

Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- | | |
|---|---|
| <input type="checkbox"/> Coloured covers/
Couverture de couleur | <input type="checkbox"/> Coloured pages/
Pages de couleur |
| <input type="checkbox"/> Covers damaged/
Couverture endommagée | <input type="checkbox"/> Pages damaged/
Pages endommagées |
| <input type="checkbox"/> Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée | <input type="checkbox"/> Pages restored and/or laminated/
Pages restaurées et/ou pelliculées |
| <input type="checkbox"/> Cover title missing/
Le titre de couverture manque | <input checked="" type="checkbox"/> Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées |
| <input type="checkbox"/> Coloured maps/
Cartes géographiques en couleur | <input type="checkbox"/> Pages detached/
Pages détachées |
| <input type="checkbox"/> Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire) | <input checked="" type="checkbox"/> Showthrough/
Transparence |
| <input type="checkbox"/> Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur | <input checked="" type="checkbox"/> Quality of print varies/
Qualité inégale de l'impression |
| <input checked="" type="checkbox"/> Bound with other material/
Relié avec d'autres documents | <input type="checkbox"/> Includes supplementary material/
Comprend du matériel supplémentaire |
| <input checked="" type="checkbox"/> Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure | <input type="checkbox"/> Only edition available/
Seule édition disponible |
| <input type="checkbox"/> Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées. | <input type="checkbox"/> Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image/
Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible. |
| <input checked="" type="checkbox"/> Additional comments: /
Commentaires supplémentaires: | Continuous pagination. |

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
							✓				

THE
Canadian Agriculturist,

AND

JOURNAL OF THE BOARD OF AGRICULTURE

OF UPPER CANADA.

VOL. XII.

TORONTO, JUNE 16, 1860.

No. 12.

SUMMER WORK.

Not for several years have the prospects of all kinds of farm crops and fruits, with the exception of the fall wheat in a few localities, been more encouraging in this province than at the present moment. From all parts of the country we have the same report, the same glowing descriptions of the beauty and luxuriance of the vegetation. The late spring frosts, which astonished us last year, and did so much mischief in the beginning of June, were altogether of an exceptional character, and fortunately have not repeated their visit this year. The supply of rain has been very limited, but the crops do not appear to have suffered materially on that account.

Very little now remains to be done to complete the seed sowing operations of this season. The white globe or other varieties of the English Turnip may be sown from the present time to the 1st of August. It will give a more bulky crop than the Ruta Baga, but of course not equal in quality for feeding purposes. Where the Swedes or Mangels or Carrots have failed, or where a sufficient quantity of them have not been sown, the white turnip may be put in as a substitute. They may be sown broadcast or in flat

drills the latter is preferable, upon any rich, porous, well prepared soil. Seed, one to two pounds per acre. Hungarian grass may still be sown either for hay or soiling. Indian Corn may be sown for soiling; it is rather too late now to sow this crop to expect it to come to maturity, although we have known the early ripening varieties sown as late as the 20th June and produce a fair crop. Buckwheat may be sown from the latter part of this month to the middle or end of July, upon light sandy or loamy soils. If intended to ripen the seed it should be sown not later than the middle of July, so as to avoid the early autumn frosts; if to be ploughed in for manure, it may be sown later. The quantity of seed is about a bushel per acre sown broadcast; if drilled, less will do.

All sorts of root and hoed crops, such as turnips, mangels, carrots, Indian corn, &c. as soon as they appear sufficiently above ground, should be gone through carefully with the cultivator and hand hoe to keep down the weeds and thin them out to the proper distance. The distance to which these crops should be thinned depends somewhat upon the variety of the root, and upon the quality of the soil. If the growth of leaf is likely to be luxuriant, they should

be kept at somewhat wider distances than otherwise, but as a general rule, if mangels and turnips are in drills two and a half feet apart, they should be thinned to a foot apart in the drills. Carrots will sometimes make room for themselves and fill the ground in a surprising manner, if sown in the right sort of soil, without any great attention having been paid to the thinning process, but to grow an even crop of large, well shaped roots, the rows should be a foot and a half or more apart, and the carrots six inches apart in the rows.

The preparation of manure, and the application of it to the summer fallows for fall wheat, will form one of the chief operations on many farms till harvest time commences. As a general rule, the manure not used in putting in the potatoes, turnips and other spring crops, is applied to the fallow. No doubt it is useful in this way, both as supplying certain fertilizing ingredients to the soil, and aiding to give it that mechanical texture required by the wheat crop. At the same time, if farmers would not so generally look upon the wheat fallow as the proper and only destination for the dung heap, if they would lend the manure for a year or two to the growth of mangels or turnips, and sow five or ten times the breadth of these that they have had heretofore, we are sure that they would soon find themselves great gainers by the process. The abundance of roots fed to the cattle in winter and spring would quadruple the quantity of manure, and make it also of a much better quality, while the superior condition of the cattle would be no small advantage. The wheat would then come in, in the proper place in the rotation, and receive the benefit of the dressing given the previous crop of turnips, and after a year or two there would probably be as much good manure left each season to apply direct to the naked wheat fallow, after supplying the root crops, as there would have been altogether if the roots had not been produced and fed. All the manure about the yards with all the

waste litter, weeds, refuse, &c., should be gathered carefully in heaps in the beginning of summer, and when a certain degree of fermentation has taken place, the heaps should be turned over, to promote the decomposition, and ensure the destruction of weed seeds. If a light covering of earth can be given, and the leakage pumped over the heap, it will improve the quality of the mass. The manure may be drawn out to the fallow as opportunity occurs, and turned under with the second or third ploughing.

We alluded to the subject of fallows in our last. Experience shows that the longer ground is under grain crops, with a frequent recurrence of the naked fallow, the more liable fall wheat is to be heaved out with the spring frosts. It loses that open, fibrous texture, similar to the composition of new land, which enables the root of the wheat plant to spread and take a firm grasp of the soil, and in this way, as well as offering a sort of medium for the filtration and escape of the superfluous water, prevents the heaving out operations of the spring frosts. Thorough drainage with tiles would doubtless be the best mechanical improvement of the soil to prevent frost killing of wheat, but till that improvement is effected, the condition of new land may be imitated to a certain extent, and the requisite favorable state of the soil obtained by a judicious course of cultivation. In the first place, it should not be considered necessary to sow fall wheat upon the same field every second or third year. It is a pure mistake to suppose that this is profitable. Once in five or six years is quite often enough. But after land has been two or three years in grass, having previously been well cultivated, cleared and manured before seeding down, it will be in good condition to obtain a wheat crop from. We should recommend ploughing once, say about the 1st June, or a month earlier or later according to circumstances, and then to use the harrow

and cultivator frequently during the summer to prevent the growth of weeds, but not to plough again till sowing the wheat. The sod would then turn up perfectly killed, would readily crumble to pieces, and would give the soil that rough, turfy, soddy texture, which would furnish the wheat plant with the protection it requires against the winter and spring frosts. We know that the frequent ploughings ordinarily given the summer fallow have a very beneficial effect, especially on strong lands, from exposing the soil to the disintegrating and other fertilizing influences of the atmosphere, but at the same time unluckily, they are apt to reduce it to that exact state of fine subdivision which, in the absence of thorough drainage, favours the heaving out of the wheat plant by the frost.

Hay making will commence in some parts of the Province, in fields where the crop consists chiefly of clover, before the close of the present month. Clover should be cut as soon as it has fully blossomed, and begun to assume a brownish hue.— There is more lost by letting it remain too long upon the ground than by cutting it a little too soon. Clover should not be too much exposed to the wind and sun. Unless very heavy, or unless it has been exposed to rain, a single turning, after it has wilted a little on the top of the swath, will be enough. It may then be placed in cocks till sufficiently dry to go into the barn. A sprinkling of salt, say 4 or 5 quarts to each load, will aid in preserving the hay, and will make it more palatable to the cattle.

HAY TEDDING MACHINES.

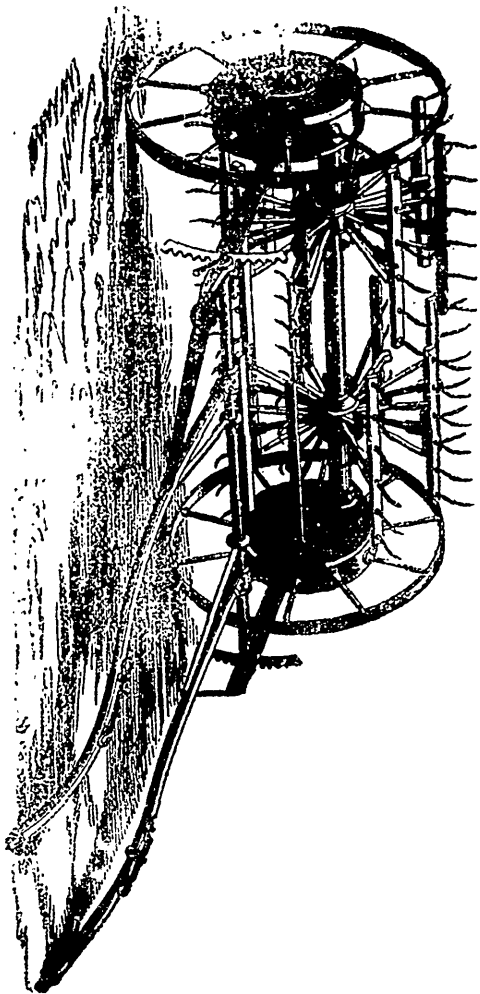
The operation of shaking out the swaths of newly mown grass, either by the hand or fork, is necessarily slow, and not unfrequently the work is but imperfectly done. This was particularly felt in England,

where the hay crop is usually heavy, and consists of a number of fine, juicy grasses, which require to be evenly spread and exposed to the action of the sun and air, in order to make them into hay of the finest quality. Hence several years ago a machine was invented for spreading the grass, drawn by a horse, and performing ten or a dozen acres a day; that is a hay-making day; for hay should not be moved till after the dew is off in the morning, nor after it has fallen in the evening.

Within the last half dozen years great improvements have been effected in these machines, which now consist of two cylindrical sets of rakes, side by side, in the same length formerly occupied by one; each being worked by cog-work from the wheel next it. In turning, the outer wheel will thus always give motion to that half next it, and the liability to miss its work on turning, prevented. Another important improvement consists in the means now furnished for reversing the direction of its revolution. On first being used in the hay field, it is drawn across the swath, the cylindrical frames revolving contrary to the wheels, as the machine proceeds; the grass is thus carried under and over the machine, and tossed high into the air. After this first tedding, the motion of the machine may be reversed, and the grass is thrown from behind it, with much less labor, but with almost equal efficiency, now that it is already lying evenly spread, and it is thus turned and winnowed. The rakes attached to the cylindrical framework are held stiffly, but not rigidly to their position by suitable springs.

The accompanying engraving represents the latest improvements in NICHOLSON'S PATENT DOUBLE-ACTION HAY MAKING MACHINE, as manufactured by the old and celebrated firm of RANSOMES & SIMS, of Ipswich, England. Its principal feature is the substitution of annular gearing, by which the reverse motion of the fork-barrel or frame is obtained in place of the intermediate pinion as used in the machines

generally employed. This arrangement is of the utmost importance in diminishing the friction, (and, consequently, wear), as well as the draught of the machine. There is a compact arrangement as shown in the engraving, for raising or lowering the machine, according to the state of the crop and condition of the ground. The arms that carry the forks are of wrought iron, the joints by which the fork heads are attached to them simple and remarkably strong, the arrangement of the springs novel and effective, and such as to allow the machine to be worked on uneven ground, and in the heaviest crops. Every possible precaution has been made to prevent the hay from coiling round, or lodging on any part of the machine, which from the simplicity of its construction, and superior workmanship, can be easily managed, and kept in efficient working order. The price is £16 complete, a sum, the saving of which the machine will effect on an extensive grass farm, the first year. As the mower and horse-rake are now extensively used in Canada, nothing seems now wanting but the tedding-machine to render our hay-making operations as complete as possible. A single machine might be made to do the work on several adjoining, or neighboring farms.



THE MASSACHUSETTS CATTLE DISEASE.

Hay making machines can be obtained from manufacturers in the adjoining States. Thos. J. Goff, of Warren, R. I., is the patentee of a machine of simpler form, and probably considerably lower price than the English implement, though perhaps not so efficient for heavy grass. Probably some of our enterprising implement makers in Canada will soon be bringing out something of the kind.

The fearfully destructive disease which has made its appearance amongst the cattle in Massachusetts during the past winter and spring, has already been the cause of the loss of a very large number of animals, and it is impossible to say how long it may continue to exist, or to what distances it may extend. The inhabitants of that and the adjoining states, as they have good reason, are greatly alarmed at the progress

the disease is making. The newspapers and the agricultural journals are largely occupied with the subject. The Legislature during their late session passed a law with the view of arresting the spread of the disease, and a special meeting has been called to devise further measures with the same object. The disease is recognized as Pleuro Pneumonia, although some of the writers consider it something more, and of a more destructive character than the European cattle disease under that name. We gave in our last number a sketch of the history of Pleuro Pneumonia in Europe and the East from the earliest times in which there is any record of it to the present day. We give on another page an article from the *North British Agriculturist* showing the manner in which the disease has developed itself in Great Britain. It would seem from this account scarcely to have been lately of so virulent a character there as it has shown itself in Massachusetts, and in other countries where it has been known. This difference, however, may be owing to a variety of causes, to climate, to greater or less facilities for arresting the disease, or to the greater degree of intensity which diseases sometimes manifest on their first appearance in a country or district. Differences of opinion exist as to whether the disease is merely contagious, or whether it is epidemic. Some eminent writers have given it as their opinion that it is epidemic, that it is caused, like cholera and some other epidemic diseases to which the human species are subject, by some subtle influence which cannot be detected, existing in the atmosphere over wide areas of country. Others again, and we believe the larger number, contend that it is purely contagious, that animals can only receive it either by contact with or proximity to animals already diseased, or to some substance infected by them. The progress of the disease so far, in Massachusetts, affords the strongest evidence of the truth of the latter theory. All the cases which have occurred can be traced to one single herd.

The farmers of Canada cannot be too soon made aware of the deadly character of this disease. Should it make its appearance in this country it would be one of the greatest disasters which can be conceived. From our geographical position, should the disease prove to be merely contagious, we have a better means of protection, in our water boundary, from its entrance into the country than they have in the adjoining states. But there are many ways in which it might be introduced, and precautionary measures cannot be taken too soon. For instance, parties in Maine are said to be buying cattle in Massachusetts, for slaughtering purposes, because cattle can be got *very cheap* there. Owners of cattle in Massachusetts who fear they may become infected, are of course likely enough to dispose of them readily, and in this manner the disease might easily be introduced into a neighboring state. From Maine to Canada, its progress by way of the Grand Trunk Road would be a very simple matter. Or the disease may find its way, in spite of every precaution, to the Western States, and thence be easily brought into this country by way of the Great Western or the Grand Trunk Railroad. It is said that cattle have been infected by mere contact with persons or objects that have been near diseased animals. Our government cannot too soon give their earnest attention to the matter, and if it appears necessary, we trust they will adopt the most stringent measures to prevent a single animal of the cattle tribe from entering the country. Should any person be induced for the sake of gain to import *cheap* cattle from the infected districts and thus introduce the disease, we scarcely know of any words of reprobation which would be too strong to characterise their conduct.

We give the following condensed sketch of the progress of the disease since it has made its appearance on this side of the Atlantic.

Mr. W. W. Chenery, residing in Belmont, 5 or 6 miles from Boston, Mass., having

become satisfied of the superior qualities of some cattle he had imported from Holland, determined to import some other animals of the same breed, the best that could be obtained. He transmitted his orders to that effect in Dec. 1858, and four cows were shipped for him at Rotterdam in April, and arrived at Boston on the 23rd May 1859.

We learn from a letter published by Mr. Chenery in the *Boston Cultivator* of March 17th last, that—

“Upon examination the cows were found to be in an extremely bad condition,—very much bruised and emaciated,—one of them, as the mate of the bark stated, not having been on her feet during the twenty days preceding her arrival; another one was totally unable to walk, and these two animals were accordingly carried to the farm in waggons—the remaining two were driven out.

Deeming it impossible for the first mentioned cow to recover, she was on the 31st of May slaughtered, and on the 2d of June following the second cow died. At that time, Mr. Chenery was fully persuaded that the bad condition of these animals was caused merely by neglect on the voyage.

The third cow of this importation seemed to be doing well until about the 20th of June, when she became sick and died in ten days after. The fourth cow, Lady Beemster, had, up to a short time since, shown no indications of sickness, but was, on the contrary, in a thriving condition.

Early in the month of August following, symptoms of disease were observable in the Dutch cow, Lady Louise, (imported in 1852.) She died on the 20th of the same month. About this time several other animals were taken sick in rapid succession, and then it was that the idea was first advanced that the disease was identical with that known in Europe as “Epizootic Pleuro-pneumonia.” From that date every possible precaution was taken to prevent the spread of the supposed distemper, strict orders having been given that no animals should be allowed to leave the farm nor any strange cattle to come upon the premises.

The following extract from Mr. Chenery's letter-book, in answer to an application for stock during the prevalence of the disease, will serve to show his views with regard to it at the time: “I am, at present, obliged to decline any applications for stock, owing

to an epidemic disease in my herd. The disease is that known as ‘Pleuro-pneumonia,’ and I have already lost seventeen head, and have ten more very sick. I am using every precaution to prevent the disease from spreading, and you will of course see the propriety of my refusing to allow any animal to leave the farm until the infection has ceased.”

“It is manifest,” Mr. C. continues, “that the means used to prevent the spread of the distemper have so far proved eminently successful, inasmuch as, notwithstanding I have lost some thirty animals—nearly half of my whole herd—there has not been a single case of the disease elsewhere in the neighborhood of my farm.”

But Mr. Chenery had in July, 1859, sold three calves (two heifers and one bull) half Dutch and half Ayrshire, of his old stock, to a young farmer, named Curtis Stoddard, in North Brookfield, Mass. Stoddard owned a large herd of cattle, and was in the habit of trading largely in them, and from this source the disease spread in all directions. We learn from a statement of the Hon. Amasa Walker, published lately in the *Homestead*, that in August last one of the calves purchased from Mr. Chenery by Young Stoddard was taken sick.

“His father took the calf home to his farm to nurse. It grew worse, and so it was taken back. The herd of the elder Stoddard became sick, and some died. Some of the younger Stoddard's cattle died, but no excitement was caused up to the 11th of February, when it was found that the disease was contagious. Mr. Feedleham, at whose place Stoddard put up, when drawing wood from Braintree, discovered it in his herd. A Mr. Olmstead bought cattle from Stoddard; his cattle died in January. Some other herds were taken sick, and all were traced to some connection with the Stoddard's herds.

“Last November, young Stoddard had an auction of his herd, which were chiefly heifers. They were sold two or three to a place. The disease began to attract serious attention, and to be investigated in February, and on the 23rd, he, (Mr. Walker,) drew up a petition, and his brother took it, after getting numerous signatures, to the legislature. The subject was for five weeks fooled with; a resolution, worse than nothing, proposed, amended, tabled, etc., and up to the 2nd of April, nothing was done. Then the law was passed, under which the

Commissioners now act. It contemplates only the check of the disease by slaughter of the animals, and gives power to accomplish only this. It takes a long time to get an idea into the comprehension of common people. So the farmers teamed and travelled, and the cattle came greatly in contact with each other.

"To recur again to one of the chief causes of the spread of the disease: On the 7th of December, a house was moved by twenty-three yoke of cattle belonging to thirteen different herds—one yoke came from Stoddard's—one recently sold by the elder Stoddard, every one of these twenty-three then took the disease. Every case can be traced to Curtis Stoddard's stock.

"One of Stoddard's heifers was bought by a Mr. Tucker, he kept it a while and sold it to a North Brookfield man; the animal went to 'Ragged Hall,' and was afterwards bought by Mr. Bowen, in Sturbridge, three miles from the Connecticut line. He sold it to a man on 'Coy's Hill,' Mr. Gleason, and poisoned all of his neighbor's herds. Bowen sold and exchanged others of his stock, seven to ten, in Sturbridge. The original heifer was killed last Saturday, and it was found that this animal *was getting well!* The lung was attached to the diaphragm; the pleura, the pericardium, and the lobes of the lungs had run together, and were healing. This is the only case yet discovered where it was pretty evident that nature, by a great effort, was going to heal the lungs, and the animal would become comparatively sound, after poisoning 200 or 300 head."

The Massachusetts Legislature took up the question in March, and on the 4th April passed a law providing for the appointment of three commissioners to visit herds where the disease was known or suspected to exist, and with power to cause all the animals in such herds to be forthwith killed and buried, and the premises where they had been kept to be purified. All the cattle in such herds not appearing to be infected, were to be appraised before being killed, at the fair market value, and the amount paid to the owners. Any person disregarding orders of the Commissioners, or selling an animal suspected to be infected to be subject to a fine not exceeding \$500. The amount appropriated to carry out the provisions of the Act was \$10,000. The Commissioners appointed

were Paoli Iathrop, of South Hadley, Richard S. Fay, of Lynn, and Amasa Walker, of North Brookfield. They proceeded with their work energetically, and soon expended the sum placed at their disposal. They were then assisted by a guarantee fund raised by subscription.

The following sketch of their proceedings for the first few days, from the *Rural New Yorker*, may be taken as a type of the whole:—

"The first place visited was North Brookfield, in which neighborhood are some twelve or fifteen stock-owners whose herds number about one hundred and fifty head of choice cattle. The disease, in greater or less development, was believed to be among them all. The Commissioners were accompanied by several surgeons and cattle doctors from Worcester and Boston, and upon the farm receiving their earliest visitation, caused fourteen animals to be killed that they might trace the progress and character of disease in all its stages. A cow that died the night before the Commissioners arrived was examined, and both her lungs were a mass of frothy, cheesy corruption. One cow that was taken so long ago as the 1st of January, and seemed to be recovering, appearing bright and healthy, was slaughtered. The left lobe of the lungs was sound, but from the right was taken a mass of pus, looking like rotten cheese, of more than a pint in measurement. She might possibly have thrown off the disease and lived, had she not been killed. Another cow in the same herd, and showing stronger signs of the disease, had similar, but a greater amount of pus in the lungs, and with it a large amount of watery fluid. An ox that looked bright and well, and ate and chewed his cud as if in a healthy condition, was among the slain, and one of his lungs was a mass of corruption. Another singular case was that of a cow that calved some ten days ago; one lung was healthy, but in the other the disease was developing itself in scattered balls, or masses of pus, looking like liver on the outside, but on cutting, like rotten cheese; and her calf was found to have the disease in precisely a similar stage. A calf, nearly a year old, that was brought from Mr. Chenery's herd in Belmont at the same time with the calf to which the whole disease is traced back, was also among the animals killed by the Commissioners, and it was found to have the disease only in the very earliest stages.

On the day following, the stock belong-

ing to C. P. Huntington, where there were some "bad cases," had an examination. Mr. Huntington had previously lost eleven cows by pneumonia, and the Committee killed three more, diminishing his stock to eleven head. Dr. Bates immediately entered the stable and began the laborious process of examination by percussion, while the appraisers estimated the value of the stock. Two cows were found diseased, and the rest had been so much exposed to infection, that it was decided to kill them also. In the first one examined, they found a strong adhesion of the lungs to the diaphragm, and acute disease of the right lung. The second case also exhibited adhesion, accompanied by indurated lung tissue, and sloughing of the left lung. Cases were observed in the course of the day where the sloughing business had proceeded so far that there was very little healthy lung left. And yet, so insidious is the progress of the disease, that the farmer stoutly declares his cow has never been sick, and will not be convinced that there is anything the matter with her till the proof is laid before his eyes.

From North Brookfield the Commissioners proceeded to New Braintree and visited the farm of Alden W. Woodis. At this point the medical force was much increased. The disease was introduced upon the farm of Mr. W., by the temporary presence of an ox, from the "Stoddard" farm, Mr. Stoddard having purchased cattle from Mr. Chenery, at Belmont, who imported the infected stock. The disease being revealed, eighteen head, the entire herd of Mr. Woodis, were slaughtered and buried.

The next farm visited was that of Chas. Needham, also in New Braintree, where the Committee had three cows killed before. Mr. Needham had exchanged cattle with Curtis Stoddard. The doctors found a great deal of water in the left chest of the third cow examined, and only a few healthy spots in the lung. Twenty-eight cattle were killed, completely emptying the barn.

Following that of Mr. Needham came the farm of Leonard Stoddard. The doctors made their examination, and every hoof in the barn, numbering forty-nine, including ten pairs of fine oxen, was condemned to die in the morning. Next in order came the stables of W. W. Chenery, whose residence is in Belmont. It is several months since Mr. C. lost an animal, and he felt quite confident that the malady had entirely left his herd. To render assurance doubly sure, three cattle were chosen for the knife, one a cow that had been sick, but was deemed nearly well, with two heifers, one

having shown no signs of disease and the other but slight, such as were indicated by a slight cough, and they all proved to be diseased—one of the lungs of one of the heifers being filled with pus. After an examination of the animals slaughtered, the Commissioners returned to the barn and submitted the entire herd to a professional inspection. The stock consists of about forty head, and all but three or four proved diseased, some of them very bad—the symptoms and indications of the disease being unmistakable. The mode of examination was by sounding the chest of an animal over the lungs, by slight raps—the tone of the resonance, or reverberation of the sound thereof being the test.

Cases similar to the foregoing, might be multiplied did space permit."

Before the end of April about 400 head of cattle in North Brookfield were said to be infected with the disease. It was found to extend over a greater area, and to be more formidable than the commissioners had anticipated. Still they hoped to be able to extirpate it if afforded sufficient money assistance. At that time the disease was confined to a territory about 12 miles square, a territory abounding in cattle. In a memorial of the commissioners, asking for further aid, addressed to the State Board of Agriculture and dated May 16th, they say:—

"In spite of all obstacles, the Commissioners have not hesitated to go to the fullest extent of their powers in the discharge of their duty. They have placed an injunction on every suspected herd. They have destroyed all that gave the slightest appearance of disease, from the poor man's single cow, to the large and choice collections of the most extensive farmers. They have explored every spot which has been brought to their notice as having been in any way exposed, and have endeavoured to ascertain the limits beyond which it seems impossible that the disease can have progressed.

The central point of the infected district, it is well known, is North Brookfield, the farm of Leonard Stoddard, into which the disease was thoughtlessly and innocently introduced, and from which it has been carelessly allowed to go out. Around this spot the destruction is complete; but few animals, indeed, being left in the unfortunate town. The disease has been discovered in the north, in those parts of new Brain-

tree, Oakham and Rutland lying contiguous to North Brookfield; on the east, in Spencer; on the south, in Brookfield and Sturbridge; and on the west, in West Brookfield, Ware and Warren. It is believed that the precise course and extent of the disease have been explored in each of these towns.

The number of persons whose cattle have been condemned or destroyed, is 75. The number of animals already marked or killed, is 750.

The Commissioners wish they could assure the Board of Agriculture and the community that their work will end here. But they cannot. The fire that is wasting prairie and forest may apparently be quenched for a time; and it is only when, on the distant horizon, its terrific work is painted, and heaven and earth seems all ablaze, that the insidious and appalling power of the elusive element comes home to the heart of its pursuers.

This is not the time nor the place to enter into an investigation of the history and character of the disease—that, it is hoped, may be done hereafter. But it is important that the public should know and appreciate the full extent of the contagion. That the disease is peculiar to itself there can be no doubt whatever. The name, Pleuro-Pneumonia, which has been applied to it, and which in its ordinary acceptation signifies inflammation occupying the pleura and lung at the same time, does not by any means indicate its true character. The inflammatory stage of the disease is hardly perceptible. But throughout the substance of the lungs, and in the membrane covering them and lining the cavity of the chest, there seems to have been diffused a morbid poison, under the influence of which the vitality of the parts is threatened with speedy destruction. The contagion is inevitable. Wherever an animal has been exposed, in that animal the disease is sure to be found. Every creature that went out from Leonard Stoddart's herd carried the malady with him, and imparted it wherever he went. In no case has an animal been examined on account of its history, that the disease has not been found in a greater or less degree. In whatever herd the disease exists, the animal that carried it there can be pointed out, and his exposure traced back to that wretched calf that went from Belmont to North Brookfield. The disease is not epidemic. It is not found except as the result of contagion. It has broken out in no spot without a known and well-authenticated cause. But it passes from animal to animal in its deadly career, marking every victim

that comes within its fatal grasp as surely as the water of Tofana or the poison of Brinvilliers.

To keep the plague within its present limits, and to draw a cordon around the infected district, now the great object of the Commissioners—a work which the nature of the disease renders practicable, and which nothing but public apathy and inaction will prevent."

An extra session of the Massachusetts legislature was held in the beginning of the present month, for the special purpose of taking up the consideration of the subject. The Governor, in his message on the opening of the session, says:—

"A detailed report of the operations of the Commissioners under the statute is herewith communicated to the Legislature. It appears that all suspected herds have been examined, and many cattle have been isolated by order of the Commissioners. 842 have been slaughtered, for which compensation has been allowed by the Commissioners to the amount of \$20,432 83.

"The appropriation of \$10,000 made by the Legislature was very soon exhausted. The labours of the Commissioners would have been at once brought to a close; but the distemper continuing to spread, and the public mind becoming more excited in the districts where its ravages were chiefly confined, and where it seriously affected and seemed to threaten the destruction of the principal occupation and support of the people, many generous and public spirited citizens representing different business interests, voluntarily subscribed to a fund to continue the work, notwithstanding the failure of the appropriation, and to guarantee all parties concerned against loss, in case the Legislature should fail to recognize and provide for the unauthorized expenditure of money.

"Subscriptions to nearly the amount of \$—were at once made, and the Commissioners, under the protection of this guarantee, made some further progress, but the disease had spread over a much larger territory than was at first supposed. More definite instructions on the part of the Legislature were desired as to the course to be pursued. It was believed that more stringent regulations than those allowed by the act of April 4, 1859, were required, and additional appropriations from the treasury would be indispensable.

"On the 18th of May the Commissioners made a formal request that an extra ses-

sion of the Legislature should be called.— This request was supported by a petition of a committee of the State Board of Agriculture, by several members of the Board, and by many influential and honorable citizens of different parts of the Commonwealth. On the 24th day of May the proclamation was issued for a session of the Legislature for the consideration of this special subject.

"Two considerations alone have impelled me, with very great reluctance, to summon the members of the two Houses from their homes at this season of the year. The first has reference to the importance of the interest involved. It is not a disaster affecting Massachusetts or New England alone. If the contagion is allowed to spread without effort to extirpate or restrain it, ultimately it must ravage the whole country. The neat cattle in the United States in 1850 numbered 18,378,000. Estimating the number at the present time upon this basis, by adding 20 per cent. to the number as the natural increase in ten years, it will now exceed 22,000,000.

"The number of milch cows returned in the census bureau for 1850 was over six millions, and the number of working oxen was nearly a million and three quarters.— The value of butter, cheese, and milk not used for butter and cheese, returned in 1850, as a portion of the agricultural product, according to the estimate of Prof. Tucker, exceeded eighty million dollars. To this must be added an equal sum as the value of cattle slaughtered for the market; and the value of the labor of nearly a million yoke of working oxen at the present time, estimating their labor for a year at \$20 per yoke, and the aggregate value of this yearly product exceeds one hundred and eighty million dollars.

"There is but one agricultural product of equal importance—that of Indian corn. To the aggregate thus stated must be added the value of the cattle themselves, which, estimated at \$20 per head, amounts to nearly \$370,000,000. Upon the basis of the census of 1850, this interest involved a value of products and property equal to \$400,000,000. The average increase in ten years may be safely estimated at 20 per centum, and this would make the same values equal for the present year to \$540,000,000.

"But these figures very imperfectly represent the interest of the American people in this gigantic industrial product. How far it enters into the employment of the great majority of persons, how many mil-

lions are dependent upon it for the luxuries and necessities of life, to what extent it contributes indirectly to public health and enjoyment, and how large a part its forms of the sound and valuable business of the country, are considerations which naturally occur to the mind of every intelligent person.

"If we could confine the ravages of this fatal distemper so unfortunately deposited upon our shores, to our own State, it would still be of sufficient importance to demand the earnest attention of the people. But unless extirpated on the instant when it appears, it cannot be so confined. If it spread over our own territory, it must ravage other States, and it becomes a duty of the highest character, one which we owe alike to ourselves and to the people of the whole country, to make every available and possible effort to restrain its ravages, if extirpation is impossible."

The Governor then proceeds to recommend various amendments to the Act of April 4th, and suggests the propriety of a thoroughly scientific investigation of the disease.

The subject has also engaged the attention of the United States Congress, and a committee has been appointed to procure information in relation to it.

Dr. Dadd, Veterinary Surgeon, and one of the editors of the *American Stock Journal*, assisted the Commissioners in the discharge of their duties, and describes the symptoms of the disease as follows:—

"The old saying is that 'in dry times all signs fail,' so it is with exudative pleuropneumonia, when it assumes a mild form; when it first appeared at Belmont, and afterwards at North Brookfield, it was in the acute form, and in spite of all treatment run a rapid course; its symptoms were then somewhat uniform—for example, it was ushered in by a short, dry, husky cough, and the animal on being urged to move showed symptoms of distress; the respirations were accelerated; the pulse quick and wiry; the animal dull and listless; the bowels constipated; the milk decreased in quantity and of a yellow tinge, and the appetite not so good as usual.

Now the disease has assumed a milder form, being modified by passing through the systems of various herds, consequently the 'signs fail,' yet let the disease be in ever so mild a form the creature shows unthriftiness, appears dull and has a languid

look; the hair in some parts of the body stands on end; the respirations are quickened, as well as the pulse; yet the appetite is not impaired, in fact there is no complaint made about an animal's appetite except when the disease commences in the form of pleurisy, in which case very little food is eaten, and if the animal be pressed in the spaces between the ribs it shows signs of pain. It will generally be found that in the acute stage there is considerable tenderness all along the spine, and the moment a person's hand is placed in that vicinity the affected creature will shrink. The horns and extremities are alternately hot and cold; urine dark colored and scanty; fæces darker than usual. Yet when the disease takes on the incipient form, the work of destruction goes on in so mild a manner that it eludes detection, until auscultation or percussion reveals it."

THE CURCULIO.

Every one knows that it is with great difficulty that a good crop of plums, at one time so easily and plentifully produced, can now be obtained in almost any part of Western Canada, owing to the ravages of the Curculio.

So soon as the fruit is fairly set—while the trees are yet in blossom—the curculio commences its attacks by making a crescent-shaped wound in the fruit, into which it deposits one or two eggs.

These eggs soon hatch into small grubs, which eat the pulp and seed, and soon cause the fruit to drop off from the tree. The grub now crawls out of the decayed fallen fruit, and burrows in the ground, where it soon passes through another transformation, and comes out another curculio to follow up the work of devastation and death that was commenced by the parent.

These insects continue to prey upon the fruit all through the season—there being this difference, that when the fruit approaches maturity and the stone or pit becomes hard, the injury done does not cause the premature fall of the fruit, but the ripened fruit will be much injured by the working of the grub inside of the delicious pulp.

We have seen many remedies proposed for the mischief, but the only really reliable one yet discovered appears to be that of shaking the insect off the tree, and despatching him there and then.

The curculio will, if surprised by a sudden jar or the like, instantly curl up his legs and fall as if dead, and thus he will remain for some time like an inanimate speck of dust. In order, therefore, to dislodge him from your trees, lay a sheet or other cloth under the tree, and with a mallet or hammer, covered with cloth to prevent bruising the bark, give sudden raps upon the limb so as to jar it, when the little rascal, true to instinct, will curl up and fall upon the cloth, from which he may be taken and crushed between the forefinger and thumb, or thrown into a vessel of hot water, or into the fire.

There are several contrivances recommended for facilitating the work of catching the animal. One is that of a large umbrella, made expressly for the purpose, with a slit in one side to admit the trunk of the tree. This is placed under the tree in an inverted position, when the tree is jarred, and the umbrella then immediately closed, by which the insects which have been shaken down, are all collected in the top of the umbrella, and emptied into the vessel of hot water. Another plan is to have a pair of large sheets stretched upon frames, and connected at the centre and one end by hinges. These are placed under the tree and used in nearly the same way as the umbrella, being closed quickly after the jarring, and the insects thus readily collected together and destroyed. But probably for a few trees the simple sheet, or two or three of them, are quite as good as any more complicated contrivance. The work should be done every morning, from the time of the setting of the fruit, and persevered in faithfully for at least six weeks. This may seem a great deal of trouble, but it does not take much time, and we do not think that any one would consider his labor thrown away when he found himself rewarded in autumn, with a plentiful crop of sound delicious plums. We know of no other plan by which that result can be depended upon where the curculio is established.

A correspondent of the *Michigan Farmer* writes on this subject as follows:—

"One thing more in regard to raising plums. I have raised a good crop of plums

annually. I tried a number of modes, and do not know in which I have succeeded. I usually put my leached ashes around my trees, and in the spring I wash them in strong brine and let it run down well around the roots of the trees. And as soon as the brine dries off, whitewash them well. And about the time the plums set, tie a cloth around the body of the tree to form a ring, and keep it well wet with soft soap. The ring of soap is merely to keep any curculio or other insect from going up the tree. Then shake or jar the tree thoroughly two or three times a week early in the morning, until the plums are half or two-thirds grown. In that way I have always succeeded in raising choice plums without injuring my trees."

AGRICULTURAL STATISTICS.

We gave some extracts in our last issue from Mr. Hutton's valuable Report to the Legislature of the returns received from Counties in reply to the Circulars of Agricultural queries sent out. We cannot of course place strict confidence in the correctness of the averages given. The number of returns received is too few. With the best intentions, and the most faithful painstaking, the judgment of one or two, or half a dozen individuals in a large county, could scarcely be depended upon to furnish a very close estimate of the average crop. Still, the returns may be considered as affording a probable approximation to the truth. We should think the averages on the whole somewhat overstated, but the great superiority of the crop over that of the preceding year, except in a very few localities, is readily admitted by all. These returns are highly interesting, as placing before the reader in a condensed form, the producing capabilities of the different parts of the country, together with the difficulties which have to be contended with in each. Statistics of this sort are of great value, in many respects, and it is to be regretted that so few persons are to be found who will take sufficient interest in the matter to furnish the information required. As Mr. Hutton remarks:—

"Every means should be taken to convince all classes in the Province that the Census enquiries have no reference to taxation whatever, but are merely to ascertain the true state of the Provincial wealth, so as to record the progress of the Colony, and, at all times, to compare her present with what has been her former and what may be her future position, and also her relative position as compared with other countries.

"People are slow to see that questions relative to themselves and their households can have any bearing on the general good, and forget that in accounts of large numbers the individual is wholly lost sight of in the average; but that the average can only be ascertained by an accurate knowledge of all that pertains to the individual."

We give some further extracts from the Report below:—

FLAX.

In Canada the soil and climate are both suited for this crop, and there is abundance of water to allow of it being water-rotted, which is much superior to dew-rotting and produces much better quality of flax. Full particulars of method of cultivation and process of steeping were furnished to the Board of Agriculture in Toronto by this Department, and are to be found in the Canadian Agriculturist of February and March, 1860.

The Returns in Lower Canada all report that the cultivation of this crop is not on the increase. A very little is grown by many, and manufactured entirely by the hand for domestic use. There is no machinery for scutching or dressing; one returns the produce as 200 lbs. of Flax and 600 lbs. of seed per acre; another gives 125 lbs. of prepared Flax and 12 bushels per acre of seed; another gives 150 lbs. of Flax and 9 bushels of seed per acre. This crop would be a very profitable one if machinery was available for scutching and preparing; and it would be well for Agricultural Societies to offer a handsome premium for the introduction of a moveable machine for rendering the crop marketable.

It is stated that 60 tons of Flax were prepared this last season in the County of Waterloo, and about 6,000 bushels of Flax Seed produced there. The value has not yet been fully ascertained, but Flax is now worth, in England, from \$300 to \$350 per ton. Mr. Hespeler, it is said, is about to erect a mill in this County. A portion of a letter addressed to the "Free Press," by Mr. Godfrey of Delaware, is subjoined. He says:—

"Had I been sure of obtaining a sufficient quantity of Flax for the English market, I as well as other agents in the Colony, could have obtained orders to some thousands of tons. The price is now from £60 to £70, sterling, per ton in England. I have seen some specimens of growing Flax, unfortunately in but small patches, equal to that grown in Ireland or on the Continent. I intend to forward samples of the Lint to my mercantile friends in England, and would invite growers to send some specimens to me—P. O. Lambeth, late Junction, Westminster, near London, C.W."

SHEEP.

The whole 72 Reports from Upper Canada are unanimous in stating that the numbers of Sheep kept is very much increased, and that both fleeces and carcasses are heavier than in 1851, and, with 10 exceptions, approving of the Cotswolds; 4 are in favor of Southdowns, and 2 in favor of Merinos and Cheviots. All recommend the Leicester Sheep as being very profitable. The actual weight of carcass is given per quarter as 17 lbs., and that of fleece 4 lbs. 8 oz. The number kept on each 100 acres varies from 20 to 40—one only stating the number at 16, and one making it 70. The average (not including these) is 26 for every 100 acres, which must be understood to refer to old and long cultivated farms, and the queries having been sent to the most prominent farmers in each county. According to the census of 1852, there were 10 Sheep to every 100 acres of occupied land in Upper Canada, and the weight of fleece was only 2 lbs. 18 oz.; so that the improvement in the number and quality of Sheep must be very considerable. Taking the number of Sheep to bear the same proportion to the population that they did in 1852, viz: 9 Sheep for every 10 inhabitants, and calculating the average weight of fleece at 3½ lbs. for all Canada, we would have 2,592,000 Sheep, and 9,072,000 lbs. of Wool, as the produce of this last year, a very important item in raw material for Canadian manufacturers, if it were retained in the Colony. But the Trade Returns of 1858 show an export to the United States of 1,545,412 lbs. at 22½ cents per lb., against an import of 221,624 lbs. at 20½ cents; and the Returns of 1859 show an export of 1,630,531 lbs. against an import of 121,930 lbs. In round numbers our net export of Wool was 1,500,000 of lbs., whilst the export of the United States was only 951,938 lbs., shewing how much more extensive must be their home manufacture of this important staple. The Official Re-

turns of the United States, taken from the Journal of the Society of Arts, show that the whole Union possessed in 1859, 30,000,000 of Sheep and 75,000,000 lbs. of Wool, making the average 2½ lbs. per fleece,—very many of their Sheep being Merinoes, will account for this low estimate of the weight of fleece.

Several new woollen factories have been established in Canada within the last year, and the home manufacture of Woollen Goods will, without doubt, continue to increase to a great extent. The average price of Wool given in the Returns is 24 cents per lb., and it may be of importance to know that the supply is so large as to induce others to embark in the manufacture of Woollen Fabrics. Upper and Lower Canada are both specially adapted to the growth of Wool. The climate is very similar to that of Switzerland, where large flocks of Sheep are successfully kept with fair remuneration.

In Lower Canada the Returns show a very great improvement, both in the quality of Sheep and weight of fleece, and also in the number kept on each occupied 100 acres. Five farmers report as many as 30—one 27—four report 25, and the rest from 11 to 20; and the weight of fleece is given from 2 to 7 lbs., averaging on all the returns the large weight of 4 lbs. to the fleece. I have, however, taken 3½ lb. as the general average.

Correspondence.

THE TORONTO NURSERIES AND GRAPES.

To the Editors of the Agriculturist.

Having occasion lately to visit some of the nurseries about Toronto, it may not be amiss for me to drop a hint or two upon some points not unseasonable at the present time. Leaving home at half-past 3, a. m., by the early train, I arrived at the nursery of Mr. Leslie a little after five. As gardeners never sleep after sunrise, I felt sure of finding Mr. L. about his premises even then. It happened, however, that he was in the farther part of his grounds, and thus I was left to take a quiet stroll through them. Be sure that it was an hour of exquisite enjoyment. The sun had risen—not in fiery splendor, betokening a burning day, but with that mild radiance, very common at this season. The air was soft and balmy, and so reviving; the trees laden with blossoms, filled the air with their delightful fragrance, and the numerous birds

carolled their morning hymns, and evidenced their pleasure in skipping from branch to branch; the cherry-bird was busy feasting; the robin engaged in song, and the humming-bird in extracting his honied morning meal, as he visits flower after flower. Altogether, the scene was one which could not fail to freshen and delight. But when the sweet music of the distant bells, ringing their morning peal, at last broke softly on the ear, the cup of innocent and purest enjoyment seemed full. I could not but think how common might be scenes like these, in this highly favored land, if the proprietors of farms were not as content as in the main they are, with houses (so called) almost bare of tree, shrub or flower, but would venture on a little expense and some trouble. What homes of peace,—what scenes of quiet beauty might be not as now, so rare, but common. But, said one to me when urging him to plant a few trees to relieve the nakedness of his dwelling, "We had ado enow, and trouble enow to get them down." And so it must be left for the rising generation to do what the passing one is averse to. Yet in passing, let us do honor to the men who, by their courageous toil, have prepared the way for converting the wilderness into the fruitful field, and the wild waste of nature into a garden. It remains for us to complete their work. Two or three acres of grass, a few ornamental trees and shrubs would create a wondrous change in the appearance of many a place now so bare. Or if the merely ornamental be eschewed by the working farmer, those which combine the profitable with the ornamental may be chosen. Take, for instance, some of the choice kinds of cherries, the Bigarreaus and the Black Hearts,—these form trees vigorous, erect and beautiful. The gray bark too, of some would afford pleasing contrasts,—and as to the fruit, who needs to be told what a choice morsel a Yellow Spanish, or Cleveland Bigarreau, or Tradescant Black Heart Cherry is? I observed that Mr. L. has a large assortment of ornamental trees. Having inspected the grounds and propagating houses—not forgetting the grape-vines in pots, of which I shall say more presently, I left and proceeded to the young nursery of Mr. J. Gray, on the opposite side of the city; and here, at the very entrance, I was met with striking proofs of Mr. G's skill in pruning the dwarf pear. Some of the trees were pyramids of beauty—most pleasing pictures, from six to eight feet in height, admirably trained, they were one mass of blossom. I could not but wonder that some about the

city had not coveted these real treasures. It would be difficult to price them too highly. Mr. G. has a large stock of pears dwarfed upon the quince, in the pruning and training of which he bestows great pains and evidently understands the matter. My time being nearly expired, I could not inspect his vines. Of these he has a fine lot, and it is these, and those Dianas at Mr. Leslie's, which have been my chief motive in penning this communication. Many are regretting that they have allowed the season to pass without planting a vine or two; but it is an omission which it is not too late yet to supply. Any of those vines in pots, may now be turned out, and a good growth obtained. The White and Dutch Sweet water, the Pitmaston White Cluster and Royal Muscadine, are good for the open air in sheltered spots. And very fine plants of these Mr. Gray has grown from eyes of this Spring's setting. And no doubt it will be deemed a kindness by many of your readers to be told where to get such things at a small price. The Diana, of which as I before remarked, Mr. Leslie has a good supply, is no doubt, taking all things into consideration, the very best hardy grape we have. Bissel of Rochester says, that in six years it has never been injured by frost. It is very hardy and ripens much earlier than the Isabella. It is a very beautiful grape. The bunches are regularly conic in form, large, very compact and heavy. The color is a fine reddish lilac, thickly covered with bloom. The fruit, when fully ripe, abounds in fine rich juice, vinous and aromatic. The vine is exceedingly productive and vigorous. Mr. Charles Downing says, "Its fine qualities will surprise those who have only been acquainted with the Isabella and Catawba." Lose no time then in planting. Procrastination is a great evil in gardening, as it is all things else.

JUNE, 1860.

CLERICS.

ON PIGS.

EDITORS AGRICULTURIST,—On looking over your publication for this month, I find an article on ringing Pigs which is very good, and it occurred to me I would write a few lines respecting the porcine tribe. I would draw the attention of our farmers to the fact that a great many hog find their way to market that have not been castrated till within a few weeks of being killed. This is very bad management, as the pork is very much depreciated in value and I cannot see that the farmer gains by

it in any way at all. I would also particularly recommend our farmers to have their sow pigs spayed. Those they do not intend to breed from will fatten much quicker, and I am sure make as good pork as a barrow pig. To prove the truth of my remarks I need only refer you to England where every pig is castrated at a very early day, except those they intend to breed from. My first suggestion needs no comment, it commends itself to every one possessing common sense.

A SUBSCRIBER.

Toronto, June 1860.

THE CROPS ABOUT COBOURG.

[The letter from which we make the following extracts came to hand too late for our last issue.]

EDITORS AGRICULTURIST, — Our crops have been got all in in excellent condition. Indeed I think I never saw the ground in better order than it has been this spring. All spring crops are looking well. The fine rains of last week were very beneficial. There is little fall wheat around here, and on the back parts of the Township much had to be ploughed up and the ground sown with spring wheat.

Our early sown carrots and mangels are coming up. Turnips not sown yet. Large quantities of newly seeded clover had to be ploughed up, as the seeds were winter killed, so that hay will not be a large crop, even if what is left should turn out well.

I have much pleasure in noticing your great improvement in the punctual coming out of the *Agriculturist*. I have no doubt that it will be greatly for the interest of the paper. I have so often complained on this point that it gives me the more pleasure to notice the change for the better.

I may notice, as a mark of the goodness of the spring, that I had some rye fairly sowed out on the 17th of May. It was from some seed that had been amongst the Kentucky seed wheat I got last fall.

Cobourg, May 28, 1860.

ONION MAGGOTS.

To the Editor of the *Agriculturist*.

Are you aware of any remedy against ravages of the above pests. I have several beds of fine young onions that are gradually yielding up the ghost under their deadly attack. Last year I suffered in similar manner, as did hundreds of others in this locality. We have tried salt, soot,

and lime, but to no purpose. If you can furnish a remedy you will ensure the gratitude of a large number of your subscribers.

W. ELLIS.

Prescott, June, 1850.

[The remedy for the onion maggot is to sow the onions upon rich stiff clay soil. There is no other that we know of that can be depended upon. There is no nostrum or specific sufficiently powerful to kill the maggot that would not destroy the onions also. In a strong clay soil the fly cannot get under the root of the onion to effect the mischief as it can in sandy or loamy soil. If clay soil cannot be had, select the strongest soil available, and tramp it down as hard as possible before sowing. We are assured by experienced gardeners in this city that after they have found it useless to attempt growing onions on their light soils on account of the attacks of the maggot, they have succeeded perfectly on the strong clay soils.]

ALSIKE CLOVER.

MR. EDITOR, — Will you or some of your correspondents inform me what is the proper time to cut Alsike Clover, if intended for seed; and also the time when intended for hay?

W. A. C.

Ancaster, June, 1860.

Agricultural Intelligence.

LOWER CANADA EXHIBITION. — We learn from the *Montreal Farmers' Journal* that the Board of Agriculture of Lower Canada have decided to hold their exhibition for this year at Quebec. The following resolutions were adopted by the Board at a recent meeting: —

“That the Board of Agriculture after having taken into consideration the propositions of the Board of Arts and Manufactures relative to the holding of a Provincial Agricultural and Industrial Exhibition at Montreal, at the occasion of the visit of the Prince Royal, are of opinion that the ground is not convenient and proper for the arrangements of the Agricultural Exhibition in contemplation. Considering besides, the offers of the Board of Arts burdensome to the Board of Agriculture, they feel that they will be unable to cooperate in the approaching Exhibition with the Board of Arts and Manufactures.

“That considering the inability of the committee to come to an arrangement with

the Board of Arts for the holding of the approaching Exhibition, this Board accepts the offers of the Corporation of Quebec for holding there a Provincial Agricultural Exhibition on the occasion of the visit of the Prince Royal.

TORNADO.—A fearful tornado swept over portions of the township of King and Whitechurch on the 25th May last, demolishing or greatly damaging a large number of dwelling houses, barns and other farm buildings; also doing great injury to the timbered lands. Mr. St. George, residing in Whitechurch, sustained damages to his buildings estimated at \$2500. A very destructive tornado took place in the Western States about the same time, causing great loss of life, and damage to property. It is somewhat singular that these terrific bursts of wind have occurred for several years at about the same date.

EUROPEAN AGRICULTURAL EXHIBITIONS.—The great French National Agricultural Exhibition will be held this year in Paris, June 17th to 23d. The Royal Agricultural Society of England, at Canterbury, July 9th to 12th. The Royal Agricultural Improvement Society of Ireland, at Cork, July 25th to 27th. The Highland and Agricultural Society of Scotland, at Dumfries, August 1st to 3rd.

Horticultural.

The Horticultural Societies have opened their Exhibition season very successfully this year. The Hamilton Society held their show on the Queen's Birthday. It was a benefit exhibition, intended to relieve the Society from some financial encumbrances, the prizes being mere honorary awards. The gardeners and amateurs contributed of their products very spiritedly, to make up the show, and as the public patronized it liberally, there was quite a handsome amount realized, which will assist the Society materially in their operations. The show was particularly strong in fuchsias and geraniums, some of the former being of the extraordinary height of fourteen feet, covered with flowers from base to summit, and some of the latter four feet through, so trained as completely to conceal the pots, and presenting a magnificent mass of foliage and flowers. There

was a good general show, although not a very great variety, of other sorts of flowers, and considering the earliness of the season a fair display of vegetables. In Toronto, on the 7th inst., the general display was better than ever before at the Spring show, particularly in flowers. Although particular specimens of fuchsias or geraniums were not so imposing as at Hamilton, there was a greater variety and a larger number of rare plants. The specimens of fuchsias, geraniums and hybrid perpetual roses were numerous and very fine, and there was a good collection of hardy flowering shrubs. The show of vegetables and fruit was good for the season but not very large. There were a few specimens of winter apples, good of the kind, but not well kept. The exhibitors might with advantage take a hint from some of the fruit stalls in our streets, where we can any day buy apples in a much better state of preservation. We must, however, ever make allowance for the very bad fall season of last year; otherwise no doubt the exhibition would have been much larger and better in this respect. Some remarks were made by speakers at the Toronto show which we cordially endorse, to the effect that farmers would derive much benefit from a greatly increased attention to the study and practice of horticulture in addition to their agricultural operations. Nothing would do more to soften and relax and render agreeable the too often somewhat hard and unattractive surroundings of the farm house.

We confine our memoranda this number chiefly to the Flower and Ornamental department of the garden. The *Garden Monthly*, published at Philadelphia Thos. Meehan, gives us the following leading hints:—

“June, the month of Roses, has arrived, the preparations of the past months ought to be now bearing their vest of enjoyment to the proprietor. To return to the Rose—the queen, or empress, or rather the most perfect; true woman of all flowers—no care

can be bestowed upon it will be a fair recompense for its matchless beauty and loveliness. The Summer or June Roses are not so much cultivated since the many fine kinds of perpetuals have come into existence; but these, in order to derive from them all the beauty they are capable of affording, must have a special treatment. As soon as the first flowers are fairly faded, they should be cut off several buds below the flower; from the shoots which will then be encouraged to push from the remaining buds a very free bloom will be received some weeks afterwards.

"Every opportunity will, of course, be taken to keep down the weeds. As soon as they are barely visible, the ground should be hoed over lightly, and the surface afterwards broken fine and smoothed over with the back of a small rake. This not only gives a neat and cared-for appearance to the flower beds; but the free admission of air, which a thorough pulverization of the surface-soil effects, is one of the best means of keeping the soil from drying out, and thus avoiding the necessity of frequent waterings, which, though they cannot at times be avoided, have always attendant disadvantages. Should soil so finely raked appear to "bake,"—that is, form a crust on the surface—after heavy rains, all you have to do is to hoe and rake it over again. It will be anything but labor lost on your flowers."

The following more detailed directions are from Saxton's American edition of the excellent little book "Every Lady her own Flower Gardener," and are quite applicable at this season:—

"Propagate carnations by layers and pipings. Propagate double sweet-williams and pinks by layers and cuttings, or slips.

Propagate perennial fibrous-rooted plants by cuttings of the stalks.

Transplant the large annuals from the seedling bed to the places where they are to remain. Let this be done in showery weather, if possible.

Water the delicate plants, if the weather proves dry: give a moderate watering every evening, but never in the heat of the day.

Sow yet some hardy annuals, such as ten-week stocks, virgin stock, &c.

Plant out China-asters, Chinese hollyhocks, ten-week stocks, large convolvulus, &c., but let each root have a ball of earth round it.

Examine the perennial and biennial plants, to cut off all dead, broken, or de-

caying shoots. Trim the African and French marigolds from their lower straggling shoots, that they may present a neat, upright appearance. Trim the chrysanthemums, which are apt to branch too near the root, and stake them neatly.

Place out carnations and pink seedlings into their proper places.

Keep everything just moderately moist, if there is a long drought in this month."

FLOWERING AND ORNAMENTAL SHRUBS.

—We take some general introductory remarks on shrubs, which are so necessary a complement of the well-stocked flower garden, from *Bridgeman's Young Gardener's Assistant*, and will furnish more detail and information on another occasion:

"Shrubs are so closely connected with flowering plants, and, indeed, so many of them are embellished with flowers, that they may be considered as essential to the completion of an ornamental garden. They are all Perennial, and are divided into two classes, deciduous and evergreen; the former lose their leaves in the winter, the latter only shed them when others are ready to supply their places.

"Shrubs are not only necessary to the embellishment of a flower garden, but many kinds are eligible for hedges to it, and may be planted at a trifling expense. These hedges should be frequently trimmed and trained, the sides cut even and the tops sparingly clipped, so as to make them ornamental as well as useful, and also to increase the vigour of their growth. When hedges become open or naked at the bottom, they should be plashed down; this is done by cutting the branches half through near the ground; they will then bend easily, and may be interwoven with the adjoining branches.

"When shrubs, creepers, or climbers, are planted against walls or trellises, either on account of their rarity, delicacy, or to conceal a rough fence, or other unsightly object, they require different modes of training; some attach themselves naturally as the Ivy, and merely require to be occasionally guided, so as to cause a regular distribution of their shoots; others must be treated like fruit trees, trained thinly, if blossoms are the object, and rather thick, if the intention be to show the foliage to the greatest possible advantage.

"Ornamental shrubs grow from one foot to twelve or more feet in height, and where each are planted for ornament, the height of each plant, when full grown,

should be considered, and also the mode of growth, that every one may be so planted as to show to advantage, observing that the tall-growing kinds should be planted in the back part of the borders, and those of low growth in front; but if they are required to be planted in clumps, they should be so arranged as to rise gradually from the sides to the middle, and be afterwards neatly trimmed.

"Skrabs require an annual pruning, at which time, cut out all irregular and superfluous branches, and head down such as require it, forming them into handsome bushes. Apply stakes to such as need support, and see that the low-growing ones do not injure each other, or interfere with other dwarfish plants near them." J. F.

ON THE CULTURE OF CELERY.—There is not a better and more wholesome vegetable in the garden than celery, and it is easily raised provided the plants are obtained early in the season. The seed should be sown on a moderate hot-bed in March, and to admit of it forming good roots, the depth of rich mould over the manure should be at least three inches. In order to have the plants strong and well furnished, they should be transplanted into a cold frame, and rich compost, after they have made six leaves, but as this process delays the growth of the plants considerably, it should not be resorted to except they have been started early. We have raised a thousand plants in a hot-bed from $\frac{1}{2}$ ounce of seed.

In order to produce celery of superior quality, a compost should be prepared in the beginning of spring, of rich swamp muck or leaf mould and the decayed manure of an old hot-bed or any other rich well-rotted dung. Celery is a marsh plant and delights in a light moory soil. When the plants are strong enough to put out, trenches should be dug at least one foot deeper, fifteen inches wide and five or six feet asunder, and nearly filled with this well prepared compost, a portion of the best of the soil which has been removed from the trench may be mixed with the compost, and the garden rake used to pulverise and prepare the place for the reception of the plants. In doing all this, the gardener should be careful not to tramp the compost in the trenches, he should stand in the intervals, and use a line to direct him in putting in the plants.

The best time for transplanting celery is when the ground is moist after a sunny shower, and the roots and tops should be shortened if they happen to be long and

straggling, when they have been transplanted before the final setting out, or raised very far apart in the bed, a transplanting trowel may be used, and a ball taken up with each plant. The best celery we have ever raised was planted between every second row of peas. The peas shaded the young plants from the sun, and when they were used up and removed, the drills of celery stood six feet asunder, and all the soil in the intervals was from time to time piled up around the plants in order to blanch them. It is not a good plan to keep them molded up very high while they are in a growing state. It is better to let them have a good start, and when they have grown to a large size, to apply a considerable quantity of mould at once, taking care that a moderately dry day is chosen for the operation, and that the leaves are all collected and kept close together. When the moulding is done while the soil is wet and clammy, the plants are apt to be injured by a kind of rust and also to be eaten by worms. We have raised celery in drills four feet asunder and the plants six inches apart in the drills, but if it is required to be very large, the drills must be farther asunder. We notice that a New York gardener professes to have discovered a method of making celery grow in winter.—*Boston Cultivator.*

Editorial Notices, &c.

TO COUNTY SOCIETIES.—Treasurers of County Societies who have not yet done so should now send in their affidavits of the amount of subscription in their hands to the Secretary of the Board of Agriculture Toronto, without delay, so that the proper proceedings may be taken to obtain the legislative grant.

OUR JULY NUMBER.—With our next number we shall introduce a slight alteration and improvement in the appearance of the *Agriculturist*. We shall widen the columns a little, by which the amount of reading matter in each number will be increased as much as 4 pages of the present size, although the difference will not appear nearly so much to the eye. At the same time we shall commence printing the Transactions in double column, the same as the journal, amalgamating the two dep-

ments of the paper in fact into one combined work, paged continuously. The Transactions have heretofore been printed as a separate work, for certain economic and other reasons, and the pages in the present number form the concluding pages of the Fourth Volume so printed separately. For the future we have decided that in the copies issued to subscribers it will be more convenient to embody the Journal and Transactions in the same pages, having no other separation than the distinction of different headings. A certain number of official copies of the Transactions will afterwards be worked off separately for binding.

The Number of 1st July, will therefore commence what may be called a new series of the *Agriculturist*, and it will make a very good point for new subscribers to commence from. The price of the paper from 1st July to the end of the year, 12 numbers of 32 pages each, in all equal to a volume of 384 pages, will be only 25 cts., and one additional copy will be given as a bonus with every eight ordered and paid for in advance, being 9 copies for \$2. This is certainly cheap enough for any one. We hope that our friends throughout the country will induce a large number of new subscribers to take the paper on trial for the half year.

TO SECRETARIES OF SOCIETIES.—We are obliged in the beginning of the year to make use of our list of officers of the Societies of last year in sending the free copies of the *Agriculturist*, and as we did not obtain complete lists of officers of the present year till recently, we have continued sending from the old list to the present time. With our next number, however, we shall commence sending from the lists of this year. There may perhaps be a few changes, which will be explained by a future note.

THE BOARD OF AGRICULTURE.—A meeting of the Board of Agriculture will be held in Hamilton on Tuesday, 19th inst., at noon, at the Royal Hotel, to make the necessary arrangements for the approaching Provincial Exhibition.

TRIAL OF REAPING AND MOWING MACHINES.—The West Riding of the County of Durham Agricultural Society will hold their usual Annual Trial of combined or separate Mowing and Reaping Machines this season. The Mowing will be done some time this month; we are not informed of the exact day, but due notice will be given. The Reaping Trial will take place as soon as the fields are ready, open to all machines manufactured in the Province. The object of these matches is not so much the amount of prizes, as to give farmers an opportunity of seeing the machines tested, many of them being desirous of purchasing. Further particulars can be obtained from the Secretary.

E. A. McNAUGHTON,
Newcastle.

BLACKWOOD'S EDINBURGH MAGAZINE FOR MAY, 1860.—New York: Leonard Scott & Co.; Toronto: H. Rowsell. This is a capital number of *Maga*. The articles are: War and Progress in China; Munich and its School of Christian Art; Capt. Speke's Adventures in Somali Land; Judicial Puzzles,—Elizabeth Canning; Wellington's Career, Part II.; The Mill on the Floss; A Feuilleton; Switzerland and the French Annexation. Price of *Blackwood* \$3 a year. *Blackwood* and any one of the four Reviews, \$5. The Four Reviews and *Blackwood*, \$10.

THE LONDON QUARTERLY REVIEW, for April 1860. New York, Leonard Scott & Co.; Toronto: H. Rowsell. Contents: Labourers' Homes; Souvenirs et correspondance de Madame Récamier; Vicissitudes of Families and other Essays; The Bar of Philadelphia,—Washington's Farewell Address; Miss Nightingale's Notes on Nursing; Fox Hunting; Recollections of Leslie; The Budget and the Reform Bill.

THE NORTH BRITISH REVIEW for May, 1860. New York: Leonard Scott & Co.; Toronto: H. Rowsell. Articles:—Reading's Reminiscences—Thomas Campbell; Quakerism—Past and Present; Sir Henry Lawrence; Australian Ethnology; Poems by Heinrich Heine; Church and State; The Origin of Species; British Lighthouses; The State of Europe; Recent Publications. Price, \$3 a year.

Market Intelligence.

TORONTO MARKETS.

MONDAY, June 11, 1860.

There were poor markets to-day, though something better than Mondays generally. Of Fall wheat about 800 bushels changed hands, at prices lower than last week. Today's sales, however can hardly be taken as a criterion of the state of the markets, though there can be no doubt that prices are lower. Fall wheat sold at from \$1 30 to \$1 40 per bushel; the average of sales being near the extreme rate. Other articles were scarce and without change. Spring wheat from \$1 10 to \$1 13 per bushel. Barley 60c. Peas 65c to 65c. Oats 33c. Hay \$9 to \$15 per ton. Straw from \$5 to \$7 50 per ton.

BRITISH MARKETS.

(Per Steamer North Briton.)

LIVERPOOL, 30th.—Liverpool breadstuffs generally dull. Wakefield, Nash & Co. report flour dull and steady. Wheat steady; red 10s 3d a 10s 9d; white 11s a 12s 4d. Corn steady, and in more demand. Provisions quiet. Beef dull; quotations barely maintained. Bacon quiet and steady. Lard dull and nominal; 57s for good. Tallow quiet at 54s.

(From the Mark Lane Express.)

LONDON, May 28th.—A week of summer temperature having followed the late fine rain, the rapid progress of vegetation has been everywhere remarkable. Should the same favourable weather continue, neither the hay nor corn crops may be much, if at all, behind the usual period. The Wheat, however, in several localities looks thin, and there have been many complaints of unusual ravages by insects. The losses, too, lately sustained by graziers have brought about such a rise in animal food that cereals must be valuable as substitutes. Although some check has been felt by the forcing temperature, the Wheat trade has for the most part been steady, or prices 1s. higher throughout the country. Ireland is recovering from the effects of the first imports, a large consumption gradually clearing them off; and Scotland, ceasing from the usual shipments southwards, has fully followed the English markets. Prices in the Baltic have little changed, and this has also been the rule with Holland and Belgium. The French markets have rather rallied for Wheat, and given more firmness to the Flour trade in Paris. In Southern Europe the rapid advancement of the crops has influenced prices

downwards, as in Spain and Italy. Still, in the latter country stocks are so short, especially of soft Wheat, at Naples, that the languor of Odessa has given place to a brisk demand, and forthcoming supplies have been anticipated to meet the orders received. Whilst Flour has been dull in New York, and slightly lower, there has been an increased demand for Wheat at full prices for export, a good portion being destined to the Northern parts of England.

The arrivals off the coast since 16th inst were 25 cargoes, of which 5 cargoes were Wheat, 11 Barley, 8 Maize, and 1 Rye.

The business reported was as follows; 4 cargoes of Wheat, viz., 3 Odessa Gbirka, at 50s., 50s. 6d., and 53s., and 1 Marianopol, at 54s; 2 of Maize, at 35s. 7½d. and 38s; 1 of Rye, at 30s to 31s. 6d; and 5 of Barley, at 27s. 6d. to 28s. 6d. per qr.

The sales noted last week were 95,250 qrs., at 52s. 1d., against 91,552 qrs. for the same period in 1859, at 54s. 4d.

The London averages were 52s. 10d. or 2,609 qrs. The imports into the principal ports of Great Britain for the week ending 16th May on Wheat and Flour were equal to 70,776 qrs.

AYRSHIRE CATTLE—Patrick R. Wright Esq., Cobourg, O. W., breeder of Ayrshire Cattle, Sheep, &c., has several young Bull and Heifers for sale. His herd is well known as one of the best in Canada West, and his terms of sale are liberal.

Full Pedigree of all animals—U. C. Stock Register.

The Agriculturist,

OR JOURNAL AND TRANSACTIONS OF THE BOARD OF AGRICULTURE OF UPPER CANADA,

IS published in Toronto on the 1st and 16th of each month.

Subscription—Half a dollar per annum for single copies; Eleven copies for Five Dollars; Twenty-four copies for Ten Dollars, &c.

Editors—Professor Backland, of University College Toronto, and Hugh C. Thomson, Secretary of the Board of Agriculture, Toronto, to whom all orders and remittances are to be addressed.

Printed by Thompson & Co., 77 King, Street East, Toronto.

Not being now able to supply the first numbers of the current volume, the subscription price of the "Agriculturist" from 15th May to the end of the year, will be 30 cents per copy, with bonus the same rate as previously, viz: one additional copy with every ten ordered and paid for in advance. For the half year commencing 1st July the price will be 25 cents. Nine copies for \$2.