings and grounds already prepared at Toronto for the use of the Association, the City Council of Toronto had authorised him to guarantee that the sum of six thousand dollars would be granted and expended in improvements to the same.

The motion in favor of holding the Exhibition at Toronto was then put from the chair, and carried.

It was then moved by Mr. O. Blake, seconded by Mr. T. C. Street,

That in the opinion of this meeting, it is of the highest importance to Canada that this Province should be represented at the world's Fair to be held at London in 1862.—Carried.

Moved by Dr. Richmond, seconded by Hon. G. Alexander,

That a copy of the foregoing resolution signed by the President and Secretary, be sent to the Provincial Secretary.—Carried.

Moved by Mr. E. W. Thomson, seconded by Mr. Alexander.

That the Board of Agriculture are hereby

requested to give notice to the several Electoral Division Agricultural Societies to send up each one delegate to attend a meeeting to be held in Toronto the month preceding the meeting of the Legislature, for the purpose of agreeing upon, and recommending, such alterations as they may deem necessary in the Agricultural Statute, and that the Board of Arts and Manufacture, and the Horticultural Societies be invited to attend, and in order more fully to carry out the spirit of the foregoing resolution a synopsis of the Bill introduced at the last meeting of the Legislature be published, and a copy thereof sent to each County and Electoral Division Society, in order that the delegates may have a thorough knowedge of the subject under discussion, and that the travelling expenses of such delegates be paid out of the general funds of the Association, and that the President of the Board of Agriculture be authorized to name the day and place of meeting by circular.—Carried.

Moved by Mr. R. L. Denison, seconded by Mr. W. Ferguson,

That the thanks of this meeting be tendered to John Barwick, Esq., for his very energetic and valuable services during the past year as President of this Association.—Carried.

Moved by Mr. A. A. Burnham, seconded by Dr. Beatty,

That the thanks of this meeting be given to Mr. Johnson and the members of the Local Committee for their efficient services in providing the excellent accommodation for the present show.—Carried.

The meeting then adjourned.

Annual Address

DELIEVERED BY THE PRESIDENT OF THE PROVINCIAL AGRICULTURAL ASSOCIATION, JOHN BARWICK, ESQ., AT LONDON, SEPTEMBER 27, 1861.

Gentlemen of the Provincial Agricultural Association:

In accordance with the usual custom adopted by the former Presidents of the Association, I now proceed to address you.

The gentlemen who have heretofore so ably filled the Presidency, have so well treated the different subjects that come within the scope of an address, that little is left for me to allude to, but what is trite to my brother Farmers. A slight retrospect, however, of the benefits conferred on the farmers of Canada by this Association, may not deemed out of place upon the present casion.

The agricultural Association of Up Canada, which was organized in 1846, l steadily advanced in prosperity and usefuln In that year the sum of £220 only was awa ed in Premiums—at the last Exhibition Premiums had been increased to no les sum than £3,750.

The success that has attended the As ciation is not to be measured solely the distribution annually of a large sum premiums. The Association has been inst mental, in connection with the board of riculture, in collecting and circulating a m of thorough, practical, and valuable infor tion, which now appears in "The Tran tions of the Board of Agriculture of Up Canada," comprising three volumes, and inducing a zealous competition from all p of the Province, and from some of the nei boring States, whereby the most impro machinery and labor-saving implements, all descriptions of stock, which are not to surpassed on this continent, are made ava ble to the Canadian Farmer.

The system of holding the Exhibition different parts of the Province, periodic brings the many and varied improvem in stock, machinery and manufactures, u the notice of all the inhabitants of the v ous districts of the Province.

At a recent meeting of the Boar Agriculture, it was decided to erect an cultural Museum in Toronto. The buil is to be proceeded with at once, and wil completed in the early part of next y The Agriculturist will then have a reposi where samples of the various products of country can at all times be viewed—a ject of interest and importance, not onl the Canadian Farmer, but to foreigners intending settlers.

The office of the Board of Agricult to be placed in the building, and a po of it is to be occupied by Mr. James F ing, the enterprising and reliable secr of the Association.

His Royal Highness the Prince of W while he attended the Exhibition of year, expressed himself highly gratified the progress of the Association, and wit display of Canadian products on that sion, and marked his approval of the or zation of the Association, by becomi

ber and contributing £200 to its fund· ch sum has been invested, and the inter· of it will be annually offered as "The ce of Wales' Prize."

The products, manufactures, agricultural ements and machinery of Canada, have attained an excellence, which has stood test of a competition in the Mother ntry, and at the same time has given da a prominent position as a Colony, ch must be gratifying to every Canadian. Association has exercised a strong influ· in aiding this success and prominence. It is much to be regretted that no provi· has been made for the representation of da at the World's Exhibition of 1862, be held in London. An earnest appeal ld immediately be made to the Govern· t. The advantageous position occupied Canada at the former Exhibitions of l and 1855, advanced her reputation interests. The Provinces of New nswick and Nova Scotia, and even the nds of Prince Edward and Vancouver, taken the requisite steps to be repre· ed; surely Canada will not be less emulous. In addition to our Agricultural products, the valuable timber in our forests, our eral resources will eventually become a source of wealth to Canada.

r. Dufrenoy, member of the Institute of nce, and Inspector General of Mines in country, thus alluded to the collection inerals at the Great Exhibition of 1851, by our talented Provincial Geologist, William Logan :—

"Of all the British Colonies, Canada is whose Exhibition is the most interest and the most complete, and one may say that it is superior so far as the Min· kingdom is concerned, to all countries have forwarded their products to the ition. This arises from the fact that collection has been made in a systematic er, and it results that the study of it ches the means of appreciating at once, geological structure and mineral re· ces of Canada."

very excellent suggestion was made in September number of "The Journal of the y of Arts and Manufactures for Upper da,"—"That a museum of natural pro· ts, both mineral, vegetable, and even ani· , might rapidly be formed at each perma· Exhibition Building.

has been stated that it should be the object of every farmer to endeavour to pro· duce "two blades of grass where only one grew before." We fear that in many in· stances our system of farming in Canada has been the reverse of this. We have cropped our land under the supposition that its fer· tility and productiveness were inexhaustible.

We have felt the injury to our wheat crops by that little enemy, the "midge," to be a great disappointment and loss; but that injury will prove eventually a blessing, by compelling us to improve the system of farm· ing, and by adopting the "mixed husbandry" which has proved so advantageous and profit· able in the Mother Country. The breeding of Horses, Cattle, Sheep and Pigs, (for which there is such a demand from the neighbour· ing States) and the fatte.ing of stock on green crops, will rapidly renovate our over· worked lands.

The Agricultural Census recently taken, will record the change of system which the Canadian farmer is now adopting,—fields containing many acres of green crops are seen growing on each farm, where, a few years ago, the cultivation was limited to small "patches," and in many instances 900 bushels of turnips per acre are now produced.

And it is noticeable throughout many parts of the country that the Canadian Far· mer is adopting under-draining—the making of drain tiles has now become a source of constant and profitable employment in the localities where the tiles are made—the per· fect drai'ning of the land will ensure a ten· fold return, with the early maturity of the crops, lessening the danger of attacks of rust and other injuries to which the farmer's hopes are subject.

Great improvements have been recently made in many parts of the country in the construction of Barns and Farm Buildings, for the housing and feeding of stock and se· curing root crops; many of these are models of good arrangement, and are constructed in the most substantial manner at a cost, in many instances, which would have been con· sidered a few years ago, when the cultivation of fall wheat engrossed the attention of the Canadian Farmer, as too large an expendi· ture for such objects.

That thorough practical Farmer, the Hon· ourable Adam Fergusson, at the time of the organization of the Agricultural Association and Board of Agriculture, (and who may be considered one of the founders of this Ca·

nadian Institution) zealously advocated the establishment of a Veterinary College. It will be gratifying to that venerable gentleman that his suggestion is now likely to be carried out—competent veterinary advice will prove highly advantageous to the breeders and owners of stock. It is no exaggeration to state that many thousand pounds' worth of stock is annually destroyed in Canada through the pretended skill of those whose aid is sought to alleviate the sufferings of our domestic animals.

The limits of an address will not permit me, nor would it be acceptable to you that I should weary you by entering into details as to the cultivation of our crops, or the breeding and management of the different kinds of stock. The excellent display of this week by the various Exhibitors is palpable evidence of the success of their efforts in the cultivation of their crops, and in the improvement of their stock; but I may be permitted to epitomize the subject by remarking that the thorough draining, cultivation, (with deep ploughing) and manuring of our fields, with a proper rotation of crops—the sowing of the best and cleanest seed, and at (what our experience teaches us to be) seasonable times—the selection of the best and hardiest descriptions of stock of a medium size, and with God's blessings on our labors, the Farmer's occupation will be found a profitable and improving one.

A system of rigid economy is an important feature in the successful management of the Farm, and if duly carried out will secure lasting benefits to the country.

The year 1860 will be noted as an epoch in Canadian History as being the first year during which our Exports exceeded our Imports.

The following table of importations and exportations from 1851 to 1860, inclusive, will prove interesting:

	IMPORTATIONS.	EXPORTATIONS.
1851	$21,434,790	$13,810,604
1852	20,286,492	15,307,607
1853	31,981,436	23,801,303
1854	40,529,325	23,019,190
1855	36,086,160	28,188,460
1856	43,584,387	32,047,017
1857	39,428,584	27,006,624
1858	29,978,527	23,472,609
1859	33,555,161	27,766,981
1860	34,441,621	34,631,890

Our aim should be to foster Canadian Manufactures, of those articles that we can advantageously manufacture. Every Canadian will concede that it is of great importance that our Towns should be occupied b thriving Mechanics and manufacturer thereby giving to us a home market. Ho many of the youthful population of ou Towns and Villages might be advantageousl and economically employed in woollen an cotton factories who are now in too man instances a burthen on their parents, and a the same time it is to be feared are in course of training to become vicious mem bers of society.

The crop of wool for this year has bee principally purchased for exportation t Great Britain—heretofore it has been ex ported to the United States to be there man ufactured.

An important communication was tran mitted by the Duke of Newcastle to His Ex cellency the Governor General, being th "Address of the Wool-supply Associatio of the Bradford and Halifax Chamber o Commerce." This correspondence and ad dress will be found in the July number o the *Canadian Agriculturist*, and well de serves the careful perusal and consideratio of the breeders of sheep.

Flax and Hemp are certain and very pro ductive crops in Canada, and might be a vantageously grown for manufacturing pu poses.

The occasion is a suitable one to brin under the notice of our farmers the aid re dered to the agricultuaal interests by "ou organ," the *Canadian Agriculturist*. Th Journal is edited in a very able manner, th usefulness of which might be very much i creased were our practical farmers to furni papers on the culture of the splendid spec mens of their products which have bee exhibited at this show. If each wou determine to contribute periodically a conci paper on the cultivation or management what he gives his chief attention to, mat and valuable hints would be thereby i parted.

Our Legislature has done much to attra emigration to Canada, by making known h immense resources, but much remains to done. Canada offer a more favorable fie and greater inducements to the emigra than any other colony of Great Britain—h easy accessability, her great inland water co munication, which is unsurpassed in t world, and her net-work of Railways, gi

ady access to the millions of acres of pro-tive soil which are available on favorable nditions for settlement.

The able and scientific men who have lately lored British territory between us and Pacific, have reported favorably on the gricultural capabilities of that region, and so of the existence of coal-beds, and the sibility of constructing a line of railway the Pacific. Should their anticipations correct, Canada must be enriched by be made the highway for the traffic of that mense territory.

The large fleet of shipping, both steam and ling vessels, which are attracted to the Lawrence, must benefit the farmer by apening the transportation of our products.

The recent arrival of the *Great Eastern* amer, (the largest vessel in the world,) at port of Quebec, demonstrates the advan-es of that noble river, the great natural let from the far west.

During the present and past year several le crafts, of Canadian build, have success-ly navigated the Atlantic, carrying full goes direct from our lake ports to Liver-l, and returning with large cargoes. Our terprising neighbors in the Western States also extensively engaged in the same mmerce.

The climate of Canada is a healthy one; following table gives the rate of mortality various contries:—

COUNTRY.	MORTALITY.
Russia.	one in 26.68 per annum.
Austria	" 30.43 " "
Prussia	" 35.47 " "
Europe, mean of 17 States.	" 37.93 " "
France	" 40.92 " "
Sweden	" 43.49 " "
Switzerland	" 44.43 " "
England	" 46.14 " "
Norway	" 51.25 " "
Upper Canada	" 102.00 " "

The system of Common School education Canada is placed within the reach of the humble—and there is no bar to their ancement,—the most eminent in the ous professions in Canada have placed selves in that position by their abilities perseverance only,—and when the youth Canada have gone to the mother country complete their studies for the various pro-ons, they have acquired prominent posi-tions not only in their examinations, but subsequently in their professions. It is worthy of note that the "Victoria Cross" has been bestowed on several Canadians, for acts of bravery in India and other parts of the world.

As a colony of Great Britain, we enjoy the protection of that powerful Empire, while at the same time we have the entire control of our local affairs. May it be the aim of Canada to follow in the footsteps of Britain, whose Christian course has placed her in the van of nations!

JOHN BARWICK.
PRESIDENT.

Meeting of the Board of Agriculture.

LONDON, Friday Sept. 20, 1861.

The Board met this evening at 8 o'clock in the Mayor's Room, in the City Hall, London.

Present: The President, Messrs. Alexander, Christie, Burnham, Ruttan Ferguson, Barwick, Beatty, and Pell.

The President submitted a resolution adopted at a meeting of the Local Committee just held, and also a proposal of the Mayor of the City of London to execute an agreement securing the use of the exhibition buildings at London to the Association in future, in consideration of the Board advancing the Local Committee a sum of money to relieve them from their liabilities incurred in the erection of buildings for the exhibition, of which documents the following are copies:—

(No. 1.)

"Moved by Mr. D. Glass, seconded by Mr. J. Gardner, and Resolved,—That in view of the deficiency now remaining due to the contractor, Mr. Alex. Campbell, of about $3,500, this committee pledges itself to give the Board of Agriculture, through the corporation of the City of London, a lien upon the Agricultural grounds and buildings in London, as a security, if the said Board of Agriculture will now advance the said amount to pay the contractor as aforesaid, it being understood that the pressing demands of the contractor be forthwith complied with, and that the lien by way of bond or mortgage be given with as little delay as possible, and that the committee will rel x th ir exertions to obtain the money from other sources to pay off the said amount so advanced by the Board of Agriculture."

(No. 2.)

"On behalf of the Corporation of London I propose to execute an agreement similar to the one already executed with the County of Middlesex, guaranteeing to the Association the right of occupation to the Exhibition grounds

Signed, { Francis Cornish, Mayor."

Sept. 27th, 1861.

Whereupon it was resolved:—

That as soon as a legal document is executed by the Mayor of the City of London, giving to the Council of the Provincial Agricultural Association a lien upon the property known as the exhibition grounds similar to that given to the County of Middlesex, and shall insure the buildings thereupon in the sum of four thousand dollars for the benefit of the said Provincial Agricultural Association, then the Treasurer is authorized to pay to the Treasurer of the Local Committee of London, the sum of three thousand five hundred dollars, for the purpose of settling with the contractor for the buildings recently erected upon said exhibition ground.

The Board then adjourned.

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