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AGRICULTURAL REVIEW.

MAY.

CONTENTS.—Official Department:—Meeting of the Board of Agriculture—Distribution of scutching machines.—Provincial Exhibition of Sherbrooke.—Importation of stock from London. **Editorial Department**—Important changes in the Sherbrooke prize list—Calendar of operations for May.—**Farm.**—Barley Buildings—Calves—Carrots—Cattle—Clover—Corn grounds—Cranberries—Draining—Flax—Grain fields—Hired men—Horses—Manure—Mowings—Oats—Onions—Parsnips—Pastures—Plowing—Potatoes—Poultry—Roads—Rye—Sheep—Swine—Tobacco—Tools—Trees—Water—Wheat.—**Orchard and Nursery.**—Drains—Dwarf Pears—Grafting—Grapes—The Northern grape Adirondac—Insects—Seeds—Stock—Trees.—**Kitchen and Fruit Garden.**—Artichokes—Asparagus—Beans—Beets—Borecole—Broccoli—Brussels sprouts—Borage—Cabbage—Cauliflower—Carrots—Celery—Celeriac—Cardons—Charvil—Chives—Cold frames—Cress—Cucumbers—Egg-Plants—Garlic—Hops—Hot beds—Horse-radish—Kohl-rabi—Leeks—Lettuce—Manure—Mustard—Mushrooms—Melons—Nasturtiums—Okra—Onions—Parsley—Parsnips—Peas—Peppers—Radishes—Rhubarb—Salsify—Scorzonera—Sea Kale—Seeds—Small fruits—Strawberries—Spinach—Squashes—Tomatoes—Sweet herbs—Tools—Turnips—Winter cherry.—**Flower Garden and Lawn.**—Annuals—Borders—Box Edgings—Bedding plants—Bulbs—Carnations—Climbers—Dahlias—Dicentra—Draining—Evergreens—Frames and pits—Flowering shrubs—Gravel Walks—Hedge—Lawns—Pereunials—Petunias—Roses—Shade trees—Vines and climbers.—**Green and Hot House.**—Bedding plants—Camelias—Cuttings—Fuchsias—Insects—Seeds—Sifting—Water—Grapery and Orchard-house.—Aplary in May.—**Our Rambles.**—The division of the Lower Province in three distinct Agricultural Regions—The Valley—The South—The North.—Visit to Mr. Stephen Baker of Dunham, Missisquoi.—The farm—Rotation—Cattle—Suggestions.—Our visit to the Exhibition of all Nations.—Will the Board of Agriculture be officially represented at London?—**Miscellaneous.**—The family vegetable garden—The cultivation of Beans, Peas and Tares.—The wheat crop—Weights and measures of various farm products.—Ploughing.—On Breeding and Rearing Pigs.—The American Agriculturist.

Official Dep't.

BOARD OF AGRICULTURE FOR LOWER CANADA.

Quebec, 9th April, 1862.

Present:—Hon. L. V. Sicotte, president; O. E. Casgrain, vice-president; Hon. Messrs. Archambeault, Tessier, Turcotte; Messrs. J. C. Taché, B. Pomroy, F. Ossaye, professor of agriculture; Rev. F. Pilotte, professor of agriculture.

The president takes the chair, and the secretary gives the report of proceedings of last meeting.

The president is authorised by the board to report to the minister of agriculture on the organisation, according to law, of the different county agricultural societies.

The president informs the board that he has presented to government their resolution respecting the encouragement to be given to the cultivation of flax, and that the three scutching machines imported for Lower Canada have been ordered to St. Ann's of Kamouraska, Sherbrooke and Montreal.

The president is authorised to offer one of these machines to the Jacques Cartier agricultural society.

The board resolves that the provincial exhibition will take place at Sherbrooke on the 17, 18 and 19 September next. That they will appropriate a sum of \$3,000 for this exhibition, provided Sherbrooke will subscribe \$2,000, with the necessary grounds. All receipts by entries, or sale of tickets, will belong to the board.

Resolved,—That Messrs. Pomroy and Ossaye be a committee to superintend, direct and arrange all matters connected with the construction of the necessary buildings and fittings on the exhibition grounds, in connection with the local committee.

Resolved,—That Messrs. Pomroy, Taché and Ossaye be a committee to prepare the prize list, to be published immediately.

Resolved,—That the \$2,000 to be paid by the Town of Sherbrooke be placed to the order

of the board of agriculture, and employed by the order of the committee only.

The president is authorised to confer with the minister of agriculture, so as to obtain such advances of money for the purchase of improved stock, as the agricultural societies are entitled to by this year's grant.

Mr. Ossaye laid before the board a correspondence between himself and the St. Sulpice seminary, which is filed into the records of the office. A committee of the president, Messrs. Taché and Ossaye is appointed to take the proposition into consideration, and meet the superior of the seminary on the subject.

Resolved,—That in case Mr. Ossaye should visit the continent, the president be authorised to give him a letter of introduction to the minister of agriculture in France, and to the president of the Royal Agricultural Society of England.

Resolved,—That the president, Mr. Ossaye and the secretary be appointed a committee to rent the rooms necessary for the offices and meetings of the board.

Resolved,—That to increase the circulation of the official journal of the agricultural board and societies, a copy for the year 1862-3 shall be given as part of the prizes awarded to the successful competitors at the provincial exhibition for the present year; and that the members appointed to prepare the prize list be authorized to attend to the matter.

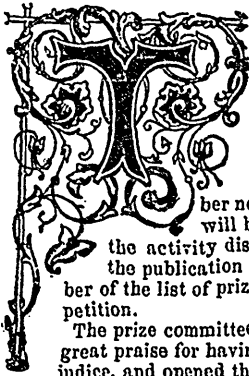
On the proposition of Mr. Ossaye it is resolved that the board of agriculture recognises the necessity of establishing in this country, a system of credit foncier, for the encouragement of agriculture.

And the board adjourned.

By order,

GEORGE LEOLERE, Ass. Sec.

The Offices of the Board of Agriculture have been removed to No. 109 Craig Street, corner of Chenneville.



THE Board of Agriculture at their last meeting were principally occupied with the question of the Provincial Exhibition, which is to be held at Sherbrooke in September next, and our readers will be able to judge of the activity displayed by them, by the publication in the present number of the list of prizes offered for competition.

The prize committee certainly deserves great praise for having banished all prejudice, and opened the show grounds to all breeds without exception, classifying them according to their special aptitude to produce either, meat, milk work, or wool. Long since sheep and swine have been divided in long and short wool, large and small breeds, and the same principle of classification is now extended to horses and cattle. The committee have thus taken the responsibility of most important changes, through which the crossed cattle, hitherto excluded from our provincial shows, will be allowed to partake of the prizes offered for stock, in due proportion to their numerical importance.

In reviewing our past exhibitions, what seems to have been, in the prizes offered, the starting point for the improvement in our stock? In horned cattle, the only suggestion for improvement seems to have been the substitution to our native breeds of the best English stock, without distinction of blood. But were we sure that the contemplated object could be accomplished? Would it not have required at least a century to make this substitution even perceptible? And then what would have become, during this long period, of our native breeds, excluded as they were from our provincial shows by the prohibition of the bulls, the best of which were not considered worthy of a prize? Could any practical farmer approve of this course, and sanction this exclusion of our stock? Still this has been our starting point in improvement of our native cattle for the last ten years.

No one is more convinced than ourselves of the necessity of improving our native breed, by a cross with a better class of animals. In our review of the exhibition in 1858, we expressed our opinion fully on the subject. But at the same time we showed that the Ayrshire, Durham, Hereford, Devon, and Galloway, are not equally commendable for importation, and that if some of them do give most striking results, others are comparatively very inferior.

First should stand the Ayrshire, which in our provincial exhibitions have constantly been the admiration of all, by their superiority in shape or numbers. Then if it be true that the Ayrshire are best suited to our climate, our soil, our markets and our means, and the large number of Ayrshire in the province seems to have decided this question, why should we encourage, by prizes offered to the same extent, the importation of other breeds, not calculated

to meet, to equal advantage, the requirements of the country?

We shall not notice the amount of money which has been thus expended in prizes; they may have been a compensation to the losses which must have resulted, for the farmers, from the importation of undesirable stock; but what we consider more important is the sanction given by the board to private speculations, which could only result in disappointment for the agricultural community. As a consequence the farmers lost all confidence in the managing of our provincial shows, and the prizes awarded were looked at, no more as a guide to judge of the comparative superiority of the breeds exhibited, but as a trap laid to the ignorant, who would be thus led to believe, that all the breeds imported were equally commandable for the improvement of their stock. This gross error has been one of the great causes of the unsuccessful results of our provincial exhibitions. Farmers were disgusted with the improved breeds and looked upon them as fancy animals, useless to them, and for which alone the exhibitions were established. Would it not have been advisable to have determined first which breeds of cattle were best adapted to the requirements of the country, either for the production of meat, milk, work or wool, and then to have offered prizes for the importation of these breeds exclusively, so as to guide the farmer in the improvement of his stock?

This is what has been now done by the Board of Agriculture, and we shall soon see its success at our Provincial shows. They should be made for the benefit of all, but up to the present time they have only been for the benefit of a few, and certainly it was not the way to encourage the dissemination of agricultural improvement.

We desire to see prizes offered for Canadian breeds, of sufficient importance to ensure a large attendance from all parts of the province.

In the prizes offered at the forthcoming exhibition, the principle laid down is to give to each breed prizes commensurate with its importance. In making this a starting point we are sure to render justice to all. We pretend that if a breed is bad and widely spread, we ought to give for its improvement a sufficient amount in prize money to induce the proprietor to make a better choice of animals, give more and better care to his stock, and thus endeavour to improve such a breed, which in the present conditions, could only give a dead loss.

Up to the present time the principle adopted was that if a breed was inferior, it should not be allowed to compete at all; it was left to itself, and the consequence was that it degenerated daily. The nine tenths of our horned cattle being of this description, any commentary is useless.

The Board of Agriculture has also taken in consideration the importation of stock from the World's Fair. The President, the Hon. L. V. Sicotte, was authorized by the Board to endeavour to obtain from the Minister of Agriculture, an advance of money in favour of the county societies desirous of obtaining animals from abroad. We had supposed that the Gov-

ernment was to advance the money for three years, and had given publicity to the fact in our former numbers, but after further information we learn that such is not the case.

The results of that importation of stock had seemed to us of such importance, that the government might have been disposed to make the necessary advances for three years, so as to obtain a superior class of animals for the improvement of our native breeds. We have confidence enough in our county societies to know that they will at once accept even the present offer, and vote the necessary sums of money to accomplish so desirable an object, and even make an advance on the next year's subscriptions so as to render mutual assistance where the government cannot comply.

The societies thus disposed should at once send in their requirements (if not already addressed), for the sailing of the person, sent by the Board of Agriculture, should be fixed for the first week in June the latest.

CALENDAR OF OPERATIONS FOR MAY.

[A glance over a table like the following will generally call to mind some piece of work that would otherwise be forgotten or neglected.]

Farm.—April with us is not the rainy month it is in England, where the proverb "April showers bring May flowers," originated, and like other proverbs has a foundation in truth. We frequently experience a period covering three to five weeks in March and April of comparative exemption from rain. Our roads become settled, the fields fit for the plow, the ground warm and ready for the seed—in short we have a *seed time*, when grass, grain, potatoes, and carrots, may be profitably put in, and much land prepared for crops. We counsel all farmers to bear this most important fact in mind, and to make good use of this period, which may be short. Remember, too, the cold rains which follow, and often last during the whole month of May, when plowing can not be done, when nearly all the seed rots in the ground, and farmers are busy replanting, or with their hands in their pockets, mourning over the yellow, spindling blades here and there in their corn fields. Some land is never fit for the plow before the first of June, or still later. It is probably too late to begin to do much at draining this Spring; the ground will be too full of water, and time too precious.

Barley needs a fair quality of soil; avoid wetness and dryness; let it follow some hoed crop, or sow on sward turned over in the Autumn and manured. Sow when the ground is ready, warm and mellow.

Buildings.—The first warm weather should not pass without a thorough cleaning out, and clearing up of the buildings of the farm. Now is the best time for painting and whitewashing buildings, fences, and the like, no dust is flying, driving storms are not expected, the weather is mild, and the paint hardens before blistering suns.

Calves.—When milk is worth more than 2½ cents per quart it is cheaper to bring up calves upon gruel and skim milk than to let them

suck the cow. Give, at 2 or 3 days old, new milk warm from the cow, then gradually add a portion of skim milk, and gruel of shorts, rye, oat or barley meal scalded and well soaked.

Carrots.—Sow early in deep, warm, rich mellow ground, after some last year's crop calculated to kill the weeds. After rolling, sow in drills 8 and 20 or 24 inches apart, alternately, or 14 to 16 inches apart uniformly. The former method makes the use of certain tilling implements more available. Use 2 pounds of clean last year's seed to the acre, tested beforehand, and thoroughly rubbed between the hands to prevent several seeds sticking together.

Cattle.—It is important that cattle have some succulent food as warm weather approaches—rutabagas, mangels, sugar beets, carrots or cabbages—work cattle and cows both need it. A good currying or carding every day or two should not be neglected. Feed corn meal to both milch cows and oxen. This is the most profitable time of the year and they should lack nothing conducive to their health and comfort. Milk young cows three times a day; it increases the tendency to secrete milk and makes them better milkers in the end. Allowing any cow to go with a full dripping bag does not increase its capacity but diminishes the quantity of milk secreted.

Clover may still be sown on Winter grain early in the month; and now is a very good time to sow it with grass seed where needed on permanent mowings or pastures.

Corn Ground.—Prepare early if possible, turning under a good dressing of manure, but do not plant too early.

Cranberries.—Prepare wet land for planting in May or June; deep upland soil, full of vegetable mold not subject to drouth, may be planted at this season, and the plants will get well established before dry weather.

Draining.—If plans are not made and you are neither ready to break ground, nor yet well under way—walk about your wet ground and do penance.

Flax.—This crop occupies the ground but a short time. It follows corn or the small grains in a rotation, and may be followed by turnips the same season. Any soil finely worked, in good heart, free from weeds, not so rich as to produce a rank, uneven growth, and not liable to suffer from drouth, will answer for flax. Two to three bushels of seed are sowed to the acre, according to the quality of the land; never more than two bushels when raised for seed. Sow early, harrow and roll.

Grain Fields (Winter).—Roll with heavy roller, open dead furrows, and sow nitrate of soda, or guano and plaster, where the plants are puny or partly winter-killed. Go through and pull any docks or other coarse weeds which show themselves. On land very free from weeds, carrots may be drilled in, in rows 3 feet apart, and cultivated after the grain is cut; if the land is rich, a remunerative crop results—a good plan where grain is winter-killed.

Hired Men.—Pay a man what he is worth, be generous and friendly in your treatment of him and you secure his love and make it for his interest to serve you honestly and well. Play

the master to make him "know his place," and if he knows anything he will find another. A good man costs no more to board than a poor one, needs much less looking after, and is worth double.

Horses—Keep clean by the daily use of comb, card, brush and sponge. Wash their legs, feet and heads after hard labor, and rub them down with straw. It will surely pay. Feed generously; never over work them; be careful of straining them, and never abuse them. Keep mares near foaling in loose boxes, with plenty of bedding and give daily exercise, and some succulent food. Cut feed with meal upon it when horses are first put to hard work induces sweating and galling by the harness. It is better to feed oats at first.

Manure—The sooner it is under ground after removing from the barn-yard or cellar the better. It is much better to apply it very liberally where it will *tell*, than to scatter it over the whole farm. Use plaster, ashes, lime or perhaps guano, or superphosphate where the seed needs moderate encouragement, but do not waste stall manure in this way. Muck or sods and other partially, or easily decomposed vegetable matter, straw, bog hay, and the like, may be composted with one quarter stable manure or 2 cwt. castor pomace to the ton, and it will in 4 to 6 weeks, being twice or thrice worked over in the meantime, be ready for use, and an excellent manure. The addition of ashes, leachings of the manure heaps, etc., will greatly improve it.

Mowings are greatly benefited by rolling with a heavy roller; do it as soon as the water is off and they will bear the teams. Sow grass seed on thin places before rolling, and apply any top dressing afterwards. Clear of brush, stones, weeds, &c., while the ground is open.

Oats—Sow 2½ to 3 bushels per acre when the ground is warm. See article in April *Agriculturist*.

Onions—Use American raised seed. Sow drills twelve to 4 inches apart in deep, rich, very mellow and warm soil. It is a good plan to sow onion and carrot seed together, and so when the onions are harvested the carrots will have the ground. This is particularly desirable when onions have not been raised on the same land before, for a poor crop is often had the first year, and carrots make it good. Use 4 lbs. onion and 1½ lbs. carrot seed per acre.

Parsnips—Sow on early land, the last of the month. Give a little more room than carrots and same treatment.

Pastures—Stones may be picked off, brush pulled, not cut, the ground scarified by a harrow, and grass seed sowed with guano. Some such practice often pays well.

Plowing—Study and plan how to have the fewest dead furrows except on wet land, in which case make narrow lands. Back furrowing leaves fields which are tolerably regular, free from dead furrows altogether. It is done by striking a shallow furrow through the exact centre of the field and ploughing around it. It requires close calculation to avoid carrying the plow far across the ends. Lay out the field beforehand on paper and you will see.

Potatoes—The best success generally fol-

lows early planting, even for the main crop. There is a chance also of being able to sell new potatoes at a high price. Where rot is usual, use no fermenting manure, plant on an inverted sod with a little wood ashes in the hill, and plant an early maturing sort.

Poultry—Provide boxes of ashes in which they may dust themselves, and if they are lousy add a small quantity of black sulphuret of mercury (black sulphur). Whitewash the house and clear out the dung before it ferments. In tight houses this fermentation is often fatal to many fowls. Give them as much range as possible, but protect newly made garden beds from their scratching. Keep young broods dry and clean, and do not give a hen more chickens than she can cover while the weather is cool.

Roads and cart Paths—The repairing of these is about the first work than can be done, and nothing adds more to the comfort and good looks of a farm, than well kept roads to all parts of it.

Rye—The Spring variety is seldom sowed, except at the far North. It needs a little better quality of land and more seed than Winter rye.

Sheep—Breeding ewes must be kept separate from the rest of the flock; go through and "tag" the whole flock, removing all the filth adhering to the fleece; the wool saved will more than repay trouble. Provide shelter from rains.

Sorghum is now a standard crop at the West, and is likely to continue so. Prepare the land as for corn. See article in April *Agriculturist*.

Swine—Feed breeding sows succulent food, raw roots or cabbages in moderate quantities, and provide clean pens and abundant litter.

Tobacco—Sow as directed in last *Agriculturist*, a table spoonful of seed to the square rod, calculating a rod of seed bed to an acre of ground. It starts slowly. Prepare Tobacco land by plowing in a dressing of manure or rich compost,—reserving a good supply of the finest manure for a top dressing, that is to be harrowed in just before the plants are set out in June.

Tools—See Calendar of operations for April last.

Trees—Shade or fruit trees along the highways, and an abundance of fruit trees on the farm, show the good taste and good sense of the proprietor, who thus increases the value and comfort of his farm.

Water—A supply of running water is most valuable at the house, dairy, barn and stock yard. A pasture should have a constant supply. Springs, wells, rams, and windmills should be investigated, and some way provided for easily getting water at all times and almost everywhere.

Wheat—Plow for Spring wheat as early as the ground is dry enough, put the selected seed to pickle and soak some days before hand. Dry with slaked lime or plaster, and sow from the first to the middle of the month. See article in *Agriculturist*.

Orchard and Nursery—Tree buying and planting will be in order during this month.

Early planting is desirable where it can be done. The roots suffer less if moved while still dormant. The ground settles about the roots, and the trees become established and commence growing before dry weather sets in. Look through the neglected or failing orchards, and see if there are enough recent plantings to make good the places of those trees which, after yielding fruit for half a century, are yielding to age. If not, by all means set out an assortment of apple, pear, cherry, and plum trees, before other Spring work presses. The prices of all kinds of orchard fruit have been sufficiently remunerative, during the past Fall and Winter, and for years past, to satisfy the most doubting that fruit growing pays well.

Give the old orchards a top-dressing of manure; a liberal dressing of slaked lime, or wood ashes, or both, spread about the roots will greatly promote vigor and fruitfulness. If pruning has been neglected, remove nothing in the apple orchard but dead branches and small sprouts at this season. Leave no brush heaps or loose stones scattered about. If the trees are generally failing it is better to begin a new orchard elsewhere rather than keep setting young trees in the places of old ones.

Drains in Orchards—Use rather large tiles, and lay them not less than 3 and if possible 4 feet deep. There is much less likelihood of roots stopping them up. Cover them with gravel or stones, to discourage the roots in their search after water or nourishment. Drains are of incalculable value on much land used for orchard purposes, particularly for pears and stone fruits.

Dwarf Pears—When well set and cultivated are most desirable. They need as careful tillage as corn during the Summer, and must be sensibly pruned. Set out only those kinds which do well dwarfed, and which are known to succeed well in your vicinity, unless you choose to make experiments for the good of your neighbors. Select trees having one main stem, branching very low and of as conical a form as possible; some trees will not readily grow in the form of a cone, like the Winter Nellis, still the nearer they conform to it the better. The dwarf pear is an artificial thing, and must grow as we choose.

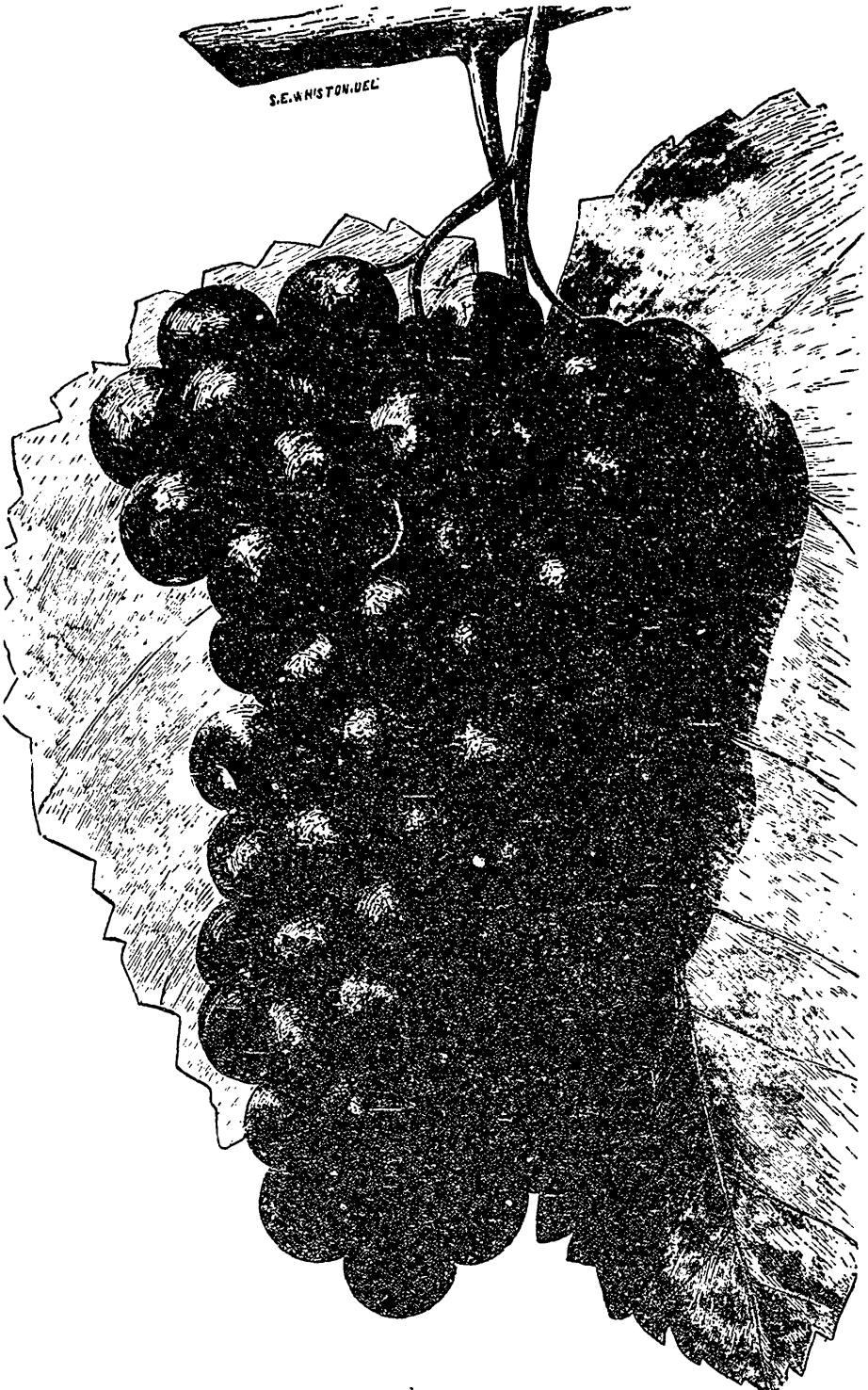
Grafting may properly be done early in the month. If the scions have not already been cut, secure them at once, for it will be too late when the sap starts, unless they are selected with great care and inserted immediately. Cherries and other stone fruits if grafted at all must be attended to very early in the month, and the scions removed from one tree and immediately inserted in the stock. Graft stocks in which buds failed or have been broken out.

Grapes—The vine so much neglected hitherto is now receiving the attention it merits, in almost all parts of our land. We have a few sorts which are adapted to culture every where, and the grape may be enjoyed by every one who owns or leases a square rod of land, from Canada to Texas. The soil should have been prepared last autumn, deepened, enriched, and exposed to the frosts of Winter. If not done, dig large holes, or better, make a border 20 inches deep. Put the rich surface soil at the

bottom, thoroughly mixed with any well rotted compost, and fill up with other surface soil from an old pasture or elsewhere. Above 41° of latitude select, Delaware, Hartford Prolific, Concord, and Diana—all good table grapes. Below this parallel of latitude the same thrive, and we may add, Isabella and Catawba. Clip off bruised or broken roots, and as a general thing, if the roots are abundant, reduce them to about a uniform length, so that they may be easily spread out in planting. Cut the tops back to two or three good strong eyes, plump and healthy. You will allow only the best one to grow. Put no manure in contact with the roots in planting, and set a good stake close by for protection now, and to tie the vine to when it grows. All the grapes named are hardy and grow feeders, except the Delaware, the best of all; this must not be set near any of the others or they will rob it of its food, and it will starve almost. It needs a rich soil, and the more it is pampered the better it rewards the husbandman.

About seven or eight years ago J. G. WITHERBEE, Esq., of Port Henry, Essex County, N. Y., purchased a strip of ground, which he enclosed to enlarge his garden. It was in grass and on it he found an old Grape Vine, which had been neglected, and he supposed it to be a wild vine and consequently dug out and prepared the ground for garden crops. The next season he discovered a vine near the same place, and supposing it to be worthless, he intended to dig that out also; but it was neglected. The next winter it killed back, but in the spring started vigorously from near the ground, and appeared so well that Mr. W. decided to leave it, and since that time he has given it the same treatment as his Isabellas, *i. e.*, pruning, laying down and covering every winter. It commenced bearing fruit four years ago, ripening usually previous to the 10th of September, and before the Isabella had commenced colouring, or had attained its full size, and about two weeks before the Northern Muscadine. The fruit is larger in bunch and berry than the Isabella, of the same color, but perfectly round, the bunches very compact and shouldered; in flavour, sweet and delicious, and without any hardness or acidity in its pulp, and is very prolific. In September, 1860, Mr. Witherbee sent me a sample of the fruit, wishing for its name. I was astonished to find a Grape in existence ripening so early and of such rare excellence. I wrote to Mr. W., in substance, that from my knowledge of the character of all the earliest native Grapes, this could not be identified with any of them, and that I was inclined to believe it to be a foreign variety; and I remarked that I would like to examine the vine, and preferred to visit him for that purpose. I accordingly visited Port Henry two weeks after, by appointment, and on seeing the vine, I decided at once that it was a native, and perhaps a chance seedling of the Isabella. At that time I closed an arrangement with Mr. Witherbee for the entire control of the vine for propagation, and named it the "ADIRONDAC," it having originated at the base of the Adirondac range of mountains.

I claim for the Adirondac superiority over



The Northern Grape Adirondac.

all other varieties for open air culture, for the following reasons :

FIRST.—It ripens decidedly earlier than any other good Grape.

SECOND.—It is a Grape of the highest excellence. If not superior to the Delaware in flavor, I believe it to be fully equal to it, with the important advantage of being more than double its size, and ripening three weeks before it.

The rare combination of early ripening and excellence in this variety, constitute the *desideratum* long sought for, viz : *A Grape of the very best quality, that will ripen in all the Northern States and Canadas.*

EXTRACT from the Annual Report of the Montreal Agricultural and Horticultural Society of the Annual Exhibition, held at the Crystal Palace, September 18th and 19th, 1861 :

"A special prize of a SILVER MEDAL was awarded to J. W. Bailey, of Plattsburgh, N. Y. for a new variety of Grape named the 'Adirondac,' which promises to be the best out-door variety suitable for ripening in northern latitudes."

Inarching or grafting by approach may be performed so soon as the young wood begins to form, that is, when the leaves mature and perform their functions.

Insects.—In going about among fruit trees, be constantly on the look-out for caterpillar eggs. They can readily be detected, gummied upon the twigs of the size of a quill and upwards. Pick them off and burn them. Remove any cocoons found in the branches, or under the rough bark ; they are all nests of insect enemies.

Seeds of fruit and ornamental trees may be planted so soon as the ground can be worked, and is warm.

Nursery stocks budded last year, and not cut back, should now be headed down within two eyes of the bud. Plow out the rows as soon as the ground will admit, and remove the earth banked up against the trees last Fall. Begin early to transplant seedlings and stocks, and push the work vigorously as soon as the season fairly opens.

The nurseryman who has a stock of trees and plants ready for sale, should make arrangements to fill orders with all possible dispatch. Label carefully and truthfully.

Quince Stools, and those of ornamental shrubs used for propagating, may be dug about, manured, and the last season's growth layered as soon as the sap starts vigorously ; it is best not to do it before. Such layering is now chiefly performed in August, when the wood is half ripe.

Stocks of all sorts for budding should be planted out early, to get a good growth for budding next Summer.

Trees most likely to thrive when removed are not those grown in deeply trenched and manured ground. Their roots are too long and wandering, unless they have been often shifted and root-pruned. A moderately deep, hard soil, well manured and mellow on the surface, promotes the growth of a mass of small roots which hold the earth, and such trees sustain moving much better than others.

Kitchen and Fruit Garden.—The most

profitable labor expended on the farm is laid out here. But few farmers realize it. Their good wives know the value of the garden and its products, and we know this column will find among them careful readers. If you cultivate nothing else, have a good vegetable garden. Our language lacks an important thing in having no word for kitchen vegetables. So "truck" and "sauce" and "sass" are used, but without "authority." We are too much meat and meal eaters, and though we can hardly lay our lack of taste of vegetables to our vocabulary, it is most important both in point of economy, health, and enjoyment of life, that we, farmers particularly, provide more and better fresh vegetables for our tables throughout the year.

The garden spot is better if underdrained thoroughly, the drain 3 to 4 feet deep and 2 rods apart ; the soil deepened by trenching or deep plowing. For a large garden use the double Michigan swivel plow if you can. It leaves no dead furrows.

Artichokes.—Remove suckers from old plants, strip off dead leaves, and plant in well dunged beds, 2 feet apart. Leave one, two, or three suckers on the old plant, according to the strength of the root and the soil. Seed may also be sowed at this season. (Do not confound with the "Jerusalem artichoke" which is a kind of sunflower.)

Asparagus.—Fork in manure if not already done. Salt beds two years old. In cutting, use either an asparagus knife which has a curve in the blade, and a long handle, or a long narrow bladed sharp knife, and cut 3 or 4 inches below surface, carefully not to hurt other sprouts, the growth of which is promoted by deep cutting.

Beans.—Prepare poles. When new ones are procured it is advisable to soak at least the large ends, after sharpening and trimming, in a dilute solution of blue vitriol, several days or weeks even. They will last more than twice as long for it. Sow bush beans (early valentine or early six weeks) towards the last of the month.

Beets.—Sow early in rows a foot apart ; use plenty of seed and thin out for greens when the plants crowd. The early Bassano is the best sort for Summer use, and the Long blood for Winter.

Borecole or Curly Kale.—A plant of the cabbage kind used as winter greens. Sow and treat like cabbage. It bears the winter unprotected around the western part of Canada. Plant where it can be protected from game, which love its green leaves in Winter.

Broccoli.—Sow and treat like cabbage ; there are early and late varieties. The flower, in a compact head, like cauliflower, is eaten.

Brussels Sprouts or Rose Cabbage.—It bears on a tall stock multitudes of little cabbage heads like cabbage roses, very delicate. Sow early and transplant like other kinds of cabbage.

Borage.—Sow for greens early, in dry soil, broadcast or in drills. To those who like this plant, it furnishes excellent summer greens. The flowers are showy.

Cabbage.—Sow seed in open ground at any

time, after the soil is warm. Transplant from hot-beds or cold frames for earliest crop; set 1½ to 2 feet apart. Early York is earliest. The Winingstadt far superior but later. Early green Savoy a very desirable sort. Sow late varieties last of the month for late Summer and Autumn use; later sowing answers better for winter cabbages. Avoid the use of hog manure or any fermenting manure, or sowing where cabbages grew last year, if you would escape insects and club-foot.

Cauliflower—Treat like cabbages. There are early and late kinds. Early Paris, and large late London are good sorts. They are the most delicious and delicate of all the cabbage family.

Carrots—Sow early in well prepared soil, in drills 1 foot apart. Mix the seed with double its bulk of fine dry soil or peat, to be able to sow it more evenly. For early use sow Early Horn, scattering the seed in a drill 2 inches broad. It is a very short and small variety, sweet and mild flavored, which bears crowding in the rows, thinning out as wanted for use during the summer, and is fit for the table as early as green peas come. This variety is equally good in winter, but the Long Orange is preferred because it yields better.

Celery—Prick out from the hot-bed to make stout plants for summer use. Sow seed in warm, very rich soil, in drills 6 inches apart for plants for main crop. The red varieties are most solid; the solid white more delicate; the Giant kinds are almost always hollow and pithy.

Celериac—Sow as directed for celery, and if sown early, prick out in the same way.

Cardoons—Sow in warm mellow soil for transplanting into drills in June, where it can be bleached.

Chervil—Sow at intervals; it is used in soup.

Chives—Plant single bulbs 8 to 10 inches apart in borders.

Cold Frames, leave open except when very cold or rainy.

Cress (Garden cress, or Pepper grass)—Sow as early as possible, thickly in rows 6 inches apart. The curly leaves are fit for a salad or relish in a very short time.

Cucumbers—Start on bits of sod, and put a few seeds among the earliest lettuce and radish plants in the hot-bed, so that when they are pulled, cucumbers may have the soil and finally overrun the frame.

Egg Plants—Sow purple variety in hot-bed early, give considerable heat at first. The young plants are very sensitive. White egg-plants are pretty, but not worth cultivating except for ornament.

Garlic—Little used in American cooking, but desirable. The flavor is different from that of the onion. Sow seeds in rich mellow soil, or set out subdivisions of the bulbs, six inches apart.

Hops in the kitchen garden soon become a nuisance. Set a young vine, taken from the roots of a fertile plant, in some out-of-the-way corner in rich soil, and provide good tall poles, and a supply for the family will be had without further trouble.

Hot-Beds for farmers' use are quite as serviceable made the first of this month as earlier. If the ground is dry, fill with the well turned and mixed horse manure—a pit 14 inches deep, and six inches all around larger than the frame. Make the frame of 1½ inch stuff—1 foot high on the front or south side, and the back high enough to allow the rain to run off freely from the sashes, which are usually 2½ to 3 ft. wide, and 5 or 6 feet long. Set the frame upon the manure, and spread evenly 4 inches of mellow soil. Put on the sashes and when a good heat is raised and the soil settled and levelled, it is ready for the seeds of early cabbage, cauliflower and the like, lettuce, tomatoes, peppers, egg-plant, radishes, &c.

Horse-radish—Dig for use, saving the long ends of roots and the branching crowns for re-setting; plant with a dibble in deep, rich, moist soil, 8 inches apart, in rows 14 inches apart. Almost any part of the root will grow.

Kohl Rabi—Sow in hot-bed early, or later in open ground, and treat in every way like cabbage.

Leeks—Sow when the soil is warm; the seed may be mixed with onion seed, and the plants treated alike until the onions are pulled, when the leeks are left to grow.

Lettuce—Sow in hot-bed, and in the open ground, as early as possible—transplant to give room to head. In the former it will come forward and mature very rapidly. Stir the soil about the plants. Neapolitan cabbage, is a superior variety. Victoria cabbage, Mammoth India, and Curled Silesia are all good.

Manure for the garden should be fine, well rotted, free from weed seed. If half muck, having laid in compost heaps all winter, so much the better. **Liquid manure**—Sink a barrel or half-hogshead tub in an out-of-the-way but convenient place, to receive house slops and other liquid manure. Keep it well covered and make frequent use of it to prevent putridity.

Mustard—Sow white variety in boxes or in the open ground at any time for salad or greens.

Mushrooms—Prepare manure for beds under cover, and procure spawn. It is commonly best to start mushroom beds at this season.

Melons—Sow choice varieties of musk melons in hot-beds as directed for cucumbers. No. 76 of the Seed List is a good variety also Green citron, and almost any variety of Nutmeg melon.

Nasturtiums—Sow the yellow flowered, where the vines will have a fence or wall to ramble over and where the showy flowers may be seen, enrich well; sow last of April.

Okra—Sow after fear of frost, in dills 2 feet apart.

Onions—Sow white or yellow early in rich ground. See direction under Farm Calendar. **Potato onions**, best of all for the table, planting in mellow rich soil, one foot apart each way, and keep the ground loose and clean. **Top onions** (rare-ripes,) set 3 inches apart in rows 8 to 10 inches apart. The small bulbs raised from late sowed seed may be used in the same way.

Farsley—Cultivate the curled variety. Sow early in drills half an inch deep, on the border of vegetable beds, for which it makes a neat edging.

Parsnips—Sow in rows 14 inches apart, in very deeply worked and rich soil; the seed starts slowly.

Peas—Sow in succession, as soon as the last is well up. Let the Champion of England be your reliance. Dan. O'Rourke and 'om Thumb, (the latter dwarf,) and several others, ripen considerably earlier. Bush as soon as 3 inches high. See directions given last month.

Peppers—Sow in hot-bed or box, to transplant in May. There are many varieties used green for pickles, &c. The Large Bell for stuffing, Bullnose or Sweet Mountain for simple pickling, for which also the cherry is used; and the long varieties of all sizes used ripe for making Cayenne or red pepper, and "pepper sauce."

Radishes—Sow in light sandy soil in a warm place, at intervals; water with liquid manure to force a rapid growth. The seed may be dropped in the ends of rows, or in any vacant spot, and a good return gained.

Rhubarb—Obtain tender thin skinned varieties for planting. Cover old crowns with a barrel with one head out, a tender blanched growth will result.

Salsafy (Oyster plant)—Sow early and cultivate like carrots. It needs deep tillage and rich soil, stands out over winter, and is excellent in spring.

Scorzonera (much cultivated in Germany, and called Schwarzwurzel)—is similar to salsafy; treat in a similar manner, but sow later.

Sea Kale—Sow seeds thinly, but in drills an inch deep, and a foot apart, to secure crowns for transplanting next Spring. Set roots two inches below the surface, two feet apart in well manured sandy soil, worked eighteen inches deep, well dressed with salt.

Seeds—So far as possible test all before using, sowing them on wet cotton in a glass, or in moist soil kept warm. In sowing be careful to cover with fine soil and not lumps of earth. Burying seeds about an inch below the surface of the soil spread out between pieces of cloth, or put into cloth bags, is a very good way to sprout many kinds before sowing.

Small fruits that find a place in the kitchen garden, such as currants, raspberries, and gooseberries, must be pruned and tied up, if it be not already done, and dug about and manured. Paving or spreading oyster or clam shells under gooseberries, it is said, prevents mildew.

Strawberries—The present is a good time to set out new beds, and to obtain new varieties, for propagation.

Spinach—Remove covering and use as wanted. Sow for successive crops in drills a foot apart.

Squashes—Plant summer squashes of dwarf sorts in hills 4 feet, the running sorts 6 feet apart. If the land is not quite rich put manure under the hills. Winter squashes need rich soil and room to spread; put the hills 6 feet apart, and manure in the hill. Hubbard and

Boston Marrow and Crookneck are excellent standard varieties. No two varieties of cucurbitous plants should be raised near each other. The seed is not reliable if any two kinds are raised on the same half acre.

Tomatoes—Sow in hot-bed to transplant in May. When protection can be given, early plants may be transplanted in this month. Lester's Perfected and the Feejee, are both good varieties.

Sweet Herbs—Divide the roots of Sage, Lavender, Thyme and Rue. The mints of all kinds of Balm, &c., may be propagated by dividing, or from the ground shoots which have rooted. Sow seed of Basil, Summer Savory, Clary, Sweet Marjoram, &c., where the ground is warm, in drills, near or further apart according to the special requirements of the plant.

Tools—It is important to clean garden tools as often as used, and as soon as they are laid out of the hands. See article on garden tools, page 116, and secure good ones.

Turnips—Sow early Flat for Summer use in light soil.

Winter Cherry—Sow in hot-bed or open ground and treat like tomatoes; they require scarcely less space.

Flower Garden and Lawn.—The love of flowers is as natural to a man as is his breath—but alas! the love of profit that may be counted in dollars and cents, leads too many to overlook the enjoyment which springs from so much purer and higher a source. A little taste and care, with a very little expense of time or money, will make the surroundings of the humblest cottage most attractive and beautiful; and the wealth of the Indies may be lavished for years upon glass houses and gardens, and still we shall have but just begun to see with what varied, delicate and gorgeous beauty of the floral world, nature will reward our care. Every one may have flowers.

Before laying out a new piece, provide for a liberal garden spot, give it a warm sunny aspect, some shaded nook, a good, well drained soil, and allow it a good share of manure. The soil must be well worked, mellow and free from weeds—But some nice flowers grow anywhere.

Annuals—Sow hardy sorts such as mignonette, portulacca, candytuft, phlox, coreopsis, daisy, clarkia, and larkspur of our seed list; also scabious, marigold, eschscholtzia, hibiscus, &c. They require less covering when sown early in the season, and are often put too low in the soil. The more delicate the seeds, the finer should be the earth with which they are covered. Asters, petunias, balsams, gilly-flowers, &c., may be sown in hot-beds, to be transplanted next month.

Borders are the first portions of the garden to be dressed, manured and put in order for the season.

Box Edgings—See directions given last month.

Bedding Plants—Harden them by free circulation of air in the houses or frames during this month.

Bulbs—Plant out those which have bloomed in glasses. Remove any covering or mulch

allowed to remain until now. Hyacinths, tulips, and crown imperials, as they come in flower, should be neatly staked up.

Carnations and Picotees—Harden those in pits by exposure, and plant out when the weather is settled.

Climbers—Prune and train Honeysuckles, Woodbines, Wistarias, and other woody climbers, and plant others.

Dahlias yield the finest bloom in the cool weather of Autumn. Hence it is not desirable to plant many before May. A few may be put in boxes to sprout.

Dicentra (Dielytra), a most beautiful flower in the border. Plant out and divide roots.

Draining—This is the best time to drain many gardens. Lay them under walks where the ground is all wet.

Evergreens—Arbor Vitæ and Norway Spruce may be transplanted freely at this season; others in May or June.

Frames and Pits—Ventilate freely to harden off the plants and prepare them for setting out. Transplant from them in warm localities, when the weather has become mild and settled. If not too crowded, they will flourish best in boxes, until the open soil is dry and warm.

Flowering Shrubs—Plant the althea, flowering almond, azalea, chionanthus, flowering currant, deutzia, euonymus, holly, Japan quince, laburnum, lilac, philadelphus, rose acacia, snowberry, snowball, spiræa, tree peony, weigelia, &c. Early flowering shrubs give a finer bloom if transplanted as soon as ground is in working order.

Gravel Walks—Add gravel to old and new walks as needed. Clean out any weeds or grass, cover with gravel, rake smoothly, and press down with heavy roller.

Hedge—Set out privet, althæa, buckthorn, Arbor Vitæ, &c., for hedges. Osage Orange and honey locust are of too rampant and coarse a growth for handsome screens or protection around dwellings and pleasure grounds.

Labels and Stakes—Provide an ample supply.

Lawns—Sow grass seed on thin spots, scarifying with a sharp rake, and roll. Top dress with guano water, or ammoniacal water from gas works, or with Chili saltpetre, ashes, plaster or superphosphate. Instead of a mixture of seed as formerly preferred, a single sort is now recommended, so that the lawn may present a uniform hue.

Manure heavily all the borders and flower plots.

Perennials and Biennials—Plant seeds of Canterbury bells, forget-me-not, standing cypress, dwarf blue larkspur, and foxglove, of our seed list, and other hardy biennials and perennials, when we have settled weather and a warm soil. Some of these, like pansies and forget-me-nots, bloom the first season. Also divide and re-set, or plant out pinks, sweet williams, pæonies, lillies, phlox, &c.

Petunias and Verbenas—Procure rooted plants from florists and set in masses. Sow seed in the hot-bed.

Roses—The almost endless variety of monthly, remontant, and common sorts, enables the cultivator to secure a rich profusion and con-

stant succession of bloom. Purchase and set out blooming plants, and such only as have a good reputation for hardiness and free blooming. The Remontant, sometimes called Hybrid Perpetual, will give good satisfaction. Plant out, prune and tie those trained to trellises or pillars. Uncover tender varieties buried or tied up last Fall when danger of frost is over.

Shade Trees—Plant deciduous sorts early. Many of our choicest fruit trees are beautiful as shade trees, for instance, the bigarreau cherries, the crab apple, and pears growing in uniform pyramids like the Buffum.

Tender shrubs and vines which were strowed up, or otherwise protected last Fall, may be uncovered. It is best to loosen the straw before removing it altogether.

Vines and Climbers—Plant bignonia, clematis, honeysuckles, ivy, trumpet flower, Virginia creeper, wistaria, moneywort, &c., and arrange on permanent supports.

Green and Hot-Houses.—As most of the plants will be removed to the open grounds next month, care should be used to harden them off in April. Dispense with fire in the Green-House when possible, and keep ventilators and doors much open. Forcing houses also require much less heat, and more air.

Bedding Plants—Propagate (by cuttings, and dividing roots,) an ample stock of verbenas, petunias, geraniums, daisies, pansies, salvias, dicentras, fuchsias, heliotropes, &c. Expose by degrees to gradually harden them.

Cameos past blooming, should be pruned and washed.

Cuttings—Increase stock by cuttings. In the commercial house it is especially needful. Fuchsias, geraniums, myrtles, hydrangea, camellias, jasmines, salvias, and most other plants will strike freely under glasses, with a steady bottom heat.

Fuchsias—Increase the stock of this elegant flower by inserting a large number of cuttings.

Prune and head back all feeble stunted plants, or those of straggling or undesirable growth.

Insects increase rapidly if not early checked. Hand pick, fumigate with tobacco, syringe with oil-soap water.

Seeds of desirable green and hot-house plants, such as geraniums, aloes, cactuses, mimosas, euphorbias, cinerarias, &c., may be sown now in pots, plunged in the bark-bed, and covered with bell glasses, or in their absence with a pane of glass laid over each pot.

Shifting—Re-pot plants needing more room, cutting away diseased roots. Give fresh earth to plants that do not need transplanting.

Water freely, rapidly growing and succulent plants; they require more than woody sorts. Add a very little guano or carbonate of ammonia to water for lagging plants.

Grapery and Orchard-House.—Grapes ought to be growing finely now; new shoots should be tied up as they extend. Those in earlier houses have already set their fruit, and the berries are of sufficient size to require thinning. Cut back the laterals above the

bunches to three leaves, and remove shoots between the bunches and the main cane. As the berries swell, support the shoulders of the bunches by tying to the canes above. Syringe freely, adding sulphur to the water to prevent mildew. Vines which have only burst their buds, need to be kept horizontal to start evenly.

Mildew can be prevented by the free use of sulphur.

Peaches, Apricots and Nectarines—Remove superfluous shoots, and pinch in to prevent rampant watery growth. Thin out the fruit where it needs it.

The orchard-house or graperly is often an excellent place to bring forward strawberries, string beans, &c.

Apiary in May.—Bees will now begin to bring in pollen; but a steady supply is not certain. On damp chilly days the bees will not venture out; and a severe frost may destroy all the flowers for a time. The morals of our little favorites in such times are apt to suffer. Idleness with bees begets mischief, war and pillage. The "flour feed" may advantageously be given to keep them employed. But they will refuse to take it altogether very soon. Scrape the filth from the floor of the hive. See if there are clusters of dead bees among the combs; such should be removed. If they have remained long enough to mold, take out the comb, as far as it extends, as well as the bees, quieting the bees with a puff of smoke occasionally. Colonies that are out of honey, can not be expected to obtain supplies from the flowers yet, for they get little else than pollen, and this will not sustain the old bees; they should be fed as required with honey or sugar syrup. Feed often, in small quantities, two or three times a week. Put it on the top of the hive or breeding box, open the holes and cover it close with a box, to prevent robbers having access. Do not feed promiscuously by setting honey where all can take it. It induces contention among the bees at home, and entices those of neighboring proprietors. Robbing may occur any warm day; on warm evenings they continue operations until dark, when it can be readily detected. You can also see where the honey is taken—most likely to the strongest colony in the yard—if but one is stealing change the stands, setting each hive where the other stood. As it will be impossible to do this when several are engaged, it will be necessary to carry the one being robbed to some dark room, until several warm days have passed, when it may be returned, or take it away a mile or two, until all danger from further attacks are over. Keep the entrance to all weak hives properly contracted during this month. The moth worm may be found on the floor of the hive in considerable numbers: sweep out and destroy them all. Put up a wren box near the apiary, for these birds will pick up a great many of the worms, and will be on the look-out for them when you are away.

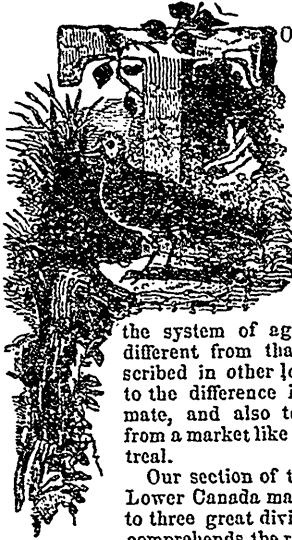
Many who have not the movable comb hive will want to procure Italian bees this season, and to know how to transfer from the old box to the movable comb hive at once,

and not wait for new swarms with which to begin. Complete success with Italians can hardly be expected without some of these hives. The present month is perhaps as good a time as any to make the transfer, for there are fewer bees than at any other, and not much brood in the way. Select if possible a hive with straight combs; blow up into it a few puffs of smoke to keep the bees quiet, and carry it to a warm room. Invert the hive, and drive all the bees that will go readily into an empty hive—one of the same size, previously made comfortably warm. Now pry off the side of the hive, and cut out the first comb, and lay it carefully, without bruising, on a few thicknesses of folded cloth. Lay over it the frame into which it is to be fitted, and marking the exact size, cut and trim the comb to fit into the frame; put it in and keep it there by winding twine around the whole. Straight combs are readily held in this way, but crooked ones will need narrow splints on each side, tied at the ends where they project. Keep the filled frames upright. All the combs as they are fitted and put in the new hive, should be in the same relative position as before, if possible, that the brood may be together and be protected by the bees. When all is arranged, the bees which have been shut up may be shaken out upon the top of the frames, and covered with a close box to keep them from flying, until they find the combs. When all the dripping honey is taken up they may be returned to the stand. Such bees as are on the windows, may be brushed into a box and shaken on the frames after the others are quiet, or, if the day is pleasant, the window may be raised and the bees swept out, and they will return to the stand without trouble. . . . Avoid opening the movable comb hives on cold mornings, or in chilly weather, lest the brood be injured. It is not safe either to open them in the middle of the day, in large apiaries when the bees are flying, as it might induce robbing any time before the flowers yield a full supply of honey. The best time appears to be just before they begin work in the morning.

OLD HORSES.—The term old, as applied to horses, is generally intended to convey not only the statement of their age being past marks in the mouth, but also the common impression that comparatively they are of little value, if past eight or nine years. Now, if we rightly understand it, the horse has not attained his full growth and perfection of bodily frame, until he has passed his seventh year; and until growth is attained, he is just as unfitted for extreme hard labor as a man before arriving at full manhood. In this country, the practice of putting horses to work at two and three years, usually results in their becoming broken down by over-driving or over-straining before they have attained firmness of muscle, and capability for enduring labor. Thus it is, that horses are often, with us, rendered comparatively valueless before they have in truth arrived at an age of full powers and endurance. We have owned a number of horses, and whenever we have had one that had not been injured before arriving at maturity, we have found him

more capable of performing regular labor at from ten to fifteen, than those of four to seven years. In our opinion, therefore, judging from observation, we consider the horse in his prime at from nine to thirteen years of age, always remembering that previous to his having attained his growth, say seven years, he has not been over-driven, strained, or otherwise injured by reason of high stimulating food or abuse.—*Ohio Farmer.*

OUR RAMBLES.



O those counties situated in the rich and fertile valley of the St. Lawrence. Our Rambles, up to the present time, have been confined. We have now to describe our visit to the Eastern Townships, where the system of agriculture is so different from that we have described in other localities, owing to the difference in soil and climate, and also to the distance from a market like Quebec or Montreal.

Our section of the Province of Lower Canada may be divided into three great divisions: the first comprehends the rich alluvial soil of the St. Lawrence, forming a triangle, the point or apex of which may be placed at Kamouraska, and the base of which extends from the borders of Lake Champlain to about fifty miles up the Ottawa river. The Green Mountains form the southern border of this triangle, which includes that portion of territory extending from Stanstead to Gaspé, and which forms the second division. The third division is formed on the north by the Laurentide formation.

The importance of these three divisions is very important for our visits, for the dissemination of the best methods of culture suited each of these districts, and for showing the best methods adopted by the farmers suited to their peculiar circumstances, so that others similarly situated may obtain the best and most reliable information. For whenever we have recorded the successful operations of any farmer, say at Stanstead, these same remarks will be equally applicable to other situations in our first agricultural division, placed on the same soil subject to the same climatic differences, and situated at nearly the same distance from any large market-town, which can only be reached either by railroad or by the river navigation. The third division or the North presents a like difficulty, in being removed also from a large market, but possesses the same soil, with this difference, that being more elevated above the main sea level,

and exposed to the north winds, the climate is consequently colder the yield of the agricultural products is less in quantity, and the class of animals more stunted.

This general classification may be more especially divided into,—first, the *Valley*,—second, the *South*,—third, the *North* regions. First, the *Valley*: The soil of this portion of our division is composed chiefly of the alluvial deposits of the river, is very rich and fertile, and is well adapted to furnish a good remuneration. But since the first day that the plough turned over the sod in our vast forests, each returning year has yielded an abundant harvest, while each year has robbed the soil of a portion of its fertility, and to such a point has this reached in some places, that the soil is now so impoverished as scarcely to yield anything like a remunerating crop, and this will continue so, unless a better system of culture be followed. But by adopting the planting of green crops and a proper rotation, the soil will regain its primitive fertility, which was thus lost under the bad system now adopted. The composition of the soil is excellent, but it requires a variation in the seed; for no soil, however good it may be, can resist the impoverishing influence of a system of cultivation composed of grain crops exclusively, thus sown year after year on the same spot. The soil, although an important element, is not the only one to be taken into consideration, but the means of export is another leading consideration for the choice of seed. We find this valley traversed from one end to the other, through its own length, by a large river, which facilitates in no small degree the communication with our principal markets and centres of commerce. The same may be said of the facilities offered by our railroads. So that the products of this rich valley find the same means of transport and the same prices for their produce, subjected of course to the rise and fall of the principal markets. These circumstances in themselves offer a very favourable opportunity of improving the present system. Besides, the whole extent of this valley is nearly on a level, being subject only to slight elevation; with this only difference of climate, that those parishes situated on the edge of the river are less subject to those hoar and white frosts, so destructive oftentimes in the townships.

Second division.—The South.—This division is placed as to climate, soil, and means of export, in quite a different position to that of the valley already spoken of. The soil is formed here partly by the disintegration of the rocks in its vicinity, and consequently is not so deep as the alluvial deposits of the valley. It is easily drained. The subsoil generally is composed of gravel, which allows an easy filtering of the water, and offers a natural method of under-draining so conducive to successful agriculture, although it is still necessary to have open drains to take off the surface water. It is necessary, notwithstanding, that this soil should have more constant manuring to ensure a permanent state of fertility; but it is less subject to weeds, which are also more easily removed, and although the soil in this division offers greater difficulties in its adaptation to cultiva-

tion, owing to its stony surface and the difficulty of ploughing from unevenness, still it has the advantage of easy drainage, and affords extensive pasture. With a lighter soil the climate might be expected to be less severe, but this is not the case, owing to its increased elevation and to its northern exposure.

Third division.—*The North.*—This division is placed precisely in the same position with regard to soil and markets as the South, but its greater elevation, over the mean sea level, is much more considerable than that of the South, and often renders it doubtful, if the usual grain crops sown in spring will arrive at maturity in some of these localities.

The townships in the districts of Ottawa, St. Maurice, and Saguenay, possess a superior soil, when not placed at too great an altitude, and where again they are hid by the mountains from the cold chilling winds of the north and attention to position, may tend in some manner to correct this. During the month of March, we (in following our present division) passed in the southern district to observe the method adopted in that locality, and we purpose to give an account of "our Rambles" in each of the divisions alternately.

We intend in this number to give the results of one of the most distinguished farmers in our southern division :

Visit to Mr. Stephen Baker.

Mr. Baker's name is not new to those persons who have, for the past twenty years, taken an interest in the progress of Agriculture, for ever since the formation of the Provincial shows, Mr. Baker has, year after year, obtained large awards of prizes, for his superior stock improved by Crosses with the English breeds. This improvement of the native breed has cost him a large amount of money but is now the source of large profits.

Along the whole line of the frontier between Canada and the United States, from Huntingdon to Beauce we meet a population of intelligent farmers, who formerly came from the United States during the war of independence.

These colonists left the New England States to live under the British constitution and under the protection and guidance of the mother country upon the whole line of frontier. They obtained large gifts of lands—roads were opened up, and every necessary was afforded to insure a homestead.

To-day the descendants of these colonists possess properties of great value—owing to the great facilities of disposing of their products on either side of the line, and to the good system of culture they have adopted—and they do not generally dispose of their capital in the acquisition of new farms, but in the purchase of improved stock, and by this means endeavour to improve the breed of animals. In this Mr. Baker has fully realized his desired object.

His farm is about a mile from Dunham, in the County of Missisquoi, and contains about 600 acres, 450 of which are arable and the other 150 in forest. He has adopted a rotation of 10 years which is highly recommendable for the whole of the Eastern Townships placed generally in the same circumstances.

1st Year.—Wheat, oats with manure	30	ac.
2nd Year.—Meadow,.....	30	"
3rd Year.—".....	30	"
4th Year.—".....	30	"
5th Year.—".....	30	"
6th Year.—".....	30	"
7th Year.—".....	30	"
8th Year.—".....	30	"
9th Year.—".....	30	"
10th Year.—Grain.....	20	} 30 "
Green crops,.....	10	
In rotation,.....	300	"
In permanent meadow,.....	150	"
In forest,.....	150	"

600

What strikes us at first view is the large amount of land laid in the production of fodder, only 50 acres is sown in grain, and 10 in green crops, and the products of these 60 acres are fed by the animals, with the exception of the wheat. No hay or straw is sold; it is used on the farm, and converted into flesh, wool, butter and cheese. Here there is a system of culture different in all respects to any system of which we have hitherto spoken. Notwithstanding, on the whole, the system adopted by Mr. Baker is the one offering the best remuneration under the existing circumstances, and the resulting profits should at all times engross the object of the farmer.

In bringing together the rotation and system followed by Mr. Baker, and Mr. Fortier of Beauport, we must remark a striking resemblance in the two cases, and it shows the great importance of the system of which the cultivation of meadows forms the base. The only difference consists of the method of turning the products into money, either sending the hay and straw to market and to our lumber-men in the bush, or converting them into flesh, wool, or butter and cheese, or in other words into substances easily transported to a distant market, and in nearly all the region of the South, the distance from market and the high price of carriage oblige the farmer to adopt a similar system.

Again, the nature of the soil and its situation are well adapted for pastures, a great extent of land partly covered with boulders difficult to remove and rendering the clearance not at all easy, cannot be better employed than for pasturing cattle for the butcher—the cluster of trees here and there, and also openings of water, form an ample supply of shade and drink so essential for the health of animals in that neighbourhood.

Mr. Baker showed us his stock of cattle, consisting of 100 heads, and they can bear testimony to the advantages to be derived from the crossing of our breeds with those of a foreign stock, and they alone form an eloquent plea in favour of the importation of choiced bulls more especially at this time when every facility for importation is offered by the Board of Agriculture.

Mr. Baker is anxious to produce a stock which is good for milk, easy to fatten and at the same time, that the oxen can be used to do the work of the farm, for in his neighbourhood the presence of roots and stumps is such as to require a great amount of strength in the til

age and Mr. Baker has seen the necessity of using oxen instead of horses in the usual work of the farm.

Mr. Baker uses his oxen to plough where horses could not do it, and for the purpose of carting manure, in passing up and down the hills, for although not expeditious, they are slow and sure.

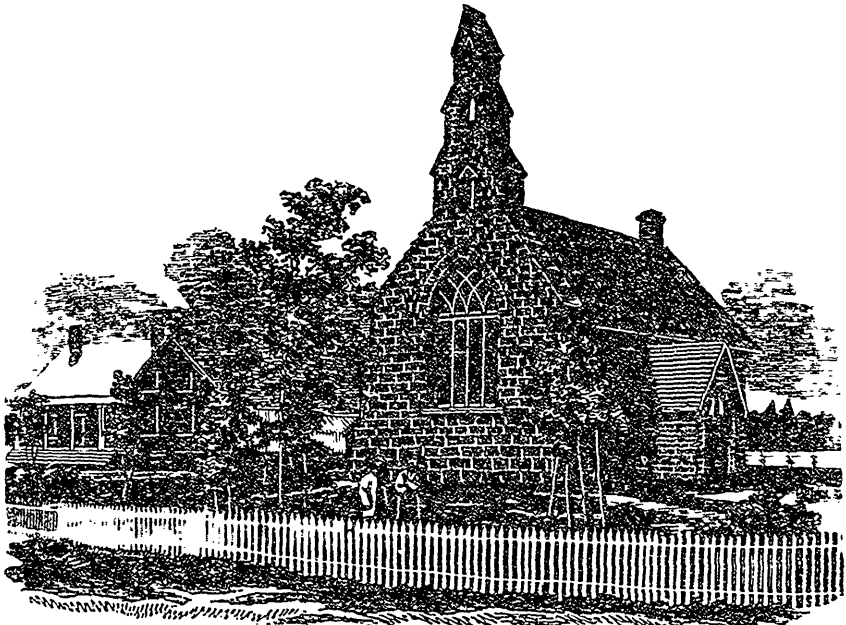
Mr. Baker, by his present system converts all his harvest into flesh and other products easily sent to market, a pair of work horses is all he requires and these are used in the seed-time for barrowing the grain and any other work requiring speed more than strength.

Mr. Baker has adopted the cross with the Durham breed, and has admirably succeeded in obtaining a breed of animals, at once useful for

draught, easy to feed, and good milkers; the cross breed has given a great stature and body to the animal, and a great facility in fattening; with good feeding, the modification takes place very rapidly. Calves of this breed sell from \$20 to \$30 each. This is a recompense for Mr. Baker's efforts in this department.

But, he does not stop here, he has, by under-drainage, by means of the stones on his farm rendered the soil more productive, and has also used them in the construction of the fences.

The plan that Mr. Baker has adopted is very instructive in a whole but less so in its details; the extent of his green crops is 1½ acres of carrots and 1 acre of potatoes, which is not sufficient for 100 heads of cattle. Mr. Baker might adopt the following rotation with advantage:



Church, County of Missisquoi.

1st year.—Mangold Wurtzel, 2, carrots, 5 acres, Indian corn, 10, Horsebeans 5, Buck-wheat ploughed in 10...	30 acrs.
2nd Year.—Spring grain.....	30 "
3rd Year.—Meadow.....	30 "
4th Year.— "	30 "
5th Year.— "	30 "
6th Year.— "	30 "
7th Year.— "	30 "
8th Year.— "	30 "
9th Year.— "	30 "
10th Year.—Spring grain.....	30 "

In all..... 300 acr.

This rotation without much increasing the farm labour would give a greater yield per acre, and would furnish a greater amount of roots for the feeding of cattle. The ration of root crops in Europe for cattle is 1 bushel per diem; we can well understand that hay may become, † some extent, a substitute,

but the nearer we imitate this mode the better will be the result.

We cannot help expressing ourselves with pleasure on the system adopted in the Townships. Everybody seems prosperous. The results of their good system of culture is also seen in the style of their houses, and of their public buildings.

We subjoin a cut of these buildings, and shall in our next number give a ground plan, so that any of our readers who want to build may have the advantage of their example in construction.

One thing which struck us during our travels was the good state of the winter roads, which is kept up by the use of the double sleigh; we have often directed our attention to some method to be adopted generally for this purpose. A law obliging all persons to yoke their horses when single to one side would, in our opinion, accomplish this purpose, and with

but little cost, as our farmers themselves could easily make the necessary alterations. We travelled in this manner for six days without the least inconvenience. In making this an obligation we would obtain good and wide roads, and in the spring time the roads would be sooner opened up for wheeled vehicles. We see with pleasure that Mr. J. B. E. Dorion, member for Arthabaska, has a project of a law before the House of Parliament on roads pose, and we hope that his long experience will give to the county a suitable and effective legislation which will be acceptable to Lower Canada.

Before closing the account of "*Our Rambles*" during the past month, we would wish to inform our readers that it is our intention to visit England during the months of June and July next, to be present at the Exhibition of all Nations, which will be held in London.

We have felt some hesitation in taking so long a journey to examine and report on the advancement of agriculture during the past

five years, and would not have done so had the Government appointed any one for that special object.

The formation of a distinct department of Agriculture and Colonization had lead us to hope that our national industry would have been duly and specially represented in the Commission which has been sent from this country to the exhibition in London, but in this we are disappointed, and we suppose that a system of economy has been the only preventive to such a course.

The several important topics of the day in reference to the establishment of agricultural schools, to the development of a better and improved system of culture, to the establishment of a Bank of Credit, and to the better classifying of our own agricultural shows, would point out the necessity of our head men possessing a practical experience in such matters, and a thorough knowledge of the subject.

The Government in the nomination of the honorary members of the above commission



Residence, County of Missisquoi.

with instructions to organize the Canadian department in the Exhibition of all Nations, appeared to have been aware of such a necessity, for we find the commission consisted of the Presidents of the Boards of Agriculture, and the Presidents of the Boards of Arts and Manufactures in both Lower and Upper Canada. These men would have brought home a large amount of useful knowledge there acquired. But notwithstanding their gratuitous services in the collection and classification of the different productions of Canada, the government has substituted to them, acting commissioners, most happy to profit by the work already done, but certainly unable to represent to equal advantage our agricultural interests.

The only way we see to remedy the evil is that the Boards of Agriculture and Arts and Manufactures, in both Canadas, should send their respective Presidents, with instructions to make a special report, each in his department.

The Board of Arts and Manufactures of Lower Canada is well represented by their talented and active Secretary, B. Chamberlain,

Esquire; in Upper Canada the Board of Arts and Manufactures have sent their President, Wm. Beaty, Esquire; and, if our information be correct, the Board of Agriculture of Upper Canada has also followed their example. It is only the Board of Agriculture of Lower Canada that will not be officially represented by its President, notwithstanding it is more than any other interested in the exhibition by the numerous applications for the purchase of stock made by the local County Societies.

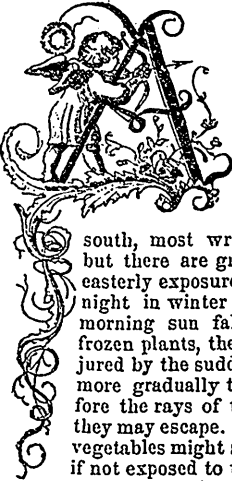
We regret much to see that this matter was not brought up at the last meeting of the Board, and to do justice to this important question not a moment should be lost.

For ourselves, having taken the responsibility of disseminating through the public all the improved methods of agriculture on the rearing of animals, and the improved construction of implements, we must either lose the present opportunity of adding to our knowledge by a visit to the exhibition of the agricultural productions of the world, laid before us in a small square of some hundred yards; or be obliged to meet expenses, high enough to

frighten a Government which has built the Victoria Bridge and in a few weeks will have raised an army of 50,000 men. Reposing on the future of our publication, we shall, in the interest of our readers, shortly undertake the journey, and we would feel grateful to our subscribers for the transmission by mail, pre-paid, of the amount of their respective subscriptions. We shall profit of our journey for the acquisition of useful and elegant plates, so as to illustrate our future volume, and make the *Agriculturist* worthy of a larger patronage.

We publish to-day 48 pages of matter, and we purpose to do so on the 1st of June and 1st August, on our return from Europe, so giving two double numbers to our readers.

FAMILY VEGETABLE GARDEN.



GARDEN is a domestic institution that has been too much neglected in Canada, greatly to the detriment of the health and enjoyment of our people.

The Garden Spot should have a gentle descent, toward the south, most writers say south-east, but there are grave objections to an easterly exposure. If after a very cold night in winter the first rays of the morning sun fall directly upon the frozen plants, they are liable to be injured by the sudden thawing, while if more gradually thawed by the air before the rays of the sun strike them, they may escape. So in spring, tender vegetables might survive a slight frost if not exposed to the direct rays of the morning sun. A garden should be protected from the northerly winds by hills or woods, or in the absence of these by a high, tight board fence or wall, and thus situated and protected will be several days earlier.

Soil.—The best soil for a garden is a sandy loam, having but just enough sand to prevent its packing down hard, or baking after heavy rains, free from stones large enough to hinder the cultivation of the most tender plants, and containing enough vegetable mold to give it a dark color, as such a soil absorbs the heat of the sun more than a light colored one, and is warmer. Depth of soil is a requisite to successful gardening, especially to the production of good root crops. The subsoil should be porous enough to permit the water to pass through it readily, but not so open as to allow the fertility of the surface-soil to leach through it. A subsoil of coarse sand or gravel would be liable to leach, while a porous loam, containing clay, would allow the passage of water, but retain the pabulum of plants. If the subsoil of a garden is so compact as to retain the water which falls upon it until it is evaporated, it will be a cold, sour garden spot. To ascertain whether it is too compact or not, take a shovel, (not a spade) and if you can dig a post-hole three feet deep without difficulty, it will

answer, otherwise it should be subsoiled or trenched. The former method is the more expeditious for a large pit, the latter the more effectual.

SUBSOILING AND TRENCHING.—Subsoiling is performed by following in the surface furrow with a subsoiler, which merely raises the subsoil two or three inches, thus loosening without inverting it. It acts upon the subsoil somewhat as the mole does upon the surface. The furrow should be turned deep and narrow, so that the subsoiler—which is quite narrow—can break it all up. A garden should be made friable to the depth of at least two feet. But the gardener who means to do up his work thoroughly, even though it require a little more labor and expense at first, will trench his ground.

Trenching may be performed as follows:—take a good strong spade, draw your line upon one side of the ground, and open a trench two spades wide, throwing out the entire soil, then press your spade its full length into the subsoil, raise the dirt a little, and let it fall back into its bed. Open another trench the same width, throwing the top soil on to the first trench. Loosen the subsoil as before, and so proceed until the ground is all trenched. To fill the last trench, take up the soil thrown out of the first in a waggon or wheelbarrow, and move it around to fill the last. An active hand would soon trench a large garden in this way, and it would not be necessary to repeat the operation in several years. A great deal of subsequent labour will be saved, and much more satisfactory results attained by the proper preparation and fertilization of the garden plot.

MANURING.—I would prepare my garden plot in the fall, and after subsoiling or trenching the ground, would draw on well rotted barnyard manure—a mixture of the dung of all the domestic animals—at the rate of about twenty-five two-horse loads to the acre, and plow it in to the depth of about six inches. I would then draw on about half as much more, spread it over the surface, allowing it to remain upon the top until spring, when I would turn it in, and thoroughly mix all the manure with the soil by several plowings. If the soil had been much exhausted, I would apply fifty two-horse loads to the acre. The garden should receive a moderate dressing of manure every fall.

IMPLEMENTS.—The first thing needed to properly lay out the garden, walks, beds, and rows, is the *Reel and Line*. The reel should be of iron, and the line of hemp, at least six rods in length, and quarter of an inch in diameter. A spade and a shovel will be required in many of the operations, and to still better pulverize the soil for beds, and to add more manure to special crops, no implement is superior to the *digging fork*. To draw drills for sowing seeds at uniform distances, and in straight lines, some two or three *drill markers* are convenient. One should have the teeth about 11 inches apart, another should have them fifteen inches; by taking out the alternate teeth it would answer to make drills 30 inches apart. Another should have the teeth 18 inches apart so as to make drills of 18 inches and three feet

distance. Each marker should contain about five teeth, and should be made of hard wood. The steel-tooth rake is very necessary to finely pulverize and level the surface of beds, and free them of stones, lumps, and rubbish. A *hand-roller* is useful to smooth and compact the surface after the seeds are sown. This should be of hard wood or cast-iron, and may often be used to advantage in crushing the lumps before sowing. The *garden trowel* is used in transplanting, where it is desirable to remove a lump of earth with the roots. A good *steel hoe* of the very best material and make, and the *Dutch* or *Shuffle-hoe*, are indispensable articles in the garden. The latter will greatly facilitate the labor of cutting up weeds between the rows. The *garden watering-pot* should be of the best tin, strongly made, and capable of holding twelve to fourteen quarts. The *rose* or *sprinkler* should be perforated full of very fine holes, so as not to beat down weak plants. A *wheelbarrow* with a wide wheel, and sideboards that may be very readily removed, is an important accessory of the garden.

THE HOT-BED.—To raise early vegetables, it is necessary to bring forward some varieties in a hot-bed. The aim is to afford artificial heat to plants before the ground is thawed or warmed up in the spring. This is done by the fermentation of manure beneath them, while they receive the light and heat of the sun, the cold being excluded by the frame and glass. Dig a pit running east and west, 18 inches deep, 5 feet wide, and 12 feet long. Make a frame of inch-and-a-half stuff, spruce or pine, to fit within the pit and about 2 feet above the ground on the north or rear side, and one foot in front, and make all tight by battening. The sash should be of clear pine, 6 feet in length, and wide enough to contain three rows of 7 by 9 glass. The sides, ends, and middle pieces of the sash should be strong enough to prevent springing apart in the middle and thus allowing the lights to drop out. The glass should lap about $\frac{1}{4}$ inch, and be well puttied. The bed should be started about the first of March. Use horse manure, pretty full of litter, and slightly fermented. Fork it over several times, to break up the lumps, and mix the coarser and finer manure well together. Make the bed regular and level, beating it down with the back of the fork, and leaving the manure about 20 inches deep. Put on the glass and wait two or three days until the manure has commenced heating, then spread the loam evenly over the surface, 4 or 5 inches deep. It should have been procured the fall previous, sifted through a fine sieve, and covered with straw so as to be ready for use before the ground is thawed. After putting on the loam, wait until it is warmed through before sowing the seeds. Nail narrow strips of boards on the inside of the front and back, just above the loam, to support a plank to sustain the gardener while sowing and weeding. The hot-bed needs close attention until the plants are all transplanted into the open grounds. In cold freezing weather it will need covering with mats or straw; in warm sunny days it will want airing, at all times it will require frequent waterings with tepid water. Always water at

the close of the day, otherwise too much of the water will evaporate.

Cabbage, cauliflower, egg-plants, lettuce, peppers, and tomatoes may be sown quite thickly in the rows, which should be 3 inches apart; when the plants are 2 inches in height, they should be thinned to 3 inches in the row. To forward cucumbers to be transplanted, cut sods 6 inches square and 4 inches thick, and place them in the bed in an inverted position directly upon the manure. Set a small stick in the centre of each sod to guide you in transplanting, and sow upon each sod about a dozen seeds, but not within one inch of the edge. Spread fine loam evenly over the seeds about $\frac{3}{4}$ of an inch in thickness, and press it down gently. After the plants have put out their first *rough* leaves, thin to four in a sod, keep well watered, and transplant when cold weather is past—say middle of May. Too great heat, like the crowding of the plants, has the tendency to draw up the plants and make them spindling and weak; hence always have good ventilation when it is warm.

LAYING OUT THE GARDEN.—If the garden is to be for vegetables *exclusively*—with another plot devoted to fruits—I would leave a border about four feet wide around the plot next to the fence, and inside of this I would have a good broad, permanent walk, and another broad walk running lengthwise through the middle of the garden. I would lay off the portion to be devoted to beds in plots about two rods wide—a convenient length for the rows—and separate them by narrow, temporary paths. In making walks do not sink them below the surface of the bed, as they would be disagreeable promenades after rain, but rather raise them in the centre. Select a plot in the warmest part of the garden for those perennial plants that are not to be disturbed yearly by the plough—such as asparagus, rhubarb, etc. Biennial plants will also find a genial place in the sheltered border.

ASPARAGUS.—The *Giant* is the standard sort. Sow the seed very early in spring, in drills $1\frac{1}{2}$ inch deep, and 15 inches apart; cover and roll. When well started thin to 3 inches apart. Run the shuffle-hoe frequently between the rows, and weed by hand often. In soil prepared and manured as previously directed, the roots will be large enough to transplant when one year old. Early in the spring, measure off 24 feet in one of the two rod wide plots, and dig in a coat of manure, and about 60 pounds of salt. Lay it off in four beds, four feet wide, separated by paths two feet in width. Mark out with your line two rows in each bed, leaving two feet between the rows, and cut trenches six inches deep, one spade wide. Carefully take up the roots, set them in the trenches 15 inches apart, and cover them so that the crowns shall be 4 inches below the surface of the beds. Keep the bed free from weeds, and early in November cut down the stems, rake them off, and cover the beds about 3 inches deep with stable manure. In the following spring dig in the manure as deep as you can without disturbing the roots, and repeat the operation of the previous year. As the asparagus comes up this third season, cut a portion of the larger and

more tender stalks for the table, when they are from 6 to 10 inches high. Market gardeners cut off the stalks three or four inches below the earth, but the blanched part is rejected in eating.

BEANS.—*Dwarf or Snap.*—Desirable standard varieties are: Early Valentine, Yellow Six Weeks, Mohawk, Royal Dwarf, or White Kidney, and Early Marrowfat. About the 20th of April, sow the first three of the list, and about every two weeks thereafter until the middle of June. The last two may be sown from first to middle of June for fall and winter use. Plant in drills 2 inches deep and 18 inches apart. To keep down the weeds use the shuffle-hoe freely, and draw a little dirt around the plants once or twice with the common hoe.

POLE OR RUNNING BEANS.—The desirable sorts are: Large white Lima, Dutch Case Knife, White Cranberry, Scarlet Runners. Plant in hills 3 feet apart both ways, set poles about 8 feet long firmly in the ground, plant from 4 to 6 beans in a hill early in May, and cover about two inches deep. When the vines have run about six feet high, pinch off the ends to promote ripening of beans. Keep soil mellow and clean, draw a little dirt around the plants two or three times during the season.

BEERS.—Desirable sorts are: for the table, Extra Early Turnip (or Early Bassano,) Early Blood Turnip, Long Blood. They require a deep, rich soil. Sow in drills one inch deep, rows eighteen inches apart, and thin out to six inches. Stir the soil frequently, and occasionally pretty deep. Sow the turnip-rooted varieties as early as possible, and the long blood for fall and winter use, the latter part of spring. They may be preserved through the winter packed in barrels or boxes with dry sand or soil.

BROCCOLI.—The standard sorts are: Early White, Early Purple, Early Walcheren, Early Purple Cape, of which the last is the most desirable. Sow first of April, in shallow drills eleven inches apart. Transplant in June and July, two feet each way. Cultivate like cabbages, and commence using in October.

BRUSSELS SPROUTS.—Treat every way like the foregoing. Not good until touched by frost, after which they make good greens.

CABBAGE.—Desirable sorts are: Early York, Winingstadt, Large Early York, Early Ox Heart, Early Dutch, Large Flat Dutch, Green Globe Savoy, and Red Dutch for pickling. If very early cabbages are desired, the Early York may be sown *early in September* in drills three inches apart, rows six feet long. Keep them weeded clean, and just before the ground freezes up, thin them to three inches apart in the row, and surround the bed with a frame six inches high in front and about fifteen inches in the rear so as to carry off the water. Cover over with boards, and in mild weather remove the boards in the middle of the day to air the plants. In very cold weather cover with straw, or straw mats, being careful to remove the covering as it moderates. So soon as all danger of *hard* freezing is past, transplant into the open ground in rows eighteen inches both ways. They may also be much forwarded by sowing in hot-beds early in March. Keep up a

pretty high temperature, water lightly, but often; air in the middle of sunny days. They will be ready to plant out soon after the middle of April, and fit for the table by the latter end of June, some two to three weeks later than those wintered over. Sow the later sorts the latter part of April, in a rich bed, rows eleven inches apart, and thin to three inches. Keep them clean; stir often with shuffle-hoe, and they will be strong plants before the middle of June. Select the larger ones to transplant first, and the smaller ones will come in for the winter supply. Transplant in rows, two and a half feet each way, and stir the ground about once a week until the cabbages head. Do not hill up around the cabbage, but keep the ground level and stir often, and they will not be much affected by severest drouths. A few hours before commencing operations, thoroughly saturate the seed-bed with water, so that the ground is soaked as deep as the roots extend. The plants may each be taken up with a garden trowel, and a ball of earth three inches across the top, removed with them. If set in holes corresponding, and the earth pressed firmly around the balls, the plants will not be much checked by the removal. When practicable, a cloudy day should be selected for transplanting. When it is not convenient to remove a ball of earth with the plants, they should be "dibbled" in with the *finger*, and the soil pressed close around the roots.

WINTERING CABBAGE.—A few may be kept in the house-cellar, but the better way is to build a tight cellar under the barn or carriage-house for storing the greater share of the vegetables, whether for family use or stock-feeding. In absence of a barn-cellar, a permanent outdoor pit may be cheaply constructed by digging a pit in a dry place, twenty feet long, five wide, and two deep. Throw the dirt a little back from the edge, set posts about eight feet long, two feet in the ground, in the middle of each end, and also in the centre of the pit. Lay a good stiff ridge pole on the top of the posts, and pin it fast. Take slabs long enough to reach from edge of pit to ridge pole, and make a roof. Cover the slabs with about six inches of dirt, digging a trench around the outside, and beating the earth roof smooth and hard with back of shovel, so that it will shed rain. Make a door in each end of the pit to ventilate it in mild weather. Pull up your cabbages and store them in, heads down, two layers deep. You can stow away two hundred large cabbages in a pit of the above dimensions, and take them out whenever desired. In the very coldest weather a few bundles of straw set against the doors may be necessary to keep out the frost. For spring use, dig a trench in a dry place, one foot wide, and as many feet in length as you wish to bury cabbages. Lay a couple of rails or poles along the bottom, place in the cabbage, heads down, and cover with dirt, stems and all. They come out when the ground thaws fresh and green.

CARROTS.—Desirable kinds: Early Horn, Long Orange, Altringham, Long White. [The first two are best for the table.—Ed.] Sow Early Horn, first of April for early crop, and latter part of July for late crop. For main

crop, sow in May any of the other sorts, in rows eleven inches apart. Thin to three or four inches in the row and keep a close look-out for weeds. Just before the ground freezes, take a sharp spade or hoe and cut off the tops half an inch above the crowns, and dig with spading fork. Preserve a few for winter use, as recommended for beets, and bury the rest in pits. They are excellent food for horses and milch cows.

CAULIFLOWERS.—Desirable sorts: Large Early London, Large Late London—the former for early use, the latter for late crop. Thorburn's Nonpareil is a good early sort, quite inclined to head, and "Lenormands" is of the same description. The culture is the same as cabbage, taking a little more pains, and you will be repaid with a more delicate luxury. They do not head as certainly as cabbage, but frequent hoeings will promote heading.

CELERY.—The standard sorts are: Early White Solid, Giant White Solid, Red Solid. Sow early in Spring in a rich seed bed. Water frequently and protect from frosts. Thin out plants to three inches. The latter part of July dig trenches one foot deep, and same in width, put in the bottom about three inches of cow or hog manure. Mix it well with soil, and set your plants nine inches apart in the trenches. When the plants are six inches high commence to earth up so as to blanch them. Be careful not to get the dirt into the centers of the plants. Continue to earth up at intervals of two or three weeks, and when the celery has completed its growth, draw up the earth almost to the top of the plants. It may be preserved for Winter use by standing in a box with layers of dry soil between.

CORN (SWEET).—Desirable sorts are: Darling's Early Sugar, Excelsior Sugar, Burr's New Sugar, Stowell's Evergreen. Plant early in May, in rich, mellow soil, three feet each way, stir the ground frequently, and make broad flat hills. [Plant once or twice in May and then about once a week until the fourth of July, to have a succession till frost comes.]

CUCUMBERS.—Good varieties: Early Short Green, Early White Spine, Green Cluster, and Long Green. For open culture plant early in May in hills four feet each way, slightly elevated. Look out in the early morning for the striped bug, and large squash bug, killing all you find, or you may lose your crop. When they have well the start of the bugs, thin out to four plants in a hill. If they are inclined to run together, pinch off ends of vines. When the cucumbers are of suitable size for use, take them from the vines, leaving none to ripen, as they will continue in bearing longer by such a course. A later planting may be made for pickles.

EGG PLANT.—The varieties are: Long Purple, Large Purple, White and Scarlet Chinese. The first two for use. Sow early in the hot-bed, and when the weather is warm transplant into rows two feet apart, one foot in the row. [In warm soils and locations they will generally fruit, if sown early in the open ground, but earlier started plants are best.]

LETTUCE.—Desirable kinds are: Early Curled Silesian, Ice Drumhead, Butter, Brown

Dutch, Victoria Cabbage, White Cos [and Large Indian.—For earliest, sow in hot-bed early in March, Curled Silesian, or Butter; transplant early in April into rows eleven inches apart, four inches in rows. For succession, sow in open ground once a month. Frequent hoeings will promote a rapid growth upon which depends its tenderness and goodness.

MELONS.—*Musk Melons.*—The desirable sorts are: Fine Nutmeg, Green Citron and Jenny Lind; the latter is earliest, the former two best. About the middle of May lay out the hills four feet each way; with a shovel take out one foot square of soil six inches deep; with a digging fork dig in some horse manure; draw on the soil again so as to elevate the hill some two inches above the level, sow at least a dozen seeds to a hill, and when they have put forth their rough leaves, thin to four plants. To repel striped bug, mix guano and plaster in equal quantities, dust the foliage of the vines while the dew is on with the mixture, and as it becomes washed off and the bugs return, repeat the operation.

WATER MELONS.—The Early Mountain Sprout, Black Spanish, Ice Cream and Orange are all good varieties, ripening about in the order of the list. Give about the same culture as for musk melons, only put the hills six feet apart each way. They like a light sandy soil enriched by manure.

NASTURTIUMS.—There are large and dwarf varieties, the latter more for ornament than for use. Sow in latter part of May or early June, in drills $2\frac{1}{2}$ feet apart, cover an inch deep; thin to eight inches. The tall kind must have brush, poles, rough stone walls, or something else to run on.

ONION.—Improved Dwarf Green, Long Green. Plant in latter part of May, in drills three feet apart, and thin to one foot. The pods are used for soups while green and tender, or sliced and dried for Winter use. [This makes a most excellent, rich soup, and should be more generally cultivated.]

ONIONS.—Desirable sorts: Large Red, Yellow Dutch, White Portugal, Potato, and Top Onions. The ground should be rich, and free as possible from weeds. Sow early in Spring in drills eleven inches apart. [Several years on the same ground].—Cover half an inch, and roll down well. Keep down weeds by frequent use of the shuffe-hoe, and hand weeding. For early use, I prefer the Potato Onion to all others. Plant in September, or early Spring, in rows fifteen inches apart, 8 inches in the row. They will be ripe early in July.

PARSNIPS.—Varieties: Guernsey or Cup, Long White. [Add Hollow-crowned as best for the table.] When the ground is fully warm, sow in drills fifteen inches apart, cover lightly, and thin to three inches apart. Before the ground freezes, take up what are desired for Winter use and pack in a box with dry dirt. The rest will keep well in the ground until Spring.

PEAS.—Desirable sorts are: Princess, Dan'l O'Rourke, Tom Thumb, Warwick, Prolific or Strawberry, Champion of England, Blue Imperial. White Marrowfat. (those with a star

require bushing.) It is considered quite a desideratum to get green peas as early as possible. Princess and Daniel O'Rourke are the earliest. Prolific or Strawberry is but little behind them. Sow those which do not require bushing, in rows three feet apart; cover two-and-a-half inches deep. The others want to be four feet. Witch Hazel makes a good durable bush, and should be trimmed up fan-shaped. Peas should be sown as early as possible on a light, dry soil. A little pondrette strown in the drill will hasten their growth. When up, loosen the earth on either side of the row with the shuffle hoe. When a little larger, draw a little dirt to the row, and stir the soil frequently until they are in bloom.

PEPPERS.—Best varieties: Cherry, Large Squash, Long Cayenne, Large Bell. [Bull nose and Sweet Mountain.] Sow in hot-bed early in April, or in open ground a month later. Transplant latter part of May 18 inches each way.

POTATOES.—Desirable sorts: Early Sovereign, Dykeman, Mercer, Peach Blow. Potatoes should be planted in April, to ripen before the heavy Fall rains which increase the chances of rot on rich land. A dry sandy loam, if rich enough, is the best for potatoes. A teaspoonful of ashes on the hill just as they appear above ground is beneficial on most soils. Plant in hills three feet each way and four inches below the level. Stir the surface two or three times, and just before the vines fall over, hoe them for the last time, making low, broad, flat hills. When the tubers are grown enough to crack open when boiled, they will do to commence upon. When the vines are fully dead, dig them with the spading fork, and store them in a dry, cool, dark room, until there is danger of freezing, then remove to a frost proof cellar.

SWEET POTATOES.—Lay the smaller tubers on the manure in a moderate hot-bed, middle of April. Mark out rows three feet apart, scatter horse manure along the marks, cover about six inches with dirt, and early in June break off the sprouts from the tubers and set them out one foot apart.

PUMPKINS.—Standard sorts are: Large Cheese, Connecticut Field, Cashaw. If planted in the garden, they should not be in the vicinity of squashes, melons, or cucumbers, or they will mix. Plant in hills eight feet each way, and cultivate as Melons.

RADISHES.—The best varieties are: Early Frame, Early Long Scarlet, Short Top, Early Scarlet Turnip, Long White Naples, White Turnip, Black Spanish, White Spanish. The first three are desirable for early use, the next two for Summer, and the last two for Winter use. Sow as early as possible in Spring on light sandy soil, warmed up by manure, and for a succession once in two weeks through the season.

RHUBARB.—Varieties: Linnæus, Prince Albert, Victoria. Sow in drills, fifteen inches, one inch deep. Transplant in Fall or early Spring three feet each way. Cover lightly with fine manure every Fall. Rhubarb can be forwarded very much in Spring by placing a headless barrel over the hill, and surrounding it with warm manure two feet high. In cutting

for use, always leave several stalks in each hill to maintain the vigor of the root. Seed stalks should be cut out as soon as they appear.

SALSIFY OR OYSTER PLANT.—Sow in drills eleven inches apart, half an inch deep, and thin to four inches. Cultivate like the parsnip. Leave in the ground over Winter.

SPINACH.—Varieties: Round Leaved, and Prickly for Winter. For early Spring use, sow in August and September. Scatter a little straw over the leaves and between rows, on approach of Winter. Sow early in Spring for Summer use, in drills fifteen inches apart, half an inch deep, and thin to six inches. When the outer leaves are two or three inches broad, gather for use, leaving the inner ones to continue their growth.

SQUASHES.—The best varieties are: Early Golden Bush, Early Green Striped Bush, Early White Scallop Bush, Summer Crookneck, for Summer; and for Winter, the Hubbard, Winter Crookneck, Boston Marrow, and Polk. The White Leghorn, Mammoth Cuba, and Honolulu, are new and promising, especially the latter. Plant early in May, the bush varieties four feet each way, the other six feet, and cultivate same as cucumbers. Use the Summer kinds before the skin becomes hard.

TOMATOES.—Desirable sorts: Large Smooth Red, Large Yellow, Red Cherry, Yellow Cherry—the latter two for pickling. The Fejee Island Tomato is newly introduced—a large, round, solid tomato, of a pale red color, a little late, and I think, slightly deficient in flavor. It is a great object to grow tomatoes as early as possible, so as to prolong their season. Sow in a warm hot-bed about the middle of March, in rows three inches apart, and thin to three inches in a row. If the plants are inclined to grow too spindling, give them plenty of air. If likely to get too high before the weather will admit of setting them out, transplant them in the same bed. When danger of frost or cold winds is passed, prepare the ground moderately rich, mark out the rows four feet each way. Transplant with care, removing a ball of earth with the roots, and set the plants two inches deeper than they stood in hot-bed. A few plants should be kept in reserve to supply the places of such as may fail, or be destroyed. They should receive frequent hoeings each time, drawing a little dirt around them, forming a broad hill. As the fruit begins to set, pinch off the ends of leading branches so as to hasten the maturing of fruit. Repeat this operation often, or the fruit will become too much shaded. Tomatoes managed as above, will ripen in the latitude of New-York, before the middle of July, on ordinary soils. As they are seldom destroyed by frost before the first of October, the season may extend more than two and-a-half months. Then, if taken when most plenty, and put up in glass bottles from which the air is excluded, they may be enjoyed the year round.

TURNIPS.—Desirable kinds for the table are: Early Dutch, and Red Top Strap Leaf, for early; Yellow Aberdeen, and Rutabaga for late Winter and Spring. For early use, sow as early as possible in Spring. For later, sow Rutabagas in July, and Yellow Aberdeen in August. The rutabagas should be in drills

two feet apart, and covered half an inch, the others fifteen inches apart. Slight frosts will not materially injure them, but they should not be exposed to hard freezing.

I believe that I have now enumerated many of the most valuable varieties of vegetables that it is desirable to cultivate in an ordinary Family Vegetable Garden. The gardener should be ever vigilant; should not allow the weeds to get the start of him, nor the insects to destroy his tender vines and plants before he is aware of it. He should do all of his work in a neat, and systematic manner, have his rows and paths straight, and his curves true and regular, and then he will delight to view his garden himself, and have others to visit it. He should keep his tools carefully housed when not in use, and have them cleaned after using, so that they may remain bright and last longer. The very best implements are always cheapest in the end, although the first cost may be greater.

GARDEN SEEDS FOR AN ORDINARY FAMILY.

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|--------------------------------|----------------------------|
| 4 oz. Asparagus. | 4 oz. Watermelons. |
| 4 qts. Beans, in variety. | 1 oz. Okra. |
| 8 oz. Beets, in variety. | 2 oz. Onions. |
| 1 oz. Broccoli. | 2 bus. Potato Onions. |
| 1 oz. Brussels Sprouts. | 1 oz. Parsnips. |
| 1 oz. Cauliflower. | 1 oz. Peppers. |
| 4 oz. Cabbage, in variety. | 8 qts. Peas, in variety. |
| 1 oz. Carrots. | 1 oz. Pumpkin. |
| 1 oz. Celery. | 8 oz. Radish. |
| 2 qts. Sugar Corn, in variety. | 1 oz. Salsafy. |
| 2 oz. Cucumbers. | 3 oz. Squash. |
| 1 oz. Egg Plant. | 8 oz. Spinach. |
| 1 oz. Lettuce, in variety. | 2 oz. Tomatoes. |
| 2 oz. Muskmelons. | 2 oz. Turnips, in variety. |

All kinds of seed should be sown quite thickly, as quite a proportion of the best often prove poor, and another portion will be destroyed by insects, while if too many are spared, it will be very easy to pull up the excess.

CHEAP WASHES FOR BUILDINGS, FENCES, ETC.—

Take a large tub, or a common barrel, and slack one bushel of good fresh lime, covering the lime with boiling water. After letting it stand three or four hours, pour on cold water enough to make it as thin as ordinary white-wash. Then take one pound of white vitriol and one quart of fine salt, dissolve them, and pour into the lime water. If a *cream color* is wanted, stir in half a pound of yellow ochre. If a *farm color*, add to half pound of yellow ochre, a quarter pound of Indian red. If a *neat gray stone color* is desired, take half a pound of French blue, and a quarter pound of Indian red. For a *neat drab*, add half a pound of burnt sienna, and a quarter pound of Venetian red. Other colors can be made to suit one's taste. Every body who has half an eye, (or weak eyes!) sees that either of the above colors is preferable to the glaring *white* which has so long been used on fences and out-buildings. The white vitriol, we may add, seems to harden and fix the color, so that it is not necessary to repeat the white-washing for several years.

THE PLANTING OF SMALL FRUITS.—The value of the small fruits begins to awaken more and more attention year by year. Around our populous cities even large farms are planted with them; throughout the rural districts many private gardens abound with them.

Under this head are included Grapes, Currants, Gooseberries, Raspberries, Strawberries, Lawton Blackberries and such other fruits as occupy but a small space, and which every family may enjoy which owns a garden. When these are properly planted and cultivated they yield a very profitable crop on a small spot. Other considerations also recommend their cultivation for every household. For Strawberries, Gooseberries, Raspberries and Blackberries come in a grateful succession, during the two months of June and July, when few or none of the larger fruits can be had. And when the other fruits are cut off by Spring frosts, these, which bloom later, generally escape and furnish us with a valuable substitute, especially as they are easily kept in sealed cans from year to year.

As a most palatable and wholesome luxury, who, that knows what good things are, will despise a dish of Delaware grapes or a dessert of Raspberries smothered in cream? Why, the wealth of Kings can purchase nothing better for their tables than these delicate and delicious viands, which the poorest man may grow in his own garden. As these delectable things can be secured only as the reward of some care and labor, I will proceed to show, in the rest of this article, how plots, strips and borders of ground may be prepared for cultivating them with the greatest success. And though my directions are intended to guide in preparing a strip to be planted with grape-vines, they will do equally well where the intention is to plant any other kind of the small fruits—the difference being only in the shape or extent of the beds, and not in the mode of preparing the soil.

For planting grape-vines in the Spring prepare your ground, if possible during the Fall. And let it be so situated that your vines will have an open exposure to the sun. To grow grapes for the table, the vines generally trained on a trellis, and the ground for this purpose should be a strip or border from eight to twelve feet wide, and in length according to the number of vines which you wish to plant in a row at the distance of eight feet apart. Having selected and laid out your ground, begin by spading out the soil a yard wide across one end of the strip and to the depth of at least two feet, and pile it on the surface of the ground beyond the end of the strip. You have now a pit dug out a yard wide and two feet deep. Now throw in a good spread of well rotted manure and dig it into the clay at the bottom. Then spade up the rich surface soil of the next breadth a yard across the strip, and throw it forward and down upon the bottom of the pit that was first opened, and also throw upon the top of this rich soil the clay that you dig up in making the second breadth two feet deep. Proceed in this way until you have gone through to the other end of the strip. At that end you will have an open pit with no soil there to fill it. The earth that was piled up at the end where you began must now be wheeled in a barrow to fill up this pit.

The whole is now trenched and level. The manure and rich soil are at the bottom and all the poorer soil is at the top. This top soil is

now to be enriched by digging into it a heavy coat of well rotted manure. Now the whole is finished, and when the frost has pulverised the soil it will be in a fine condition for planting in the spring.

The vines may be planted in a row along the centre of the strip, and when they have grown two seasons, a trellis will be needed to train them on. To those who think this method involves too much expense and labor we would say, that good crops of grapes and of all the other small fruits may be raised on ground nearly so deep and rich as that of a good garden. But we wished to give directions for planting only a few vines in the best manner, in order to secure the best and most durable results.

In such a deep, wide and rich bed, the roots can range and revel in the midst of abundant nourishment, and the plants will display a wealthy luxuriance of foliage and high flavored fruit which will abundantly repay the labor.

For planting vines on a larger scale, the ground is deeply trenched with the plow by running several times in the same furrow, until the depth of about two feet is attained.

THE CULTIVATION OF BEANS, PEAS, AND TARES.

On Tuesday afternoon, the 17th inst, the monthly meeting of the Hexham Farmers' Club was held in the Club-room, at Hexham. There was a large attendance of members; and John Grey, Esq. of Dilston, occupied the chair.

Mr. Wm. C. Thomson, of Dilston, read the following paper "On the cultivation of Beans, Peas and Tares."

The great difficulty experienced in modern agriculture is, how judiciously to vary the crops cultivated, so that the same or allied species shall follow with the widest possible intervals. On all our tillage land we find that those crops which have been frequently repeated, though perhaps best suited to the nature of the soil, and of the greatest immediate money value, have yet, in spite of improved methods of cultivation, and all the artificial aids to our greatly enlarged manure heaps, become more and more difficult to grow to perfection in each succeeding rotation. And this inferiority is not only marked in the decreased bulk, or want of plant of some crops, such as clover, but also in the greater tenderness and want of constitution of swedes, and deficiency of gift to the bulk in the wheat crop, while the ever-increasing precariousness of the potato crop warns us against its too frequent repetition. To mitigate at least some of these evils we shall do well to direct our attention to the cultivation of that class of plants which has been selected as the subject of this day's discussion, namely, beans, peas, and tares.

As the crops can in no sense be looked upon as cleaning or fallow crops, their successful cultivation must depend on the previous good condition and freedom from root-weeds of the soil upon which they are sown; and when land is either foul or poor, some other crops should be substituted. When we consider how early beans and peas must be sown, before the

proper season has arrived in moist situations for working the land to any purpose, and the early period at which horse and hand-hoeing must be discontinued, it will be evident that to leave the land in a satisfactory state at the removal of the crop, we should have a clean stubble to start with, or make it so by scarifying and gathering of the weeds in autumn, previous to the fall ploughing. Of all manures or stimulants lime is most congenial to the growth of these plants; and where this is wanting in the soil, a dressing should, if possible, be applied, and thoroughly intermixed with the soil by means of the grubber, and harrows, a good opportunity for doing which is afforded after the conclusion of the autumn cultivation and before the fall furrow is given. The cultivation of beans has long been practised in regular rotation in those districts where the soil is strong-bodied, though in late years the breadth under the crop has decreased, owing to the substitution of potatoes, or the drier and more conveniently situated bean soils. The ordinary four or five-course has in this case been lengthened by taking beans after the corn crop following seeds, then wheat, followed by turnips or fallow, and thus the clover and turnip crops come round in six or seven, instead of four or five, years; but where there is comparatively little danger of finger-and-toe in the turnip crop from repeating it (varied by swedes, mangel, or potatoes) every fourth or fifth year, the more profitable course will be to take beans in place of seeds, then a white crop, and fallow again, thus lengthening the interval between the clover crops to eight or nine years. Though the acreage under grass is diminished by this course, it may be safely maintained that during the currency of a lease at least an equal weight of grass may be produced on the farm, from the comparative certainty of the clover crop holding its ground on those fields treated in the way I have mentioned.

It is unnecessary to enumerate the varieties of beans, and I shall consider them as spring sown. The land intended for spring beans should, if quite clean, be ploughed as early in autumn as possible, with a deep furrow, and on damp soils too much attention cannot be paid to having the open furrows in the best form for keeping the ridges dry, adding cross surface cuts where necessary, in order to secure an early seed time. If convenient, from twelve to fifteen loads of manure per acre should be spread on the surface and ploughed in with the autumn furrow, as the labour of carting it on the land is then much easier than in spring; and if so, as early in April as possible the land may be prepared for drilling by simply harrowing down the ridges. Should spring manuring be preferred, the mode of doing so must be determined by the way in which the beans are to be sown; if drilled on the flat, manure must, after a harrowing, be spread on the surface and ploughed in with a moderate furrow, followed by sufficient harrowing, in order that the drill machine may be able to deposit the seed at a sufficient depth; or the land may be ribbed 14 or 15 inches wide, the seed sown broadcast, and covered by a doubled stroke of the harrows in the direction of the ribs. These me-

thods of sowing, however, are better adapted to autumn-manured land, from the risk of the drill-coulters, or ribbing-ploughs, dragging up the fresh manure; and the methods of raising drills about 28 inches wide, and spreading the manure as if for turnips, is to be preferred in spring; the seed is either then sown broadcast, or by means of a "bean-barrow," over the manure, and the drills split, covering manure and seed. As soon as the land is sufficiently dried on the surface, the drills should be gone over with the drill-barrow or chain-barrow, to assist the bean plants in reaching the surface. By this plan it will be found that the interval between the rows is quite sufficient to admit of horse-hoeing, and the plants are less crowded together than when sown in narrow lines. After the beans are up, no time should be lost in getting the horse-hoe to work between the rows, and they must also be hand-hoed twice if necessary, bearing in mind that every week's delay makes this operation more difficult and expensive.

When drilled in the flat, or sown in ribs harrowed down, the reaping machine will be found the most economical harvesting implement, but when grown on raised drills the sickle must be employed to cut the crop; and to secure good fodder without any loss of grain, this should be done as soon as the leaf begins to fall, and the eye of the bean turns black and easily detached from the seed vessel; for, if allowed to stand much longer, the stalks become a mass of hard, woody fibre, and there is also much greater risk of the seed shedding out during the process of harvesting. If the cutting is performed by the reaper, the swathe or sheaves may lie a few days before being bound up; if the sickle is used during damp weather, the handfals may be allowed to lie until thoroughly dry; but the safest course when the stems are cut dry, is to bind them up in small sheaves at once, setting four or six to a stook. The quantity of seed required per acre varies from 2½ to 3 bushels of the small kinds, drilled to 5 bushels of the larger varieties, sown broadcast over wide drills; and, though many eminent farmers practise the sowing at narrow intervals, believing thereby that the crop sooner covers the ground and keeps down weeds, I am persuaded that the free use of the horse hoe between the wider intervals more than counterbalances those supposed advantages.

The greater proportion of the soil of this district, however, is more suited to the cultivation of peas, and, though unfortunately, this has acquired the character of a "dirty" crop, there seems no reason why this should be the case. Peas may profitably occupy the same place in a rotation as I have mentioned in speaking of beans, and for the same reasons. Following the corn crop after turnips, the land should generally be in a tolerably clean state, or, if not, should be made so in autumn; if this cannot be managed, a good deal may be done on dry, light soils in a favourable spring, before the time arrives for sowing. The land should then be ribbed about 12 inches wide, and the seed at the rate of 3 to 3½ bushels per acre sown broadcast, or, if preferred, it may be drilled on the flat at a similar width. As farm-

yard manure is seldom applied directly for this crop, a dressing of artificial manure may be given either harrowed in with the seed, or if a heavy dressing is to be given, half at seed-time, and the remainder after the young plants have appeared. Where the soil is deficient in lime, and this cannot be conveniently applied, from three to five cwt. of gypsum, mixed with two cwt. of salt for each acre, invariably produces a good result. However clean the soil may appear at seed-time, it will be found requisite to hand-hoe the intervals between the rows twice, or at least once, as early in the season as possible; and this will be found a good opportunity for applying a top-dressing, which, in process of hoeing, will be intermixed with the soil. Though the preceding method of cultivating peas may be held the most perfect method, good results are frequently obtained after a rich and clean stubble, by sowing the peas in every second furrow, the seed box being attached to the stils of one of the two ploughs following one another; by this method a full allowance of seed would be given.

Tares are one of the most valuable green crops, and where the soiling of farm horses, milk cows, and other cattle is pursued throughout the season, almost indispensable for filling up the intervals between the cuttings of clover. When sown for this purpose, a liberal allowance of seed should be sown, from 2½ to 3 bushels of clean tares, mixed with half a bushel of some mixed variety of late oats per acre, the land ribbed as narrow as possible, or drilled at 8 or 10 inches. When intended for seed, a lighter seeding will be necessary, and a mixture of beans should be added in place of oats, the better to support the trailing stems, and allow the flower and seed vessels to enjoy the advantages of sun and air, and the following season the beans can readily be separated should the tares be required pure. The quantity of land under tares is usually so small that it is commonly selected more with a view to convenience than anything else, but as when sown upon lea they take the place of the oat crop, they may more profitably occupy the same place in the rotation as beans or peas, and a corner of a field under either of these crops may be found convenient.

The hay made from tares is relished by all kinds of stock, and sheep prefer it to the best meadow hay, and when the second cutting of clover proves abundant, and the tares cannot be consumed in time, it would be more profitable to cut it for winter use than to allow it to lie rotting on the ground till the end of the season, as we too often see it.

I have thus endeavoured to lay before you my views on the cultivation of beans, peas and tares, in the hope that what I have advanced may provoke discussion. In conclusion, I may say, that when the cultivation of these crops is attended to, and the produce consumed on the farm, the result will be a greater amount of beef, mutton, manure, and corn produced than where the system of sowing grass seeds every fourth or fifth year is strictly adhered to.

The Chairman said it was perfectly correct, what Mr. Thomson said with regard to making

more distinct the repetition of clover, and that they would get quite as much grass in the one way as in the other. There was nothing that would yield a larger quantity of manure and better in quality, than beans and peas. They knew how horses threw on bean straw if well secured, and the weight of corn from a good crop of beans was very great. With regard to making hay from tares, that also was a thing very well worth their consideration. When he had seen that attempted, people had not cut them soon enough. They ought to be cut when full of sap and succulent, which was when they had begun to pod. When well got, they not only produced a great quantity, but they were a nutritious food, and what all stock were very fond of. Sheep upon turnips with that kind of food in racks did very well indeed. They preferred it to clover or any other kind of hay. Mr. Thomson had brought together in a very short compass what was extremely sensible and very valuable; and he could only repeat, that gentlemen who introduced that system into their rotation wanted horse-hoeing and hand-hoeing to keep the land clean, and remove any bad effects that arose from the growth of peas. It was distressing to see a pea crop sown and allowed to take its chance, struggling with all sorts of weeds. Such a crop could not be profitable to the land. If they wanted peas to be valuable they must have peas alone, and not all thistles and couch and wild mustard, which was so common and so pernicious to the state of the land for any after-cropping.

THE WHEAT CROP.

As a specimen of a good and profitable crop, we take at random that raised in 1858 by De Azro A. Nichols of Westfield, N. Y., reported in the New York Agricultural Transactions:—

The land was $4\frac{1}{2}$ ths acres—it was clover sod, plowed late in summer, and the wheat was sown early in autumn. The cost of plowing, harrowing, drilling, seed, harvesting, and threshing, with interest on land and taxes, was \$111. The wheat (155 bushels, 63 pounds per bushel) and straw were worth \$252—net profit, \$141, or about \$28 per acre. We have known many crops much larger than this.

George Geddes in his Agricultural Survey of Onondaga County, estimates the following as the cost of an average crop on a good farm, or twenty bushels per acre, (although over forty bushels are sometimes raised,) with the net profit:—

Plowing once.....	\$1.50
Harrowing and rolling.....	50
Drilling.....	31
Seed, 2 bushels.....	2.50
Harvesting.....	2.00
Threshing.....	2.50
	<hr/>
	\$9.31
20 bushels, at \$1.25....	\$25.00
Straw.....	2.00
	<hr/>
	27.00
	<hr/>
Profit per acre.....	\$17.69

The wheat crop is more liable to uncertainties than corn and oats when all are accompa-

nied with good management; yet with these uncertainties the best farmers obtain as an average at least twenty dollars net profit in payment of interest on land, taxes, and for superintendence.

Every farmer naturally asks himself the question: How can I always secure such results? A brief summary of some of the leading requisites may assist young beginners.

1. The first, unquestionably, in most good wheat districts, is regular *underdraining*. There are but few places where a strong soil has any other way to get rid of its surplus water than by its soaking slowly, drop by drop, from one side of the field to the other, through the earth, and by evaporation. The first requires weeks; the second a long time, with a large removal of heat carried off latent in the vapour. The drained soil works more easily, is always mellow, is less liable to cause winter-killing; and producing an earlier growth and earlier maturity, enables the crop usually to escape the midge.

2. The second is *proper fertility*. Manure improves the texture of the soil, and also causes the grain to vegetate more evenly, to say nothing of the universally admitted influence on good growth. It is more important after other grain crops, as barley and oats.

3. *Winter Protection*.—This may often be given at the same time that fertility is imparted by top-dressing. Spread manure left over from spring and composted with straw, turf, or muck, well rotted or broken, on the land after it is plowed, and before harrowing and drilling, and it will protect the surface soil and prevent crusting; protect the young plants from wind and freezing, and cause their early growth. It also induces a more ready and certain vegetation of the grass seed. Even if spread finely and evenly while the ground is frozen early in winter, it has proved valuable, and saved a crop of Mediterranean wheat from winter-killing, when the undressed portion of the same field was nearly destroyed. Knolls and the more sterile parts of the field should have the larger portion—or all the manure if there is a limited supply. On very rich land this top-dressing may be useless, or possibly injurious in rare instances by inducing a growth of too much straw.

4. *Good Tillage*.—The soil must be free from weeds, and be well pulverized. Summer fallows are more useful in effecting the first of these two results on light than on heavy lands, generally, and more important for pulverisation on the latter. On well managed land that has a good clean soil it is not necessary. A clover sod, handsomely inverted late in summer, and then rolled and harrowed, or what is decidedly better, worked with Shares' coulter harrow forms a fine preparation for wheat. If wheat is sown after oats or barley, an effort should be made to have the stubble as clean as possible. Pigs, geese, and other small animals, should be turned in as soon as the grain is removed. If the weather is wet, the surface should be harrowed to cause the scattered seeds to grow. The growth of green herbage thus produced must afterwards be thoroughly and completely turned under with the plough,

and the grain sown on the inverted earth after harrowing. The best way, perhaps, whether the surface be wet or dry, is to plough as shallow as practicable as soon as the crop is removed, to be followed by a second and much deeper ploughing before sowing the seed. This will start many of the seeds of weeds, and allow the stubble to decay.

Heavy clay lands that have not been well drained, will usually become cloddy; and they often will in wet seasons even with draining. The roller and the harrow reduce these clods very imperfectly; the cast-iron clod-crusher is far more efficient; and a broad stone-boat, properly loaded behind, will often be as much and sometimes more efficient, in grinding down the clods. After using the clod-crusher the soil should be loosened up again by means of a long-toothed harrow a two-horse cultivator, or still better by a scarifier. This loosening is important.

When manure is applied, in whatever way, it should be very thoroughly mixed by repeated harrowings. It thus possesses twice the efficiency over scattered, half broken lumps. If applied only as a top-dressing in winter, for protecting the surface, it should be first broken very fine, in order that it may be evenly spread.

5. *Drilling* in the seed, instead of sowing and harrowing in, is a decided advantage. The depth may be better controlled, and a more uniform depth secured. It may indeed in some cases be drilled injuriously deep, but this is only an abuse of the operation. Drilled wheat is less liable to heaving by frost, and if the drills run across instead of with the direction of prevailing winds, the slight furrows formed by the drill serve to protect the young plants when the ground is bare. Numerous experiments show that the advantages of drilling are generally equal to about five bushels per acre, on good wheat land.

6. *Trench Ploughing*.—In some instances the crop may be much increased by mixing the top soil and a small portion of the subsoil together. We have known instances where running the plough two or three inches deeper than usual has resulted in a large increase of the product the first year. In another case, an open ditch was cut, and the excavated earth scattered a rod each way. The estimated product on these two strips of land was 20 bushels per acre; on the rest of the field it did not exceed 5 bushels. The draining may have had some influence, but obviously it was quite subordinate. So valuable is a portion of the subsoil in certain localities, that an extensive and successful farmer in a fine wheat district of western New York, said he would gladly get rid of a few inches of the upper soil, over his whole farm, in order to come nearer the next stratum below. In instances, although all in what is termed limestone regions, the upper or common soil never effervesced with acids, showing the absence of carbonate of lime, while the subsoil always effervesced considerably. The use of lime has always proved beneficial wherever tried in these regions; and doubtless the same result as by liming, is attained by bringing up the soil from below. In many other places the subsoil may be useless or positively injurious.

The experiment is easily tried on a small scale, either by deep ploughing, or by throwing up from deep holes or entrenches.

By a proper attention to these points, as may be required, namely, underdraining, proper fertility, winter protection of the surface, fine tillage, and drilling in the seed, and also in some cases trench ploughing, the common uncertainties attending the wheat crop, may be either entirely prevented, or their evil effects greatly diminished. The removal of water by underdraining tends greatly to lessen the danger of heaving and winter-killing; destruction in consequence of a bare winter and cold winds, to which the Mediterranean wheat is more especially exposed, is prevented by top-dressing. Early maturity, caused by several of these points of good management combined, tends to enable the crop to escape the midge and rust.

It is said that formerly the prevalence of the Hessian fly, by compelling farmers to improve their management, in order to escapetotal destruction of their crops, proved a positive benefit, by raising the standard of agriculture. Possibly the wheat midge, by driving farmers from the old skinning system (for it seemed truly a systematic ruin of their land,) and compelling them to adopt the mixed husbandry which is absolutely essential to the highest profit in grain growing regions, although this insect has been an object of such wide extended and lasting dread to many, may in a similar manner ultimately prove a substantial blessing, at least to all those who may have profited by its unwelcome teachings.

WEIGHTS AND MEASURES.

ON VARIOUS FARM PRODUCTS AND OTHER THINGS, IN VARIOUS COUNTRIES.

In England and America grain is generally rated by the bushel, though it is not the same measure; for here we use the Winchester bushel, which contains 2,150 42 100 cubic inches. There, since 1862, the legal measure is called the imperial bushel, which contains 2,218 cubic inches; so that 32 of their bushels are about equal to 39 of ours.

The following are the commercial weights of a bushel of different articles, viz: Wheat, beans, potatoes and clover seed, 60 pounds. Corn, rye, flax seed and onions, 56 pounds. Corn on the cob weighs 70 pounds; buckwheat, 52; barley, 48; hemp seed, 44; Timothy seed, 45; castor beans, 46; oats, 35; bran, 20; blue grass seed, 14; salt, 50, according to one account, but Onondaga salt is 56, (the real weight of coarse salt is 85 pounds to the bushels;) dried apples, 24; dried peaches 33, according to a paper lately published in numerous papers, but according to our experience both are wrong. We have seen thousands of bushels sold at 22 pounds to the bushel, which will measure about three pecks.

Heaping Measures.—Potatoes, turnips, and esculent roots, apples and other fruits, meal, bran, and in some States oats, are sold by heaping measure, which contains 2,815 cubic inches.

Barrel Measure.—Rice, 600 pounds; flour, 136 lbs.; powder, 25 lbs.; cider and other li-

quids, 30 gallons; corn, 5 bushels, shelled. By this latter measure crops are estimated, and corn bought and sold throughout most of the Southern and Western States. At New Orleans, a barrel of corn is a flour barrel full of ears. In some parts of the West it is common to count a hundred ears to a bushel.

Ton Weight and Ton Measure.—A ton of hay or any coarse bulky article usually sold by that measure, is twenty gross hundred: that is 2,240 pounds; though in many places that ridiculous old fashion is being done away and 2,000 pounds only counted to a ton.

A ton of timber, if round, consists of 40 cubic feet; if square, 54 feet. A ton of wine is 252 gallons.

A quarter of corn is the fourth of a ton, or eight imperial bushels. This is an English measure, not in use in this country, though very necessary to be known so as to understand agricultural reports.

Troy Weight and Avoirdupois Weight.—One hundred and forty-four pounds avoirdupois are equal to 175 pounds Troy—175 ounces Troy are equal to 192 ounces avoirdupois. All precious metals are bought and sold by Troy weight.

The kilogramme of France is 1,000 grammes, and equal to 2 pounds 2 ounces, 4 grains avoirdupois.

A chaldron of coal is 58½ cubic feet, generally estimated 36 bushels. A bushel of anthracite coal weighs 80 pounds, which makes the weight of a chaldron 2,880.

Weights of a Cubic Foot.—Of sand or loose earth, 95 pounds; compact soil, 124; a strong or clayey soil, 127; pure clay, 135; mixture of stones and clay, 160; masonry of stone, 205; brick, 125; cast iron, 450; steel, 489; copper, 486; lead, 709; silver, 654; gold, 1,203; platina, 1,218; glass, 180; water, 62; tallow, 59; cork, 15; oak timber, 73; mahogany, 66; air, 0,0753. In the above, fractions are disregarded.

A bale of cotton, in Egypt, is 90 pounds; in America, a commercial bale is 400 pounds, but is put up in different States varying from 280 to 720 pounds. Sea Island cotton is put up in sacks of 300 pounds.

A bale of hay is 300 pounds.

A cord of wood is 128 solid feet, usually put 8 feet long, 4 feet wide and 4 high.

A perch of stone is 25 cubic feet, piled, or 22 in the wall.

Lime and sand to a perch of stone—three pecks of lime, and two-thirds of a one horse cart load of sand.

Weight of Lime.—A bushel of limestone weighs 142 pounds; after it is burned, if weighed directly from the kiln, 75 pounds; showing that 67 pounds of carbonic acid and water have been driven off by fire. This bushel of lime will absorb 20 pounds of water, gradually applied during several days, and will then be in a state of dry powder, weighing 93 pounds; showing that 18 pounds of water have been converted into a solid, dry substance.

To Measure a Ton of Hay.—One hundred cubic feet of hay, in a solid mow or stack, will weigh a ton.

Compute Weight of Cattle by Measure.—Ascertain the girth back of the shoulders, and the length along the back, from the square of the buttock, to a point even with the point of the shoulder-blade; say the girth is 6 feet 4 inches, and the length 5 feet 3 inches, which multiplied together, gives 31 feet. Multiply this by 23, the number of pounds allowed to the foot, between 5 and 7 feet girth, and the result is 713 pounds, for the number of pounds of beef in the four quarters. Girths, from 7 to 9 feet, allow 31 pounds to the foot. Cattle must be fat and square built to hold out weight.

To Measure Grain in Bins, multiply the length and width together, and that product by the height in cubic inches and divide by 2,150, and you have the number of bushels.

To Measure Corn in the Ear, find the cubic inches as above, and divide by 2,815, the cubic inches in a heaped bushel, and take two-thirds of the quotient for the number of bushels of shelled corn. This is upon the rule of giving three heaping half-bushels of ears to make a bushel of grain. Some falls short and some overruns this measure.

Board Measure.—Boards are sold by face measure. Multiply the width in inches by any number of pieces of equal length, by the inches of the length. Divide by 144, and the quotient is the number of feet, for any thickness under an inch. Every fourth-inch increase of thickness adds a fourth to the number of feet in the face measure.

Land Measure.—Every farmer should have a rod measure, a light, stiff pole, just 16½ feet long, for measuring land. By a little practice he can learn to step just a rod at five steps, which will answer very well for ordinary farm-work. Ascertain the number of rods in width and length of any lot you wish to measure, and multiply one into the other and divide by 160, and you have the number of acres, as 160-square rods make a square acre. If you wish to lay off one acre square, measure 13 rods upon each side. This lacks one rod of being full measure.

Government Land Measure.—A township is six miles square, and contains 36 sections, 23,040 acres. A section, one mile square, 640. A quarter section, half a mile square, 160 acres. As this is 166 rods square, a strip one rod wide, or every rod in width, is an acre. A half-quarter section is half a mile long, north and south, almost universally, and a fourth of a mile wide, 80 acres. A quarter-quarter section is one-fourth of a mile square, 40 acres, and is the smallest sized tract, except fractions, ever sold by the government. The price is \$1.25 an acre.

Measure of a Mile.—Our measure of distance is by the standard English mile, which is 5,280 feet in length, or 1,760 yards, or 320 rods. An English geographical mile is equal to 2,050 yards.

Scripture Measure.—"A Sabbath day's journey" is 1,155 yards—about two-thirds of a mile. A day's journey is 33½ miles. A reed is 10 feet 11½ inches. A palm is 3 inches. A fathom is 6 feet. A Greek foot is 12½ inches. A cubit is 2 feet. A great cubit is 11 feet.

As the superficies of all our States and coun-

ties are expressed in square miles, it should be borne in mind that the contents of a mile is 640 acres.

Number of Square Yards in an Acre.—English, 4,840; Scotch, 6,150; Irish, 7,840; Hamburg, 11,545; Amsterdam, 9,722; Dantzic, 6,650; France (hectare), 11,960; Prussia (morgen), 3,053.

Manure Measure.—This is generally estimated by the load, which is just about as definite as the phrase, "about as big as a piece of chalk." It ought to be measured by the cubic yard or cord. A cubic yard is 27 feet, each of which contain 1728 cubic inches. A cubic cord is 128 cubic feet. As the most of farmers have an idea in their minds of the size of a pile of wood containing a cord, they would readily compare that with the quantity of manure, if stated in cords. Every cart or waggon-box, before it leaves the maker's shop, ought to have the cubic feet and inches it will contain, indelibly marked upon it. This would enable the owner to calculate the amount of his load of grain, roots, earth, stone or manure.

Weight of Manure.—A solid foot of half rotted stable manure will weigh, upon an average, 56 pounds. If it is coarse or dry, it will average 48 pounds to the foot. A load of manure, or 36 cubic feet, of first quality, will weigh 2,016 pounds; second quality, 1,728 pounds. Weight to the acre—Eight loads of first kind, weighing 16,128 pounds, will give 108 pounds to each square rod, and less than 2½ pounds to each square foot. Five loads will give 63 pounds to the rod. An acre containing 43,560 square feet, the calculation of pounds per foot, of any quantity per acre, is easily made.—*The Plow.*

PLOUGHING.

In ploughing the most important items are the kind of plough and team required.—More depends on the first item than many suppose; the draught is a very important consideration; a plough may turn a nice furrow and not draw very easily. Reason would lead us to select for easy draught a plough having a long mould-board with the smallest angle with the land side; that is, we would suppose that a plough turning a nine inch furrow would turn it much easier with a mould board which extended twenty-four inches back from the point, than one which extended only twelve. Such would be the case but for one thing, that is friction; the extra amount of friction on the long mould board will counterbalance the gain by the length thereof.

Those ploughs which have the lightest draught are not the best sod ploughs; for to decrease the draught it is necessary to have a short mould board; this turns the sod over so quick as to break it.

The best sod plough with which I am yet acquainted, is the old-fashioned, long-beamed bar-share. I have one of this kind, which, with two yoke of oxen, on ground clear of stone, has run for twenty feet without any support at the handles; it is six and a half feet long in the beam, (if I was getting another one made I would add six inches more,) three feet two inches from point of share to

back end of mould board, and twelve inches wide at the heel. With this plough and two yoke of oxen or three horses, I will turn a furrow ten by nine all day long; it is not of as light draught as some ploughs which are shorter in the mould board, but will do its work more to please me. Such a plough is invaluable for breaking a clearing, for, being composed in the main of wrought iron, it will not easily break; and if sharp, will cut off a good sized root; it is not easily thrown out of the ground by stones, and if thrown out it is easily entered again. For plowing cornstalk or stubble, I would prefer a plough shorter in the mould-board *but long in the beam*. This is the fault I think with most of our cast iron ploughs, they are too short in the beam to run steadily. This is in my opinion the fault of the Wiley and Atwood ploughs.

The next item is the team, an important one it is: for no matter how good the plough or ploughman may be, if the team is bad, you must not expect good work.

For stiff sod, to plough it deep and well, oxen will be the best; two yoke should be used, the best ones on the lead; and if you break young oxen, keep them at the beam and keep the front yoke up to their work, and thus the others must keep in a line. Here again is the utility of a long beam. If the off ox does walk out of the furrow for a short distance, it does not affect the plough much; but with a short beam it soon shows itself. A person unacquainted with ploughs would be surprised at the difference made by one foot at the end of the beam.

In ploughing sod for corn, it is best to commence in the middle of the field and plough from the fence, for then the team will turn on the sod and not on the ploughed ground. This, when two yoke of oxen are used, makes a material difference, for after the ground was tramped down, the harrow will not loosen it, and short corn at the corners is the result. The proper place, in the middle, will be found by the old clearing up furrows.

I prefer to plough towards the middle for corn—away from it for oats—and towards it for wheat, the first plowing, and away from it the second ploughing.

In ploughing cornstalk or stubble, if the turns are made with care and the ground well harrowed the clearing up furrows will not be in the way. Plough deep for corn—deep for oats—deep for wheat, the first time; but not so deep the second. Always plow twice for wheat, although it does not benefit the wheat; the actual benefit conferred on the ensuing grass crop will more than repay the cost. Plow the stubble down deep with two yoke of oxen or three horses; narrow the ground once, roll it with a heavy roller; haul out your manure and spread it; then plough it down six or eight inches deep just before planting time. This will use up the oats which was left on taking off the crop, which will otherwise and smother out more or less wheat.

In ploughing sod, it is best not to turn the furrow over flat, but rather let it lean against the previous one at an angle of 30 or 40 degrees; the space will admit air and act as

drains; the corners instead of the bottoms of the furrow being turned up, the field will harrow down better.

Deep ploughing is better both in wet and in dry season; in the former it takes the surplus water below the roots of the plant, and in the latter it enables the roots to penetrate downwards the moisture. But if a field has heretofore been ploughed shallow, do not go down nine or ten inches, or your crop will be small but go down gradually, an inch every year or every ploughing. It will pay; remember that six bushels of corn per acre at 50 cents per bushel, will more than pay for the plowing. I find from accounts that I have kept, that to plough a stiff blue grass on the average depth of 10½ or 11 inches, with two yoke of oxen, ploughman and driver costs \$2.63½ cents per acre. This is on an allowance of \$1 per day for ploughman, 75 cents for driver, six per cent. on cost of oxen, and actual market value of their food.

The above sod was unusually stiff and brought "pig corn." A common clover and timothy pig ploughed in the same manner, cost \$2.08 per acre. Three horses, geared abreast make a very good team in a field clear of stone or roots. In ploughing a triangular strip, do not go out to the point, but turn across when it is 8 or 10 feet wide, and thus reduce it to a parallelogram of this width, and your term does not turn on the ploughed ground.

Always learn your team not to stop at the corners but come around and start in without being told to do so. It is easy to learn them, and saves both your wind and that of—SPRIG HARROW, in *Germanstown Telegraph*.

ON BREEDING AND REARING PIGS.

This subject is one of great importance, though too much neglected; but agricultural meetings might do more towards improvement in the pig class than anything else. This animal is held too cheap, for the prizes awarded to it are not in proportion to those awarded to other animals. The domesticated hog is an animal of great importance in an economical point of view; but it is one upon which, on account of the variety of breeds, it is difficult to give many details in so brief a sketch as this. [Mr. Stearon was addressing the Farmers' Club at Rye.] If we look again at the subject in another light we shall see with what extraordinary quickness the supply of pigs can be replenished. Their fecundity is astonishing, and the early maturity of the progeny unexampled in animal creation. The inhabitants of most countries are consumers of the flesh of the pig, and no other animal produces such a variety of dishes. It is the most profitable animal to the butcher as well as to the farmer, the calf being so small, compared with that of either cattle or sheep. There is scarcely any part of the pig that cannot be used for food: the flesh, in the form of fresh meat or pickled pork, hams, or bacon, constitutes the principal food of thousands all over the world. The keeping of swine is becoming something more than a means of disposing of the refuse of the farm which would otherwise be wasted. Formerly large breeders and graziers thought the pig be-

neath their notice; but their eyes are beginning to be opened; still I am often surprised to see what disgraceful pigs are kept by many large agriculturists, as well as by smaller ones—such as would ruin any one, for they eat an enormous quantity of food, and will neither grow nor fatten. But if farmers would pay proper attention to the breeding, rearing, and feeding of them, there could be double the meat raised at little more than the present cost, especially by using proper piggeries and feeding troughs. I have studied the management of pigs for the last twenty years, and have found that the better the attention the greater the profit; and to make a pig pay, the pig must be kept well, when young, and not allowed to run twelve months in almost a starving condition. I think I have arrived as nearly at perfection as I could wish in the breeding of pigs. I cross as far distant as possible, occasionally, to strengthen the constitution. It is not a difficult matter to breed almost exactly what you may wish for, by proper selection. There is a marvellous difference in the breed of the pigs termed the White Suffolk—there is as bad and as good a breed as can be. I have been surprised to find the difference in their feeding and their making of flesh. The grand object is to select a kind that will come to early maturity, for that is where the profit is gained, and the better the kind the less food is required to bring them to that maturity. Now in choosing, quite as much attention should be given to the boar as to the sow. In selecting the chief points are—a smallish head, with wide heavy chaps, short snout, broad deep chest, ears rather small and thin with ends sharp, pendulous, pointing a little forward; it should be round in the rib, short in the body, with small feet, long body, the thighs well dropped close to the hock, shoulders and hams thick, and the neck rising well behind the ears; it should have small bones in proportion to the flesh, be broad in the back, and straight or slightly curved, with the tail small and curled and placed high, and the hair thin, long, fine, and silky. By procuring animals of this description you cannot fail to perpetuate good stock. I do not recommend breeding too young, for it is a means of preventing their growing to their proper size, or acquiring sufficient strength. The proper time for the sow to begin to breed is from ten to twelve months old; the boar being from ten to twelve months old. The first farrow of pigs are seldom worth rearing, for they are generally small and puny, and require a great deal of nursing to bring them to maturity. I prefer good sized sows for breeding. The sow I exhibited at Ipswich and at the Royal Agricultural show at Leeds, last summer, has brought up 76 pigs in six farrows, without losing one. Another thing of importance is, the construction of piggeries. I have scarcely ever seen one fit to put a pig in. Some are badly ventilated; others are low and damp; nine-tenths of them are too small, except for a fat pig; some are too cold, with no means of altering them between summer and winter; and many of them have the cisterns in them to receive the wash, &c. But the worst of all are those with wood floors, built

over a pit. In general if there is one corner on the premises worse than another, that is where the pig-stye is put, and people almost require marsh boots to get to it. There is no question but that it would be a great boon to the tenant farmer, if landlords would take more interest in providing better buildings for the pigs. It is not the most expensive place that is the best; but what is required is a simple, economical, well situated, and well planned piggery. Some build expensive brick or stone buildings, which I have proved to be not healthy for pigs. I find a boarded building by far the best. Each pen ought to be at least from eight to ten feet square, and the best floor is asphalt. In the cold weather I think the asphalt too cold for very young pigs, therefore, I have false lattice floors to lay down on the asphalt, which are taken up once a week, and everything swept from under. Every morning I have the beds attended to and fresh littered, for the cleaner the place is kept the better the pigs thrive. The floors are washed down generally once a week, everything runs off, and the asphalt soon dries. The building should be troughed to take off the rain water, to prevent the manure being washed. The pens ought to be so constructed as to close up in cold weather, and to be well ventilated in warm. I will now explain my method of feeding. I begin feeding the pigs when a few days old with warm milk, mixed with a little sugar, and some very fine sharps for two or three days (just to induce them to eat), and a little whole maize out of the troughs. For the first few weeks after being weaned, the boy feeds them very often, but gives them very little food at a time, so they will clear the troughs out. In the winter I give them a great variety of meal, such as

wheat, maize, barley, oats, and whatever is most convenient to mix together. I just wet it with cold water, and then scald it with boiling water, and sprinkle it with salt; between meals I give them whole maize and mangold wurtzel, or swedes cut small; and a little coal occasionally. I allow them plenty of clean water, and I am particular not to give them more food than they will clear up at a time. Pigs that are fattening should be washed and brushed. I am certain the cottagers would find their pigs fatten a great deal faster, if they would wash and brush them, and feed them with warm food instead of all ice food. Store pigs ought to have their liberty as far as convenient, such as to range in yards in winter, and the run of a piece of pasture in the summer. They should also be fed two or three times a day. Good breed and well fed store pigs will always consume the refuse from the farm and dairy, when a bad bred one will not.

AMERICAN AGRICULTURIST FOR MAY.—The May issue of the *Agriculturist* will be found fully equal to any former number. The Calendar of Operations for the month embraces hundreds of hints for work on the Farm, and in the Garden. In addition, this single number contains over 150 articles and items for the Farm, Garden, and Household, including a \$25 Prize Article on Apple Culture; a slashing report on "Artificial Manures" by the President of Penn. Agricultural College, etc., etc. Among the engravings are a beautiful page cut entitled "Sheep Tending"; "How to Hold and Drive Horses"; "Beautiful Leaved Plants"; "A Disturbed Nap"; "Shadows on the Wall," etc. Minute Maps of the Mississippi River; the Country from Norfolk to Richmond including the topography of Yorktown; also Savannah, Geo., Fort Pulaski, and vicinity.

COMMERCIAL REVIEW.

THE NEXT CANADIAN HARVEST.—On the whole, prospects of the next Canadian harvest are most discouraging. In the first place, the season, so far has been very open—in fact, unusually so; and all experience tells us that the too frequent consequence of an open Canadian season is a short crop, and more or less Canadian suffering. An open Canadian season means exposed winter wheat fields, which a single night's frost might destroy; and a severe Canadian season means winter wheat fields amply coated with protecting snow to secure the tenderest sprouts from harm. It is, therefore, highly probable that the winter wheat crop of Upper Canada, the great dependence of both provinces, will entirely fail. Canada afflicted with an open winter is deprived of the sole advantage it possesses over the Western States; for the reason why winter wheat cannot be depended upon in Illinois and the other Western

States is because the snow falls are light, and high winds sweep what snow there is in the fields into the roads and ditches, leaving the wheat sprouts a prey to the destructive frost. Spring wheat thus becomes the dependence of the Western farmer; and why the Canadian farmer gives a preference to winter wheat is because open seasons in Canada are of comparatively rare occurrence, and winter wheat suits his stiff and later land better.

In the second place, there is a probability, if not the certainty, of war between this country and the Northern States, which, were it to occur would interfere with the growing, not to say the gathering, of the next winter wheat crop, and in a great measure prevent spring wheat sowing late in April or in early May. Were any of the pamphlets or books published in 1816 on the subject of the American war now read, it would be found that the real, al-

though not the avowed object of the war of 1812-15 against this country was simply the annexation of Canada and our other North American possessions to the Federal Union, and that the second annexation campaign was opened as early as the 22nd January 1813, by a detachment of the North Eastern army of the United States under General Winchester. Should war again be forced on this country by the Federal Government, it is well known that the annexation of Canada and our other North American possessions is not in the least concealed, and the openness of the Canadian frontier to attack is matter of common notoriety. By land a Federal force may be marched into the Western extremity of Upper Canada; into the middle of Upper Canada across the narrow neck of land separating Lake Erie from Ontario; and into Lower Canada at any point from Kingston as far down as Quebec; while by water in the spring the whole seaboard of Lake Huron, Lake Erie and Lake Ontario would invite attack. What, therefore, is to be looked for in the event of a war breaking out is the immediate invasion of Upper Canada, and in the spring and summer the destruction, by friend and foe, of everything that would give subsistence to the other. The winter growing crop would be trodden down, or committed ruthlessly to the flames, while it is to be feared there would be no disposition and little opportunity to give attention to spring crops, if it were found that the winter wheat had failed. Canada keenly loyal in 1812-15, is still more so to-day, if degrees of loyalty are conceivable, and, threatened by a power, inferior perhaps in discipline and spirit, but of surpassing numbers, would strain its defensive resources to the utmost rather than give up the contest; and the effort necessarily involves the withdrawing of its hardy population from the cultivation of the soil. Left to choose between the defence of their soil and its continued cultivation while the war lasted, it is only just to the descendants of the first loyal English settlers in Canada, and the English emigrants of later years, who have made their home in that prosperous and happy colony, to believe that they would unhesitatingly endure privation of any kind rather than sever their connexion with the crown. They would eke out a scanty harvest next year with imports from the United Kingdom rather than submit to a connexion which neither their loyalty nor interest could approve.

Alarming as the next Canadian harvest prospects therefore are, the real importance of a Canadian harvest, in a European point of view must not, however, be misconceived. The ordinary grain production of Canada is not more than adequate for its own consumption—certainly never more than adequate for the entire wants of our North American possessions. At the least Canada produces the subsistence for two millions and a half of people, or, at the most for four millions; so that the worst can befall us, in the event of war breaking out, may be fairly estimated. If Canada hitherto has supplied this country and others with so many thousand barrels of flour and so many million bushels of wheat and corn, Canada has generally been a buyer to a like extent in the markets of the

Western States; so that, practically a Canadian harvest does Europe no good, and a complete suspension of Canadian farming operations during war with the United States would simply entail the shipment of adequate subsistence from this country until the war was over. And this would be a very serious matter, but not half so serious as would be the case were there any foundation for the impression so generally entertained, that Canada is a great grain producing country, and that Europe depends largely on it for supplies. In such a case Canada, during a war with the United States, would not only have to be fed by this country, but this country, in addition would have to make up, from other sources, the grain which Canada was supposed to supply for export from its own produce. Why a wrong impression has been given as to the actual grain production of Canada is not easily explained, although the fact seems to be that for emigration purposes it has been found necessary to exaggerate the agricultural advantages and capabilities of Canada in this country; while in Canada itself Mr. Isaac Buchanan and other eminent men, have had the boldness, if not the wisdom, to assert that agriculture was the curse of Canada. Hence, in some measure at least, the mistake; and it may be added that Canadians in this country have always believed themselves obliged to put the province in the most favourable light in respect to agriculture. The fact is, that there is no more arduous and even precarious pursuit than agriculture in Lower Canada. The ground is encumbered with tall but impenetrable forest; and when the trees have been chopped, the stumps must remain until they gradually rot out. The results and pleasures of Canadian farming are thus remote, while the seasons like the present are not always what could be wished; and among the Canadian people there is consequently, a disposition to take to milling flour, or to general manufactures, rather than to farming. In these occupations the returns are immediate, even if in the end they are less; and it was for their fostering, and the making of the province independent of this country, that the Canadian tariff has of late been made protective. Canada it was and is still hoped, would merely convert the wheat of the Western States into flour, open a channel of communication with Europe for these states, and supply them with those commodities which Manchester and Birmingham and Sheffield now supply.

The grain which Canada receives in lieu of that of its own growth, which it exports, and in excess of its own wants in way of commerce is chiefly drawn from Chicago, in the State of Illinois, and Milwaukee, in the State of Wisconsin. For this import trade into Canada, branch Canadian firms have been established in these places, and recently also one or more branch Canadian banks. Such purchases have been sent to the Welland canal district for conversion into barrel flour, or to Kingston and Montreal for shipment to England. During the present season this import trade into Canada and subsequent export to the United Kingdom has been conducted on a large scale; and many no doubt, have believed that all the grain and flour exported was the produce of this province.

PRICES CURRENT.

GRAIN PER BUSHEL.

FOREIGN.	Wheat	Barley	Oats	Corn	Rye	Pearl
	60lbs	48lbs	34lbs	56lbs	56lbs	60lbs
New-York	1.25	0.75	0.44	0.70	0.85	0.00
Chicago	0.75	0.09	0.30	0.23	0.20	0.00
Toronto	0.90	0.05	0.30	0.40	0.00	0.42
London	1.03	0.98	0.90	1.00	0.00	1.00
Paris	1.90	0.70	0.09	1.00	0.88	1.40

LOWER CANADA						
Montreal	1.00	0.48	0.27	0.46	0.60	0.61
Quebec	0.00	0.00	0.30	0.00	0.00	0.83
Three Rivers	1.10	0.45	0.20	0.99	0.75	0.75
Sorel	1.10	0.50	0.25	0.75	0.00	0.70
Ottawa	1.05	0.00	0.20	0.45	0.55	0.45
St. Hyacinthe	1.20	0.46	0.27	0.76	0.00	0.77
Sherbrooke	0.00	0.00	0.00	0.00	0.00	0.00
St. Jean	1.10	0.46	0.25	0.70	0.00	0.62

FLOUR.—Montreal Market.

Double extra	5.75	Superfine No. 2	4.45
Extra	5.40	Fine	3.75
Fancy	5.12	In bags, 112 lbs.	2.80
Superfine No. 1	4.75		

BRAN.—Different Markets.

	qtls.		qtls.
Montreal	0.70	Three Rivers	0.00
Quebec	0.80	Sorel	0.00
Ottawa	0.00	Sherbrooke	0.00
St. Hyacinthe	0.00	Iberville	0.00

BUCKWHEAT.—Different Markets.

	qtls.		qtls.
Montreal	0.55	Sorel	0.55
Quebec	0.00	St. Hyacinthe	0.55
Three Rivers	0.45	Sherbrooke	0.00
Ottawa	0.00	St. Jean	0.50

CANADIAN BEANS.—Different Markets.

Montreal	1.50	Sorel	1.10
Quebec	0.00	Ottawa	1.10
Three Rivers	0.00		

POTATOES.—Different Markets.

Montreal	1½ m'ot	Sorel	1½ m'ot	0.64
Quebec	0.34	St. Hyacinthe	"	0.40
Trois-Rivieres	0.61	Sherbrooke	"	0.60
Ottawa	0.60	St. Jean	"	0.40

GREEN CROPS SEEDS.—Different Markets.

Red Clover	per lb.	0.09
Vermont Clover	"	0.18
Dutch or White Clover	"	0.25
Timothy	45lbs. per bushel.	1.75
White Vetches	"	1.00
Black Vetches	"	1.00
Mangold's seed	"	0.25
Carrot's seed	"	0.45
Turnip seed	"	0.45

HAY AND STRAW.—Different Markets.

100 lbs. hay, straw.		100 lbs. hay, straw.			
Montreal	6.00	5.50	St. Hyacinthe	4.00	2.00
Quebec	7.00	6.00	Sorel	0.00	0.00
Three Rivers	5.00	3.00	Ottawa	6.00	4.00

MANURES.—Montreal Market.

Peruvian Guano	100 lbs.	3.80
American Guano	"	2.50
Animal black	"	1.50
Plaster	brl.	1.00

OIL-CAKES.—Montreal Market.

Linsced cake	cwt.	1.80
Linsced cake pulverised	"	2.00

MAPLE SUGAR.—Different Markets.

Quebec	lb.	0.07	Montreal	lb.	0.09
Three Rivers	"	0.07	Sorel	"	0.09

ANIMAL PRODUCTIONS.

MEATS.—Different Markets.

	Beef.		Veal.		Mutton.		Pork.	
	lb.	qr.	qr.	lb.	qr.	lb.	lb.	
Montreal	0.09	1.00	0.75	0.10	0.09	0.09	0.09	
Quebec	0.09	0.00	0.00	0.00	0.06	0.55	0.11	
Three Rivers	0.06	0.00	0.00	0.00	0.09	0.45	0.10	
Sorel	0.09	0.45	0.45	0.10	0.10	0.00	0.10	
Ottawa	0.10	0.00	0.00	0.00	0.06	0.43	0.11	
St. Hyacinthe	0.06	0.43	0.00	0.00	0.00	0.00	0.00	
Sherbrooke	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
St. Jean	0.00	0.00	0.00	0.00	0.00	0.00	0.10	

CATTLE.—Different Markets.

	Montreal.	Quebec.	Three Rivers.	Sorel.
Oxen per 100 lbs.	6.00	0.00	5.50	7.40
Milch cows	30.00	0.00	18.00	18.00
Calves per head	5.00	0.00	0.00	0.00
Sheep	4.50	0.00	0.00	0.00
Lambs	2.75	0.00	0.00	0.00
Hogs per 100 lbs.	5.00	0.00	7.00	8.00

BUTTER.—Montreal and Quebec Markets.

Fresh butter per lb.	0.18
Salt butter	0.11½

CHEESE.—Montreal and Quebec Markets.

Rafin, per lb.	0.15	0.00
Americau	0.07	0.00

HIDES.—Different Markets.

Montreal, 100 lbs.	5.50	Quebec	100 lbs.	6.00
Three Riv's	0.00	Sorel	"	0.00

HORSES.—Montreal Market.

Saddle and hack horses	\$120.00
Farm horses	80.00
Old horses	25.00
Horses sold at auction	30.00

WOOLS.—Different Markets.

Montreal	lb.	0.25	Quebec	lb.	0.00
Three Rivers	"	0.00	Sorel	"	0.00

EGGS.—Different Markets.

Montreal	0.16	Ottawa	0.16
Quebec	0.14	Sherbrooke	0.15
Sorel	0.14	St. Hyacinthe	0.15
Three Rivers	0.15	St. Jean	0.13

FISH.—Montreal Market.

The string of 4 lbs.		The pair.	
Carp	0.12	Eels	0.25
Perch	0.20	White fish	0.25
Bass	0.20	Pike	0.25
Dores	0.38	Sturgeon	0.25

POWL.—Montreal and Quebec Markets.

Ducks	The pair.	0.55	0.50	Pigeons	The pair.	0.17	0.00
Geese	0.85	1.00	Fowls	0.50	0.55		
Turkeys	1.80	1.75	Chickens	0.00	0.00		

GAME.—Montreal and Quebec Markets.

Ducks	The pair.	0.30	0.00	Wild pigeons	The dozen.	0.75	0.00
Plover	0.29	0.00			The pair.		
Partridges	0.55	0.50	Hares	0.12	0.12		

FRUIT.—Montreal Market.

The barrel.		The barrel.	
Apples fameuses	3.00	Pears common	2.50
Apples grises	6.00	Plums per bushel	3.00
Apples American	3.00	Grapes per lb.	0.20
Pears bons cretiens	12.00	Melons the piece	0.00

PROVINCIAL AGRICULTURAL EXHIBITION SHERBROOKE

THE 17th, 18th, AND 19th SEPTEMBER, 1862.

In preparing the present list of prizes, offered for competition at the coming Provincial show at Sherbrooke, the committee have endeavoured to put aside, as much as possible, anything like fancy farming; and attention has been solely directed to what may be considered remunerative and essentially practical. The wants of that part of the community, who exist exclusively by the cultivation of the soil, without taking into account the amateur farmers, have been kept constantly in view, and form the base of the whole classification of this prize list. The classes, subdivisions and sections are placed under three general heads: 1st. Stock; 2nd. Implements; 3rd. Productions. The very limited means of the Board of Agriculture, not allowing a greater number of sections, the committee have resolved to open the show most particularly to practical farmers, through the following classification.

FIRST DIVISION—STOCK.

The improvement of our native breeds can be obtained by *selection* and by *crosses*. By selection: taking for breeders those animals which show most of the desired points and giving them such constant care that will tend to maintain or further develop their special qualities. The same selection is carried on in their off-springs, and after a few generations the desired points are permanent in the new breed; provided always this improvement by selection be obtained by proper feeding and treatment. It is this improvement in our native stock that the committee desire to ascertain and encourage, by opening the show to its exhibition, and offering prizes for the best heads in each breed, thus inducing the farmer to make a better choice of breeders, take greater care of his stock, and in short realize its improvement. By crosses the desired result is at once obtained, if better care and feeding are equally attended to. So that notwithstanding our native breeds are worthy of the greatest encouragement, by the fact that, with our climate and present system of farming, they will always give the highest returns, still our imported stock are entitled to equal encouragement, for by a cross of their blood, our native breeds are at once brought to that stage of perfection which extraordinary good feeding, selection and care, for several generations, could only realize. It is now established by numerous experiments, based on physiology, that those points in the animal frame, which determine a propensity for special productions, are opposite and can thus never meet in one given instance. Therefore, to determine the relative superiority of several breeds, it is necessary to know first what is the desired production, and as a consequence the corresponding points. In order to arrive at this conclusion the committee have classified the breeds according to their capacity to give a special production, let it be work, meat, milk or wool.

1ST CLASS—HORSES.

The farm work, traffic and distances require from the horse three different adaptations. For farm work the horse should be of middle size, well put together, easy fed, at once strong and quick. Traffic, for its heavy work, requires strength alone without activity, short and strong limbs, a wide front, large abdomen, broad and well muscled hip, short and thick neck, in a word a compact and heavy body. Distances, on the contrary, require in the horse elegance of shape and due regard to proportions with strength, elasticity of limb and a quick action. To meet these three requirements of the country, the committee have divided the horses in three subdivisions, taking weight as a base, and supposing a greater power of strength to affect activity in an inverse ratio.

1ST SUBDIVISION—HEAVY DRAUGHT.

1st Section—Imported thorough bred stock, the property of residents in Canada and elsewhere.

Stallions 3 year-old and over, weighing 1,300 lbs. and over,.....	\$40
2nd Prize,.....	20
Mares 3 year-old and over, weighing 1,200 lbs.,.....	20
2nd Prize,.....	10

2nd Section—Reared in Canada, the property of residents only.

Stallions from 3 to 7 year-old, weighing 1,200 lbs.,.....	\$30
2nd Prize,.....	20
3rd Prize,.....	10
Stallions 7 year-old and over, weighing 1,300 lbs.,.....	30
2nd Prize,.....	20
3rd Prize,.....	10

Mares from 3 to 5 year-old, weighing 1,000 lbs.,.....	20
2nd Prize,.....	10
3rd Prize,.....	5
Mares 5 year-old and over, weighing 1,200 with their foals,.....	30
2nd Prize,.....	20
3rd Prize,.....	10

3rd Section—Working horses reared in Canada, the property of residents only.

Pair of Horses weighing 1,300 lbs.,.....	\$14
2nd Prize,.....	19
Single Horses weighing 1,300 lbs.,.....	7
2nd Prize,.....	5

2ND SUBDIVISION—MIDDLE DRAUGHT.

1st Section—Imported thorough bred stock, the property of residents in Canada and elsewhere.

Stallions 3 year-old and over, weighing 1,300 lbs. and under,.....	\$40
2nd Prize,.....	20
Mares 3 year-old and over, weighing 1,200 lbs. and under,.....	20
2nd Prize,.....	10

2nd Section—Reared in Canada, the property of residents only.

Stallions from 3 to 7 year-old, weighing 1,200 lbs. and under,.....	\$30
2nd Prize,.....	20
3rd Prize,.....	10
Stallion 7 year-old and over, weighing 1,300 lbs. and under,.....	30
2nd Prize,.....	20
3rd Prize,.....	10
Mares from 3 to 5 year-old, weighing 1,000 lbs. and under,.....	20
2nd Prize,.....	10
3rd Prize,.....	5
Mares 5 year-old and over, weighing 1,200 lbs. and under with their foals,.....	30
2nd Prize,.....	20
3rd Prize,.....	10

3rd Section—Working horses reared in Canada, the property of residents only.

Pair of Horses, weighing 1,300 lbs. and under.....	\$14
2nd Prize,.....	10
Single Horses, weighing 1,300 lbs. and under,.....	7
2nd Prize,.....	5

3RD SUBDIVISION—LIGHT DRAUGHT.

1st Section—Imported thorough bred stock, the property of residents in Canada and elsewhere.

Stallions 3 year-old and over, weighing 1,000 lbs. and under,.....	\$40
2nd Prize,.....	20
Mares 3 year-old and over, weighing 900 lbs. and under,.....	20
2nd Prize,.....	10

2nd Section—Reared in Canada, the property of residents only.

Stallions 3 year-old, weighing 900 lbs. and under,.....	\$30
2nd Prize,.....	20
3rd Prize,.....	10
Stallions 7 year-old and over, weighing 1,000 lbs. and under,.....	30
2nd Prize,.....	20
3rd Prize,.....	10
Mares from 3 to 5 year-old, weighing 800 lbs. and under,.....	20
2nd Prize,.....	10
3rd Prize,.....	5
Mares 5 year-old and over, weighing 900 lbs. and under with their foal,.....	30
2nd Prize,.....	20
3rd Prize,.....	10

3rd Section—Carriage horses reared in Canada, the property of residents only.

Pair of Horses, weighing 1,000 and under,.....	\$14
2nd Prize,.....	10
Single Horses, weighing 1,000 and under,.....	7
2nd Prize,.....	5

2ND CLASS—CATTLE.

The experiments which have been carried on to determine what points in the animal frame will turn to best advantage into beef, milk or work, a given quantity of food, allow no more any one to pretend that a superior breed of cattle, having all the points corresponding to one of these productions, could give indistinctly the three of them to equal advantage. A good milker requires a narrow chest, large abdomen, thin muscles, long neck, and slender limbs. A good grazer, on the contrary, a broad chest, short limbs, and large muscles, fine bones, while the working oxen requires a heavy frame and a rather narrow chest, for a considerable width between the forelegs causes, at each step, a corresponding displacement of the centre of gravity, and results in slow and awkward movements. It is therefore impossible to determine the relative superiority of the various breeds of cattle without first classifying them in subdivisions, according to their special propensity to produce milk, beef or work. In the present agricultural circumstances of the country, milk being the staple production, it has been placed first on the list.

1ST SUBDIVISION—PRODUCTION OF MILK.*1st Section—Imported thorough bred Ayrshire, the property of residents in Canada and elsewhere.*

Bulls 2 year-old and over,.....	\$30
2nd Prize,.....	20
3rd Prize,.....	10
Heifers or cows 2 year-old and over,.....	24
2nd Prize,.....	16
3rd Prize,.....	8

2nd Section—Thorough bred Ayrshire reared in Canada, the property of residents only.

Bulls from 18 months to 3 year-old,.....	\$20
2nd Prize,.....	15
3rd Prize,.....	10
Bulls 3 year-old and over,.....	20
2nd Prize,.....	15
3rd Prize,.....	10
Heifers or cows from 18 months to 3 year-old,.....	15
2nd Prize,.....	10
3rd Prize,.....	5
Cows from 3 to 6 year-old,.....	15
2nd Prize,.....	10
3rd Prize,.....	5
Cows 6 year-old and over,.....	15
2nd Prize,.....	10
3rd Prize,.....	5

3rd Section—Canadian breed, the property of residents only.

Bulls from 18 months ^s to 3 year-old,.....	\$15
2nd Prize,.....	10
3rd Prize,.....	5
Bulls 3 year-old and over,.....	15
2nd Prize,.....	10
3rd Prize,.....	5
Heifers or cows from 18 months to 3 year-old,.....	10
2nd Prize,.....	7
3rd Prize,.....	4
Cows from 3 to 6 year-old,.....	10
2nd Prize,.....	7
3rd Prize,.....	4
Cows 6 year-old and over,.....	10
2nd Prize,.....	7
3rd Prize,.....	4

2ND SUBDIVISION—PRODUCTION OF MEAT.

1st Section—*Imported thorough bred Durham, the property of residents in Canada and elsewhere.*

Bulls 2 year-old and over,.....	\$30
2nd Prize,.....	20
3rd Prize,.....	10
Heifers or cows 2 year-old and over,.....	24
2nd Prize,.....	16
3rd Prize,.....	8

2nd Section—*Thorough bred Durham reared in Canada, the property of residents only.*

Bulls from 18 months to 3 year-old,.....	\$20
2nd Prize,.....	15
3rd Prize,.....	10
Bulls 3 year-old and over,.....	20
2nd Prize,.....	15
3rd Prize,.....	10
Heifers or cows from 18 months to 3 years,.....	15
2nd Prize,.....	10
3rd Prize,.....	5
Cows from 3 to 6 year-old,.....	15
2nd Prize,.....	10
3rd Prize,.....	5
Cows 6 year-old and over,.....	15
2nd Prize,.....	10
3rd Prize,.....	5

3rd Section—*Thorough bred Hereford, the property of Canadians only.*

Bulls from 18 months to 3 year-old,.....	\$15
2nd Prize,.....	10
Bulls 3 year-old and over,.....	15
2nd Prize,.....	10
Heifers or cows from 18 months to 3 year-old,.....	10
2nd Prize,.....	5
Cows from 3 to 6 year-old,.....	10
2nd Prize,.....	5
Cows 6 year-old and over,.....	10
2nd Prize,.....	5

4th Section—*Fat cattle of any breed, the property of Canadians only.*

Animals from 2 to 4 year-old,.....	\$18
2nd Prize,.....	15
3rd Prize,.....	12
4th Prize,.....	9
5th Prize,.....	6
6th Prize,.....	3
Animals 4 year-old and over,.....	18
2nd Prize,.....	15
3rd Prize,.....	12
4th Prize,.....	9
5th Prize,.....	6
6th Prize,.....	3

3RD SUBDIVISION—PRODUCTION OF WORK.

1st Section—*Thorough bred Devon, the property of Canadians only.*

Bulls 2 year-old and over,.....	\$20
2nd Prize,.....	10
Heifers or cows 2 year-old and over,.....	20
2nd Prize,.....	10

2nd Section—Working oxen 3 year-old and over, of any breed.

Ten yoke of working oxen belonging to the same township,.....	\$30
2nd Prize,.....	20
3rd Prize,.....	10
Yoke of working oxen,.....	\$18
2nd Prize,.....	15
3rd Prize,.....	12
4th Prize,.....	9
5th Prize,.....	6
6th Prize,.....	3

4TH SUBDIVISION—CROSSES.

1st Section—Crosses of any breed, the property of Canadians only.

Bulls from 18 months to 3 year-old,.....	\$24
2nd Prize,.....	20
3rd Prize,.....	16
4th Prize,.....	12
5th Prize,.....	8
6th Prize,.....	4
Bulls 3 year-old and over,.....	24
2nd Prize,.....	20
3rd Prize,.....	16
4th Prize,.....	12
5th Prize,.....	8
6th Prize,.....	4
Heifers or cows from 18 months to 3 year-old,.....	18
2nd Prize,.....	15
3rd Prize,.....	12
4th Prize,.....	9
5th Prize,.....	6
6th Prize,.....	3
Cows from 3 to 6 year-old,.....	18
2nd Prize,.....	15
3rd Prize,.....	12
4th Prize,.....	9
5th Prize,.....	6
6th Prize,.....	3
Cows 6 year-old and over,.....	18
2nd Prize,.....	15
3rd Prize,.....	12
4th Prize,.....	9
5th Prize,.....	6
6th Prize,.....	3

3RD CLASS—SHEEP.

If milk is of higher importance than beef, as the main production of our cattle in the present circumstances of farming in Canada, so is wool rather than meat the most valuable production of our sheep flocks. In this class the only division is based on the length of the wool, which influences greatly its market price. Most of the long and short wool breeds being so much improved that it is next to impossible to determine which is the best, they have been allowed to compete together, irrespective of blood, in two divisions only: the long wool and the short wool.

1ST SUBDIVISION—LONG WOOL.

1st Section—Leicester, Cotswold, &c., the property of Canadians only.

Rams 18 month-old and over,.....	\$15
2nd Prize,.....	10
Ewes 18 month-old and over,.....	15
2nd Prize,.....	10

2nd Section—Native breeds, the property of Canadians only.

Rams 18 month-old and over,.....	\$15
2nd Prize,.....	10
3rd Prize,.....	5
Ewes 18 month-old and over,.....	15
2nd Prize,.....	10
3rd Prize,.....	5

2ND SUBDIVISION—SHORT WOOL BREEDS.

1st Section—Southdown, &c., the property of Canadians only.

Rams 18 month-old and over,.....	\$15
2nd Prize,.....	10
Ewes 18 month-old and over,.....	15
2nd Prize,.....	10

2nd Section—Native breeds, the property of Canadians only.

Rams 18 month-old and over,.....	\$15
2nd Prize,.....	10
3rd Prize,.....	5
Ewes 18 month-old and over,.....	15
2nd Prize,.....	10
3rd Prize,.....	5

4TH CLASS—SWINE.

Distinctions of blood have now almost entirely disappeared with regard to the breeds of swine in England. They have all been classed under two great heads: the large breed and the small breed. This is the principle which we have adopted as much as possible in the prize list and more particularly in the classification of the swine.

1ST SUBDIVISION—LARGE BREEDS.

1st Section—Thorough bred Swine, the property of Canadians only.

Boars 18 month-old and over,.....	\$15
2nd Prize,.....	10
Sows 18 month-old and over,.....	15
2nd Prize,.....	10

2nd Section—Native breeds, the property of Canadians only.

Boars 18 month-old and over,.....	\$15
2nd Prize,.....	10
3rd Prize,.....	5
Sows 18 month-old and over,.....	15
2nd Prize,.....	10
3rd Prize,.....	5

2ND SUBDIVISION—SMALL BREEDS.

1st Section—Thorough bred swine, the property of Canadians only.

Boars 18 month-old and over,.....	\$15
2nd Prize,.....	10
Sows 18 month-old and over,.....	15
2nd Prize,.....	10

2nd Section—Native breeds, the property of Canadians only.

Boars 18 month-old and over,.....	\$15
2nd Prize,.....	10
3rd Prize,.....	5
Sows 18 month-old and over,.....	15
2nd Prize,.....	10
3rd Prize,.....	5

5TH CLASS—POULTRY, &c.**1ST SUBDIVISION—GALLINACEANS.***1st Section—Trio, two hens and one cock of any breed.*

1st Prize,.....	\$3
2nd Prize,.....	2
3rd Prize,.....	1

2nd Section—Turkeys, trio of any breed.

1st Prize,.....	\$3
2nd Prize,.....	2
3rd Prize,.....	1

2ND SUBDIVISION—PALMIPEDS.*1st Section—Geese, trio of any breed.*

1st Prize,.....	\$3
2nd Prize,.....	2
3rd Prize,.....	1

2nd Section—Ducks, trio of any breed.

1st Prize,.....	\$3
2nd Prize,.....	2
3rd Prize,.....	1

3rd Section—Pigeons, trio of any breed.

1st Prize,.....	\$3
2nd Prize,.....	2
3rd Prize,.....	1

2ND SUBDIVISION—NOT PREVIOUSLY CLASSIFIED.*1st Section—Rabbits, trio of any breed.*

1st Prize,.....	\$3
2nd Prize,.....	2
3rd Prize,.....	1

2nd Section—Not previously classified.

1st Prize,.....	\$3
2nd Prize,.....	3
3rd Prize,.....	1

2ND DIVISION—AGRICULTURAL IMPLEMENTS.**1ST CLASS—TILLAGE.****1ST SUBDIVISION—IMPLEMENTS FOR PULVERISING THE SOIL.***1st Section—Ploughs.*

Ploughs for all purposes,.....	\$8
2nd Prize,.....	4
Ploughs for light soils,.....	8
2nd Prize,.....	4
Ploughs for heavy soils,.....	8
2nd Prize,.....	4
Trench ploughs,.....	8
2nd Prize,.....	4
Swivel ploughs,.....	8
Gang ploughs,.....	5
Stubble ploughs,.....	5
Universal ploughs,.....	5
Sub-soil ploughs,.....	5

2nd Section—Harrows.

Heavy harrows for tenacious soils,.....	\$8
2nd Prize,.....	4
Light harrows for gravelly soils,.....	8
2nd Prize,.....	4
Drill harrows,	5

3rd Section—Rollers.

Croskill rollers,.....	\$8
2nd Prize,.....	4
Flat rollers,.....	6
2nd Prize,.....	3

4th Section—Collection of hand implements,..... \$2

2ND SUBDIVISION—IMPLEMENTS FOR WEEDING THE SOIL.

1st Section—Scarifiers, cultivators, extirpators.

Scarifiers, extirpators, or cultivators,.....	\$8
2nd Prize,.....	4

2nd Section—Double mould-boards and Horse hoes.

Double mould-boards,.....	\$8
2nd Prize,.....	4
Horse hoes,.....	8
2nd Prize,.....	4

3rd Section—Collection of hand implements,..... \$2

3RD SUBDIVISION—IMPLEMENTS EMPLOYED IN SOWING.

1st Section—Hand drills.

Beet, carrot and turnip sowers,.....	\$5
Bean and maize sowers,.....	5
Timothy and clover sowers,.....	5

2nd Section—Horse drills.

Drills for all seeds,.....	\$5
Manure drills,.....	5

2ND CLASS—HARVESTING.

1ST SUBDIVISION—IMPLEMENTS FOR CUTTING CROPS.

1st Section—Mowers, reapers, &c.

Mowers,.....	\$15
Reapers,.....	15
Combined reapers and mowers,.....	20
2nd Prize,	10
Collection of hand implements,.....	2

2nd Section—Hay curing.

Hay tenders,.....	\$10
Horse rakes,.....	10
Collection of hand implements,.....	2

2ND SUBDIVISION—IMPLEMENTS FOR DIGGING CROPS.

Potato diggers,.....	\$10
Beet diggers,.....	10

3RD SUBDIVISION—IMPLEMENTS FOR THE CARRIAGE OF CROPS.

1st Section—Summer vehicles.

Waggons,.....	\$4
Scotch carts,.....	4
Hay carts,.....	4

2nd Section—Winter vehicles.

Double sleighs,.....	\$2
Single sleighs,.....	2

3rd Section—Hand vehicles.

Trucks,.....	\$2
Wheelbarrows,.....	1

3RD CLASS—PREPARATION OF PRODUCTS.

1ST SUBDIVISION—THRASHING.

1st Section—Thrashing and Shelling machines.

Thrashing machines, one horse power,.....	\$10
Thrashing machines, two horse powers,.....	10
Clover thrashing machines,.....	5
Corn shellers,.....	5
Flax Scutching machines,.....	10
Hemp scutching machines,.....	10
One horse power,.....	10
Two horse powers,.....	10
Four horse powers and over,.....	10

2nd Section—Cleaning machines for grain or seeds.

Separators,.....	\$5
Fanning mills,.....	5

2ND SUBDIVISION—IMPLEMENTS FOR THE PREPARATION OF FOOD:

1st Section—Root crops.

Potato and turnip washers,.....	\$5
Cooking apparatus,.....	5
Root cutters,.....	5

2nd Section—Preparation of grain and straw.

Straw cutters,.....	\$5
Grain bruisers,.....	5

4TH CLASS—TRANSFORMATION OF PRODUCTS.

1ST SUBDIVISION—ANIMAL PRODUCTIONS.

1st Section—Transformation of milks in butter.

Churns,.....	\$4
Utensils for butter making,.....	2

2nd Section—Transformation of milk in cheese.

Cheese kettles,.....	\$3
Cheese presses,.....	3
Utensils for cheese making,.....	2

3RD SUBDIVISION—VEGETABLE PRODUCTIONS.

1st Section—Sugar making.

Evaporating kettles and pans,.....	\$3
Utensils used for sugar making,.....	2

2nd Section—Cider making.

Cider presses,.....	\$5
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5TH CLASS—VARIOUS IMPLEMENTS.

1ST SUBDIVISION—IMPLEMENTS FOR CLEARING LAND.

Stump extractors,.....	\$10
Potash kettles,.....	5
Stone boats,.....	5
Collection of mining tools,.....	2

2ND SUBDIVISION—NOT CLASSIFIED.

Gates,.....	\$2
Hives,.....	2
Weighing machines,.....	2

3RD DIVISION—AGRICULTURAL PRODUCTIONS.

1ST CLASS—FORAGE PLANTS.

1st Section—Root crops in the bulb.

Potatoes, 2 bushels,.....	\$5
2nd Prize,	2
Beets, 2 bushels,.....	4
2nd Prize,.....	2
Carrots, 2 bushels,.....	4
2nd Prize,.....	2
Turnips, 2 bushels,.....	4
2nd Prize,.....	2
Pumpkins, the best,.....	4
2nd Prize,	2

2nd Section—Root and meadow seeds.

Beet seed, 10 lbs.,.....	4
2nd Prize,.....	2
Carrot seed, 5 lbs.,.....	4
2nd Prize,.....	2
Turnip seed, 28 lbs.,.....	4
2nd Prize,.....	2
Timothy seed, 2 bushels,.....	4
2nd Prize,.....	2
Red clover seed, $\frac{1}{2}$ bushel,.....	4
2nd Prize,	2
White clover seed, $\frac{1}{2}$ bushel,.....	4
2nd Prize,	2

2ND SUBDIVISION—LEGUMINOUS PLANTS.

Horse beans, 2 bushels,.....	4
2nd Prize,	2
Small beans, 2 bushels,.....	4
2nd Prize,.....	2
Peas, 2 bushels,.....	4
2nd Prize,.....	2
2nd Prize,.....	2

2ND CLASS—GRAIN CROPS.

1ST SUBDIVISION—FALL OR WINTER GRAIN.

Wheat, 2 bushels,.....	\$4
2nd Prize,.....	2
Rye, 2 bushels,	4
2nd Prize,.....	2
Barley, 2 bushels,	4
2nd Prize,	2

2ND SUBDIVISION—SPRING GRAIN.

Wheat, 2 bushels,.....	\$4
2nd Prize,.....	2
Barley, 2 bushels,.....	4
2nd Prize,.....	2
Oats, 2 bushels,.....	4
2nd Prize,.....	2
Rye, 2 bushels,.....	4
2nd Prize,.....	2
Buckwheat, 2 bushels,.....	4
2nd Prize,.....	2
Maize, (indian corn) 2 bushels in the cob,.....	4
2nd Prize,.....	2

3RD CLASS—INDUSTRIAL PLANTS.**1ST SUBDIVISION—TEXTIL PLANTS.**

Hemp as grown and 28 lbs. as dressed,.....	\$12
2nd Prize,.....	2
Flax as grown and 28 lbs. as dressed,.....	12
2nd Prize,.....	8

2ND SUBDIVISION—OIL PLANTS.

Flax as grown and 1 bushel seed,.....	\$6
2nd Prize,.....	4

4TH CLASS—VARIOUS PRODUCTIONS.**1ST SUBDIVISION—ANIMAL.**

Long wool washed, the whole fleece,.....	\$4
2nd Prize,.....	2
Short wool washed, the whole fleece,.....	4
2nd Prize,.....	2
Butter, 28 lbs.,.....	10
2nd Prize,.....	9
3rd Prize,.....	8
4th Prize,.....	7
5th Prize,.....	6
6th Prize,.....	5
7th Prize,.....	4
8th Prize,.....	3
9th Prize,.....	2
Cheese, 14 lbs.,.....	10
2nd Prize,.....	9
3rd Prize,.....	8
4th	7
5th Prize,.....	6
7th Prize,.....	5
7th Prize,.....	4
8th Prize,.....	3
9th Prize,.....	2
Honey, 14 lbs.,.....	4
2nd Prize,.....	2
Not previously classified,.....	4
2nd Prize,.....	2

2nd SUBDIVISION—VEGETABLE PRODUCTIONS.

Tobacco, 14lbs.,.....	4
2nd Prize,,.....	2
Hops, 112 lbs.,.....	3
2nd Prize,.....	2
Maple sugar, 10 lbs.,.....	4
2nd Prize,.....	2
Not previously classified,.....	4
2nd Prize,.....	2

GENERAL ARRANGEMENTS.

Art. 1. All the bulls must be furnished with rings and chains that they may be firmly secured; the boars must be ringed.

All the animals recognised by the jury as distinguished by unnecessary fatness will be excluded from competition.

Art. II. In order to extend the circulation of the official journal of the Board of Agriculture, the prizes awarded in each class will be accompanied by a free copy, for the ensuing year.

Honorable Mentions may be awarded where several animals, the property of the same individual, shall have merited premiums, or where the jury after having exhausted the premiums included in the prize list, may judge it expedient to recommend the animals to the attention of breeders.

Art. III. The prize animals of the preceding Provincial Exhibitions shall not be entitled to compete again, unless for prizes of a higher class than those formerly obtained by them. If they shall be entitled to a prize of equal value to that formerly obtained, they can only claim the republication of the prize, without the prize money. If they shall be entitled to an inferior prize only, they will not be mentioned.

Art. IV. Any individual convicted of having exhibited as his property an animal that does not belong to him, or who shall have made a false declaration of age or breed shall be excluded from the future exhibitions by the Board of Agriculture.

Art. V. An exhibitor shall not be entitled to receive more than one prize in each Sub-section. But he shall be entitled, nevertheless, to exhibit as many animals as he pleases in each Sub-division or Section; and in this case, honourable mentions, as provided in Art. II, may be awarded by the jury.

Art. VI. There shall be four special juries; the first for Horses; the second for Cattle; the third for Sheep and Pigs, and the fourth for Agricultural Implements; and these shall be named by the Board of Agriculture which shall appoint the Presidents and Vice-Presidents. Each jury shall be composed of strangers or Canadians, and members of the Board.

The jury for Agricultural Implements shall be divided into three Sections, charged respectively with the decisions: 1st. for implements under the First Class; 2nd. for implements under the Second Class; 3rd. for implements under Third, Fourth and Fifth Classes.

Art. VII. The prizes will be adjudged as set forth in the Sections under which they are classed. The decision will depend on the majority. In case of an equality, the vote of the President shall give the decision.

Art. VIII. The management and superintendence of the exhibition shall belong exclusively to the President of the Board of Agriculture, Members of the Board will be placed under his direction and attached to the exhibition to receive, classify and superintend the cattle and implements, assist the juries in their duty, and in short, see to efficient and prompt execution of operations. Agents will be placed under their orders. No person can be admitted within the grounds during the operations of the jury.

Art. IX. The Board of Management will place the cattle, implements, and agricultural productions &c., and they will provide for necessary feeding of all animals exhibited, but will not hold themselves responsible for accidents.

Art. X. The freight charges will be borne by the exhibitors, according to the reduced rate of charges, arranged with lines of Railroads and Steamers.

Art. XI. In order to be admitted to compete, it will be necessary to address to the Secretary of the Board of Agriculture, or to the Secretary of one of the agricultural societies, before the 1st of September, a declaration as follows, accompanied by One Dollar as entry money.

On receipt of this declaration the Board will address to the exhibitor a parchment label to be attached to each article, before admission at the gate, as well as a corresponding entry ticket to be delivered to the keeper.

Art. XII. Exhibitors who shall decline sending their animals are earnestly instructed to address to the Board of Agriculture their determination before the first of September. The names of such as will not conform to this regulation shall be excluded of future exhibitions.

Art. XIII. The different operations of the exhibition shall be regulated as follows :
STOCK—On Tuesday the 16th, reception and classification.

On Wednesday, operations of the jury.

IMPLEMENTS, PRODUCTIONS—Tuesday, reception and classification.

Wednesday, trial of implements.

Wednesday, Thursday, and Friday, public exhibition from 9 to 5 o'clock at the following conditions :

Wednesday, after midday, charge of entry..... 50 cts.

Thursday and Friday " " 25

Art. XIV. The prizes will be paid to the successful competitors the last day of the show at the secretary's office, unless the declaration and references furnished appear insufficient; in which case, the adjudgment will be postponed by the jury, until the production of satisfactory documents and explanations.

Art. XV. The owners of stock exhibited ought to withdraw them before 4 o'clock on Friday; and implements ought to be moved before midday the day following. Exhibitors will look after their own stock and implements after 4 o'clock on Friday.

Art. XVI. All dispute regarding the regulations of the present prize list will be decided by the Board.

PROVINCIAL AGRICULTURAL EXHIBITION.

I _____ of _____ in the
 County of _____ propose to exhibit at the **PROVINCIAL AGRICULTURAL EXHIBITION** in the following Classes :

No.	CLASS.	SUBDIVISION.	SECTION.	DESCRIPTION OF STOCK OR IMPLEMENT.
1				
2				
3				
4				
5				
6				
7				
8				

For the animals the declaration ought to contain the name of the breeder or seller, and the date of purchase. Pure breeds or crosses from pure blood ought to be accompanied with a pedigree, establishing their purity or that of their ascendants.

For the implements the declaration will set forth the designation, the purposes for which intended, and the selling price or cost of construction; whether the exhibitor be the importer, inventor, or improver, or in a word, whether the implement has been constructed on principles elsewhere known.

For Production, the yield per acre; quality of soil. In short the declaration should give all the information desirable for publication in the general catalogue of cattle, implements, and productions exhibited, which will be sold on the grounds along with the list of prizes awarded.

This declaration has to reach the Board of Agriculture before the 1st of September. In the case where the exhibitors cannot accompany their implements to the exhibition, they ought to be addressed in due time, *free*, to the Secretary of the exhibition.

The printed Declarations and Prize Lists will be distributed by the Secretaries of the County Agricultural Societies, as well as by the Secretary of the Board of Agriculture, at Montreal.

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\$1 per annum—Payable in advance.

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J. PERRAULT, PROPRIETOR.

OFFICE OF THE AGRICULTURIST, PLACE D'ARMES.