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THE

# Canadian Agriculturist,

OR

ANNUAL AND TRANSACTIONS OF THE BOARD OF AGRICULTURE  
OF UPPER CANADA.

L. XIII.

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No. 11.

## Marl as a Manure.

In most parts of Canada, marl is to be found, and is considerably in its composition, and especially in its manuring power. Shell marl is exceedingly rich both in the phosphate and carbonate of lime, and constitutes a mine of wealth to the farmer where it is found in sufficient quantity, especially for soils that have been exhausted from over-cropping. On light soils, any marl, consisting of a large proportion of phosphate, and but a moderate amount of lime, is found beneficial. As our soils have their natural productiveness gradually lowered by over-cropping, marl will be found in many places a valuable acquisition, and will improve the soil to which it is applied, through a long series of crops, both mechanically and chemi-

cal. Marls are well suited as a top-dressing to grass-lands, as the substance crumbles by exposure, and the particles become minutely divided. The most profitable application, observes the *Lane Express*, consists in laying it on in layers in the end of autumn, or beginning of winter, when the herbage will be of little value, and when the changes of weather will accelerate the decomposition of the marl by the action of the grass shoots in the spring. It will thus be an even spreading over the surface; and after being harrowed, and the roller being afterwards used, the particles will be well reduced, and pressed into the soil. The crop of grass is

greatly improved; and the land is ploughed for a grain crop in the following years. The marl will be thoroughly matted in the turf, and the vegetable sward which it has raised will most materially promote, by its decomposition, the subsequent fertility of the land. This mode affords time for the crumbling of the marl, and it raises a close vegetable growth, on the decay of which the future crops of grass or grain depend for nutriment. The substance that is used for top-dressing cannot be incorporated with the soil from want of arable culture, and consequently the effects depend on the influence which it is able to exert on the materials with which it comes into contact. By raising a large quantity of grassy herbage in the shape of roots, leaves and culms, it affords, by the decomposition of these substances, when the land is ploughed, a vegetable "pabulum" to the growing crop, to which no manure yet known is superior, if any be equal to it, either in power or durability. Consequently all top-dressing of an earthy nature should be used with the view of producing this growth for the benefit of future crops. The quantity of marls used in this way on grass lands may be stated at an average of forty to sixty two-horse cart loads per acre.

The use of marls on fallows for barley and turnips in the spring, admits of the better mixing with the soil, provided the suitable reduction of the marl be accomplished; which may be done by exposure, if the weather be favourable, before the last ploughing of the land, and when

the nature of the marl favors the distribution. The weather is the best operator in producing disintegration, and the time of exposure may produce some useful reciprocal actions. In whatever manner marls are applied, it is absolutely necessary that the substance be reduced as fine as possible, by breaking the lumps, spreading it evenly by harrowing and rolling when dried after rains, and by being ploughed into the ground by means of a shallow furrow. Some marls will crumble to powder, immediately on exposure, or very soon after; others require the changes both of summer and winter, and also much attention in improving on the action of the weather, by breaking, harrowing and rolling.

The effects of marl have been much the greatest on dry, sandy grounds, that have been converted from a comparative waste, into arable cultivation, and on light loams. On raw, damp loams, reports have been unfavorable. The marl attracts moisture, and thus increases the poachy looseness of the land. Clays are sometimes much improved by the application of marl, but the soil should be dried, and the clay well pulverized, in order to facilitate the incorporation with the sandy substance. Practice directs the use of clayey marls on all light lands, and the application of sandy and shelly marls to heavier soils; but all these substances have been found useful on any soil, when judiciously applied.

Marls are often made into composts with earth and farm-yard dung, either in layers, or in heaps, or in the bottoms of the cattle yards, where it will be soaked with the urinary fæces, and afterwards mixed with the heap. It is thought that such a preparation is more effectual than marl by itself. Frequency of marling may produce a hurtful looseness in the land, which is very easily removed, by pasturing the land in rest for a number of years. The avaricious use of the plough has produced the trivial, hurtful effects that have sometimes been observed from the use of marls.

#### Effects of Soaking Seeds in Chemical Solutions.

The steeping of seeds previous to sowing them is a practice of great antiquity, and has been extensively adopted. A strong solution of salt has often been employed in preparing seed wheat; also various chemical preparations—

some of them possessing very energetic and even poisonous qualities. The soaking of Indian corn in pure water and drying it with plaster is a practice very generally followed, and the experience of practical men has pronounced it beneficial. Such seeds as are enveloped in a hard husk, as mangel wurzel for instance, are beneficially treated by steeping, which not only facilitates the important process of germination, but is likewise found to impart strength and constitution to the germ and young plant, according to the chemical constituents composing the solution.

The following results of carefully conducted experiments on this subject we abridge from the Transactions of the Highland and Agricultural Society:

Various kinds of seeds were steeped in sulphate, nitrate, and muriate of ammonia, in nitrate of soda and potash, and in combinations of them; and in all cases, the results were highly favourable. For example, seeds of wheat steeped in sulphate of ammonia on the 5th of July, had, by the 10th of August, tillered nine, ten, and eleven stems of nearly equal vigour; while seeds of the same sample, unsoaked, and sown at the same time, in the same soil, had not tillered into more than two, three, or four stems. The mixtures were prepared from the above specified salts, exactly neutralized, and then were added from eight to twelve measures of water. The time of steeping varied from fifty to ninety-four hours, at a temperature of 66° Fahrenheit. Barley was found not to succeed so well if steeped beyond sixty hours. Rye grass and other graniferous seeds do with steeping from sixteen to twenty hours, and clovers from eight to ten, but no more; for being bilobate, they are apt to swell too much and burst. A very superior specimen of tall oats, averaging 160 grains on each stem, and eight available stems for each seed, was prepared from sulphate of ammonia; they had an average of thirty four grains in the ear. The other specimens of oats, which were next the most prolific, were from muriate of ammonia; and the promiscuous specimens of oats were from the nitrate of soda and potash,—strong, numerous in stems, (some not having less than fifty-two,) but were not so tall as either those from the sulphate or muriate of ammonia.

### Early and Late Sowing.

Great difference of opinion exists among practical farmers as to the effects of early or late sowing. Results have been from time to time given, which, not being comparative, are really of no value,—except, perhaps, in their own immediate district,—as they do not admit of general application; and probably, in some cases, indeed, the results were attributed to other causes than the time of sowing. In this part of the world, at least, accurate experiments and carefully recorded observations are very much wanted in reference to this question. A series of comparable trials on different soils in various portions of the country would materially assist the settlement of this disputed point.

Professor Wilson, in his treatise entitled, *our Farm Crops*, observes:—The only experiments recorded are by Arthur Young, towards the close of last century, and these are quoted by several of the continental writers. These experiments had reference to the comparative yield of barley, sown at different periods in England, in the same soil, and in the same portions, and the result is given as follows:—

Sown in February,	the yield as	12	5
“ March,	“	11	5
“ April,	“	8	5
“ May,	“	6	5
“ June,	“	3	15

The preceding figures, furnished to us by such authority on all farming matters as Arthur Young, surely are worth something. The experiment, no doubt, was a solitary one; but then was strict, consequently valuable; and at all times, it is quite within our power to test their correctness in regard to the general conditions of the soil they growing, by a more extended series of trials, which would have the advantage of drawing public attention to the subject, and give us valuable data for our guidance in future operations. Perhaps some of our readers will favour us with the results of their practice as far as their experience or observation has extended.

### Agriculture—Its Past, Present and Future.

*Continued from page 2.98*

HAVING A PROGRESSIVE INFLUENCE ON  
BRITISH AGRICULTURE.

Societies for the Promotion of Agriculture.  
Highland Society and the Smithfield Club

(1784); the Royal Agricultural Society of England (1838); the Royal Agricultural Society of Ireland (1841); the London Central Farmers' Club, the first farmers' club, the gradual establishment of local farmers' clubs and county agricultural societies (1843); the Board of agriculture (incorporated) was established by Sir John Sinclair, and had Arthur Young for its secretary (1793); Annals of Agriculture commenced (1784) by Arthur Young, and continued until 1808; the two great agricultural fetes of this period (1784)—the sheep shearings at Holkham and Woburn, at which hundreds of the most eminent of the kingdom were annually assembled—was also serviceable in stimulating the national taste in favour of agriculture.

### New Plants previously Unknown in Britain.

—Hops from the Netherlands (1524); potatoes introduced into England by Sir Walter Raleigh (1700), a government premium given as an encouragement to their cultivation—first in Scotland in 1739, and became general there in 1760 to 1780; white turnips (Norfolk whites) used by Lord Townshend (1730); swedes grown in East Lothian (1781); garden turnips were known in the reign of Henry VIII.; broad clover known in Scotland (1740); Italian rye-grass Scotland (1700 to 1732); clover hybridum, W. Stephens (1834); clover incarnatum, Ellman (1821); clover pratense (1645); clover perennium (1707); clover repens; in Scotland, where heath is removed and lime is applied, it springs up spontaneously (1707); mangel wurzel (1810) introduction due to Dr. Lettsom, most important as a root for heavy clays. Sainfoin and lucern followed the introduction of clover.

**Artificial Manures.**—Bones used by Mr. Watson of Keillor (1821); Mr. Stevenson of the *North British Agriculturist*, says that they were known to be agriculturally useful at the end of the last century; superphosphate of lime (1841); rape dust known in Scotland as a valuable manure (1820 to 1828); guano: half cwt. brought from Liverpool to Scotland, and sold at 6d. per lb. (1829); three cwt. brought (1831); guano first used in quantity (1841-42): some idea may be formed of the quantity now used, when it is stated in the *Times* of this day (2nd Feb. 1861), that Messrs. Gibbs & Co. paid last year at Liverpool £7,000, being at the rate of only 3d. per ton, with the addition of dock dues. Marl, used before the Roman invasion; woollen rags; blood and offal; ground coprolites; fish manure, starfish, sprats and mussels.

**Artificial Foods.**—Linseed, linseed cakes, rape-cakes, nut-cakes, cottonseed-cakes—I first used some about 1856-7—locust beans, Indian corn, rice, Dara lentils, Egyptian beans, dates, and a variety of other foreign productions.

**Legislative Acts.**—Free importation of foreign corn (1847); free importation of foreign animals (1841); the New Poor-Law (1834); the General Board of Health (1848); Enclosure

Commission (1845); The Emigration Commission (1825); the Tithe Commutation Act (1836); the Copyhold Enfranchisement Act (1841); the Penny Post—Sir Rowland Hill (1840); the Land Drainage Company; the Lands Improvement Company; Government Drainage Loans: the first was passed in August, 1816, and a grant for England and Scotland for a period of 22 years, at 6½ per cent., was for £2,000,000, and for Ireland, £1,000,000. The demand for Scotland was very great, as much as £40,000 by a single proprietor; but early in the session of 1817 an act was passed limiting the amount to any one proprietor to £10,000. In 1849 the whole money was applied for and granted, and an act passed for enabling companies or private parties to advance money. In 1850 another act was passed, making an additional grant for England and Scotland of £2,000,000, and for Ireland of £200,000, but limiting the sum to any one applicant to £5,000, including previous grants—a pretty clear proof of the anxiety for improvement by drainage. An act passed for obtaining outfalls in 1847.

*Implemental Inventions.*—The drill—Jethro Tull, the Horse-hoe, ditto (1740); the thrashing machine and fixed beaters (1793); by Meikle (Scotland), in use sixty years at Clackmannan; the reaping machine (1827), by the Rev. Patrick Bell (Scotland), who is still living; the dibbling machine, by the Rev. J. Cooke (1788); the Americanized Bell's reapers, made by McCormick, and Hussey (1856); the first agricultural portable steam-engine invented and made by Davis of Birmingham, the grass-mowing machine introduced from America, pipe-making machines (Clayton and others), first draining tiliery established (1841); Fowler's steam draining plough, Fowler's steam cultivating plough, Smith's (of Woolston) system of steam cultivation; winnowing machine introduced from Holland into Scotland, and publicly denounced from the pulpit (1710).

*Literary Events.*—The art of printing; Caslon's type manufacture; the printing and circulation of agricultural newspapers and magazines—Roffee's Farmers' Journal (about 1790); the first English work on agriculture (1531) entitled "The Boke of Husbandrie," 100 pages, by Sir Anthony Fitzherbert, Chief Justice of the Common Pleas in the time of Henry VIII.; the second was by Thomas Tusser, an Essex man, born 1527, who farmed at Rivenhall, about six miles from Tiptree; Jethro Tull—Arthur Young, also an Essex man (1740); the "Annals of Agriculture, commenced by Arthur Young (1784), and continued until 1808; the Journals of the Highland Society and of the Royal Agricultural Society of England; the works of Morton, Stephens, Low, Loudon, Huxtable, Smith, Hewitt, Davis, Caird, Rham, and Pusey.

*General Events.*—Turnpike Roads, canals; railways Manchester and Liverpool (1830); the

spinning jenny, the mule, the power loom; the steam-engine as applied to manufactures, mines and river and ocean navigation; the electric telegraph (1837); steam navigation first built on the Clyde (1801).

*Fluctuation in the Imperial Average Price of Wheat, annually from 1641 to 1860.*

Year	Price per qr. s.	Year	Price per qr. s.	Year	Price per qr. s.	Year	Price per qr. s.
1641	57	1696	63	1751	34	1806	37
1642	60	1697	54	1752	37	1807	37
1643	60	1698	61	1753	40	1808	38
1644	61	1699	57	1754	31	1809	38
1645	51	1700	36	1755	30	1810	38
1646	43	1701	34	1756	40	1811	39
1647	66	1702	26	1757	54	1812	39
1648	76	1703	32	1758	44	1813	40
1649	71	1704	42	1759	35	1814	40
1650	68	1705	27	1760	33	1815	40
1651	65	1706	23	1761	27	1816	40
1652	44	1707	25	1762	35	1817	40
1653	31	1708	37	1763	36	1818	40
1654	23	1709	60	1764	42	1819	40
1655	30	1710	69	1765	48	1820	40
1656	38	1711	48	1766	43	1821	40
1657	42	1712	41	1767	48	1822	40
1658	58	1713	45	1768	54	1823	40
1659	59	1714	44	1769	41	1824	40
1660	50	1715	38	1770	44	1825	40
1661	62	1716	42	1771	47	1826	40
1662	66	1717	40	1772	51	1827	40
1663	51	1718	34	1773	51	1828	40
1664	36	1719	31	1774	53	1829	40
1665	44	1720	33	1775	49	1830	40
1666	32	1721	33	1776	38	1831	40
1667	32	1722	32	1777	46	1832	40
1668	36	1723	31	1778	42	1833	40
1669	40	1724	33	1779	34	1834	40
1670	37	1725	43	1780	36	1835	40
1671	38	1726	41	1781	45	1836	40
1672	37	1727	38	1782	48	1837	40
1673	42	1728	48	1783	53	1838	40
1674	51	1729	42	1784	49	1839	40
1675	68	1730	32	1785	52	1840	40
1676	34	1731	29	1786	39	1841	40
1677	38	1732	24	1787	41	1842	40
1678	53	1733	25	1788	45	1843	40
1679	54	1734	31	1789	51	1844	40
1680	40	1735	38	1790	55	1845	40
1681	41	1736	36	1791	49	1846	40
1682	39	1737	34	1792	43	1847	40
1683	36	1738	31	1793	49	1848	40
1684	39	1739	34	1794	52	1849	40
1685	41	1740	45	1795	75	1850	40
1686	30	1741	42	1796	79	1851	40
1687	23	1742	30	1797	54	1852	40
1688	41	1743	22	1798	52	1853	40
1689	27	1744	22	1799	69	1854	40
1690	31	1745	25	1800	114	1855	40
1691	30	1746	35	1801	120	1856	40
1692	41	1747	31	1802	70	1857	40
1693	60	1748	33	1803	59	1858	40
1694	57	1749	33	1804	62	1859	40
1695	47	1750	29	1805	90	1860	40

## The Application of the Manure of the Farm.

BY PROFESSOR TANNER.

The judicious employment of the manure of the farm can scarcely be looked upon as of less importance than its economical production; and when we consider the influence that this fertilizer has upon the produce, and consequently upon the profits, of the farm, we have a strong inducement to give the matter our careful attention.—For this purpose it will be advisable to treat the subject under two distinct heads, according as the animal excreta may or may not be intermixed with straw.

### CLASS I.—ANIMAL MANURES, INTERMIXED WITH STRAW.

This includes the most expensive manures which are produced upon our farms. We have that heterogeneous mass so familiarly known as farm-yard manure the great representative of this class. The evidence of practice is agreed respecting its real value, and the improvements which have been introduced into agricultural practice have a powerful and direct tendency to increase the quantity and improve the quality of this product of the farm. Our attention has now to be directed to a subsequent stage—its application to the land.

If we appeal to practice alone for an answer to the question before us, viz., What is the best mode of the rotation and the best time of the year for applying the manure of the farm? it at first sight appear almost impossible to give such a reply as will enable us to establish any definite rules, in consequence of the widely varying customs of different districts.—This want of agreement need not cause us much surprise; for it is clear that as the conditions of soil and climate vary they must be met by corresponding modification in our practice.—I do not know any branch of farm management in which the truth of this principle is more evident than in the use of dung. There is scarcely a crop for which farm-yard manure has not been applied with advantage; and throughout every month of the year we have instances of its successful application. In explaining and justifying this diversity of usage, we must take the result of successful practice as our primary guide; for we can rarely do more than explain the reasons of a success already achieved, and cannot recognize as an independent authority.—According upon this principle, we will first notice—

### PRACTICE OF APPLYING DUNG TO OUR HEAVY SOILS, SUCH AS CLAYS AND CLAY LOAMS.

*Remarks.*—On clay soils the manure is commonly applied to the fallows, and my own experience leads me to consider this to be a judicious practice. If, in some cases, lime is used as a substitute for dung, this will arise rather from the difficulties of providing an adequate

supply of the latter than from choice. The combined, or rather consecutive, use of the two substances will generally be found highly beneficial. The time for applying the dung will depend upon the condition of the land, as well as upon the other and more urgent demands both on the supply of manure and the horse-power of the farm. After the cultivation of the wheat and bean crop has been attended to, the fallow land and that under preparation for roots will demand attention; so that however desirable the autumn application of manure to the summer fallows may be in an abstract point of view, practically these fields will rarely be clean enough to warrant this proceeding, even if manure can be spared for the purpose. It is clearly impolitic to lay on dung in the autumn or early winter, unless we have been able to conquer the weeds, which, if undisturbed, would gain strength and ascendancy from this supply of nutriment. Moreover, except in those few instances in which stall-feeding during the summer is carried out, the autumn stock of manure will be the product of the previous spring, and consequently become thoroughly rotten, and for this reason be less valuable for the fallow ground than for a crop. The condition of the dung has an intimate connection with its application, and the question may fairly be asked, Whether the condition must not regulate the time of its application? To which we, however, reply that this condition is under our control, and may be made to accommodate itself to the general economy of the farm.

Throughout the management of a fallow two objects have to be kept in view:—1st, The improvement of the texture of the soil, so as to fit it for the growth and extension of the crop; and 2ndly, The liberation and development of fertilizing matter for the nourishment of the plant. The strong soils upon which alone fallows have been found desirable are so close and retentive in their character that there is some difficulty in preserving a free passage for roots. This important mechanical condition of the soil is attained by various tillage operations, which we denominate fallowing, as well as by the use of manure. It will be evident, upon a moment's consideration, that the less decayed the dung may be, the greater will be its firmness and rigidity, and consequently the mechanical influence which it is capable of exerting upon the soil will be in the same proportion. Thus, when fresh dung is ploughed into a strong clay soil, it offers a certain amount of resistance to its particles, again returning to their former close and adhesive condition; whereas, if thoroughly rotten manure were used, it could offer no resistance, but the entire mass would again become compact. In the latter case, the soil is enriched, but no additional facility is given to the roots to obtain the supplies which are added for promoting the growth of the next crop; in the former instance the fresh manure adds food for the crop and offers facilities for its use.

We have other reasons which favour the ap-

plication of dung to the fallows whilst the fermentation is in its earliest stage. In the fermentation of dung, we have important chemical changes taking place amongst the elements which enter into its composition. The great object in fermenting manure is to bring waste matter from the animal body and certain products of vegetable life into such a condition that they can again be useful for the support of vegetation.—This fermentation of the dung may be carried out in two ways: the one will materially diminish its fertilizing powers; but by the other plan the change may be controlled so that the manurial properties may, in a great measure, be preserved, although some slight loss is inevitable. I have estimated, from the analysis given by Dr. Voelcker as the results of an examination of farm-yard manure in its fresh and also in its well-rotted condition, that the ingredients in very superior manure, calculated at their market value, are worth 1s. per ton more when the dung is in a fresh condition, than when it has become thoroughly decayed. This loss is experienced when the manure has been carefully fermented for experimental purposes; but when the decomposition takes place under careless management, when, for instance, the drainage from the manure is not carefully preserved—the waste is far greater, so as materially to affect the finances of the farm. In the application of dung in the early stage of the fermentation, we have this change taking place in the soil under circumstances which ensure us against loss; for we know enough of the power of these retentive soils to be assured that what is entrusted to their custody will be safely retained for promoting vegetable growth.

The best evidence as to the store of fertilizing matter obtained from the soil by tillage, is the fact that some are disposed to rely exclusively on this for their successive crops. Without entering into the merits of this mode of culture, or attempting to define either the limits of fertility thus obtainable, or the economical advantages or disadvantages attendant on such a system we at once recognize the great value of this supply, and the importance of applying all ordinary means for its development. In the use of farm-yard dung, we may materially assist in this decomposition of the soil; for, when the manure is added in a fresh and unfermented state, whilst its decay is taking place in the land it promotes the decomposition of the materials in the soil, and thus renders them available for vegetable growth. In this manner we not only add a certain quantity of manure to the land, but, by applying it so that its decay shall take place in the soil, we gain from the inert and inactive portion of the soil a further contribution of fertilizing matter. This influence would be considerably reduced—I might almost say lost—if the same manure were employed in a well-rotted condition, because it will have passed through its fermentation, in which stage it exerts this influence. This is, therefore, an additional reason for checking

the decomposition of the manure until it has been applied to the fallow land. If there is a sufficient supply of dung free for the fallow and the land is tolerably clean, there can be no objection to its application before the winter ploughing; but neither of these conditions is usual, and hence land intended for fallowing seldom receives any dung before winter. The reasons given above favor the application of the dung as early as the land is ready for it.

When lime and dung are both to be used upon a fallow, care must be taken not to apply them at the same time; otherwise, from their combination on the surface, ammonia will be set free and lost in the atmosphere. But, with due precaution, the two may be employed in the same season, and not only without loss, but with great advantage. The dung may generally be applied in a fresh state, before the second spring ploughing, after which the lime may be spread on the surface, and worked into the soil. The combination of these fertilizers under the surface of the land will, after the tillage, increase the benefit derived from each separately. As the sun has great power at the season of the year when farm-yard manure is commonly spread on the fallow, the labour of the field should be so adjusted that the plough may follow the cart closely enough to bury the dung before it has lost its moisture.

**Fallow Crops.**—The action of manure on these crops is very similar to that on fallows, so that the further consideration of its application resolves itself into a notice of special requirements of each crop.

**Mangel Wurzel** is one of the most valuable roots cultivated upon stiff land. Three modes of applying farm-yard manure are in use:—

1st. That of ridging the land, spreading the dung between the drills, and splitting the ridges in the autumn.

2nd. That of ridging the land in autumn, but delaying the application of manure till spring.

3rd. That of laying on the manure in the autumn, and either covering it by a deep ploughing, or by working it into the soil by the steam-power cultivators.

It may be urged, on behalf of the first method, that as an early sowing of the seed is important, and the difficulties of spring tillage on a retentive soil in a wet season are considerable, nothing should be postponed until the spring except the actual sowing of the seed. On behalf of the second method, we may remark that the manure demands on the stock of manure in the autumn, and the convenience of doing the carting to distant fields during the winter frosts, will frequently render its adoption desirable. The advocates of deep cultivation who are fortunate enough to have a grateful subsoil will generally adopt the third method, with perhaps as much eye to the permanent improvement of the soil as the immediate benefit of the root crop. This method has the further advantage of effecting a more equ-

distribution of the manure throughout the soil, and in this respect we avoid an important defect of the ridge system; for, although by ploughing and cultivating across the ridges, when the land is prepared for the succeeding crop, we may then distribute much of the future evil, still it should be more generally known that the quality and weight of the crop itself are often prejudicially influenced by the manure being retained within such narrow limits.—*Journal of Royal Agricultural Society of England.*

## Spirit of the Agricultural Press.

### Pasturing Meadow and Clover Lands.

Irreparable injury is sometimes done to meadows and clover lands by hard stocking late in the fall or early in the spring. Sheep in particular, by eating close often seriously injure the crown of the clover plant, and thereby either kill it or greatly injure its after growth. We join some pertinent remarks on this matter in the *Valley Farmer*:—

Stock should always be turned off from clover early in the fall as to allow the plants to make a growth of leaves sufficient to protect them from the action of the snow and frosts of winter. When eaten off to the ground, and the surface becomes trod hard and compact, the water will be drawn up frequently three inches to the surface before spring. In clover and meadow lands have already received close fall feeding, by all means stock should be kept off during February and March, so that the surface may become somewhat lightened by the rain and frosts, that the tender growth of spring may proceed without injury. Five hundred pounds of feed gleaned from a winter or timothy field in the winter or early spring will cut short the crop of the coming year five hundred pounds or more; so that it will prove the most miserable economy to allow stock to press upon lands that are intended for hay or summer pasturage.

### Corn-Cob Meal for Feeding.

A Connecticut farmer gives the following as his experience on feeding corn-cob meal to his stock:—

I have fed corn-cob meal for many years, both to cattle and horses, as I suppose with decided advantage, and as I never had any animals sicken on this diet, I infer that there is nothing to be said about it. To working oxen or milch cows I have never exceeded four quarts per day, and for fattening animals double the quantity. I have also had a bushel of roots daily. I pre-

fer a mixed feed, grinding oats with the corn for oxen, and rye for milch cows. It is very well known that corn meal alone is very heavy feed, and unless great caution is used, animals become sickened. Now the cobs ground up with the corn, even if they contain no nutriment, which is far from being proved, form an excellent divisor to separate the meal and create the stimulus of distention in the stomach, so essential to the perfect digestion of its contents. For this purpose we give cut straw with meal, not supposing when it is fully ripe it has much more nutriment in it than good saw-dust.

### Fall of Drains.

At a Legislative Agricultural meeting held at the State House in Boston, the subject of under-draining being under discussion, Mr. Sheed, an Agricultural engineer, said he had drained a lot in Milton where there was only two inches of fall to a quarter of a mile, and the drain worked well. If there is a fall of three inches to the hundred feet in land, a tile drain with two inches diameter drains forty feet apart, four feet deep, would take off all the water, and he would guarantee it would work satisfactorily. All soils resting on a tenacious subsoil, could be advantageously drained.

[Eight inches fall in a mile might be found sufficient in drains constantly conveying a limited quantity of water, but for general purposes of under-ground draining such a fall could not be depended on. Three inches to the hundred feet would be found quite sufficient, but drains forty feet apart and four feet deep, in a wet, stiff soil, would in very few cases be found near enough to effect perfect or uniform drainage. However, in a country where capital for such purposes is but scanty, the best way is to place the drains at first wide apart, and if subsequently found inadequate, others can readily be put between.]

[Ed. C. A.]

### Raising Early Calves.

A correspondent of the Connecticut *Home-Steak*, in a recent number of that journal makes the following remarks in reference to his experience in raising early calves:—

It is my practice to raise one or more winter calves every year, and the advantages are many. First, butter is always worth more in winter than in summer, so that new milch cows are more profitable at that time of year than in the warm season, and with good care and feed, they will give as much milk in winter as in summer. Second, if the farmer wishes to buy calves, they can be bought much lower in the fall and



winter than in the spring. Third, they are apt to receive more attention during winter, because the farmer is about the barn more, and can provide for their wants better than in summer, when he is necessarily busy about the farm. Fourth, they are ready to turn out as soon as the grass will give a good bite, and they will be strong and healthy, and better prepared to withstand the cold of winter than late ones. Lastly, they are ready to market six months or a year earlier than the late ones. They should have new milk at least two weeks, and then skim milk may be given once a day for another week, when it can be substituted entirely for new milk, but it should not be given to them in such quantities as to cause them to scour. After they are five weeks old, a little linseed oilmeal may be put into their milk, increasing the quantity from time to time, and when they are eight weeks old, if milk is scarce, they can be fed wholly on it, put into a little warm water. At this time they will relish a few roots, and they will do them good. I have fed a calf this winter on beef scraps, a single handful, dissolved in warm water, night and morning, and he did as well on it as he did on skim-milk. Calves should lie loose, in a warm airy place, have plenty of litter, and plenty of good fine or aftermath hay to eat, and occasionally a shovelful of dirt to lick. Calves raised in this way cannot fail to be good ones, especially if a good breed.

### Salt for Mangel Wurzel.

An old and talented correspondent of the *Mark Lane Express* strongly recommends salt, from his own experience, as a very valuable manure. He found that a liberal application of it to the ground in autumn, intended for spring cropping, acted beneficially in a mechanical manner in bringing the soil into a mellow friable state, while the roots or seeds of the most troublesome weeds were either destroyed, or their vital energy very much impaired. The slug and wireworm (the latter is often very injurious here in Canada) were also either killed, or very much diminished thereby. A large sprinkling of salt was sown broadcast on the surface in the autumn after the land had been deeply plowed, and exposed to atmospheric action during winter, and then plowing was given in the spring and a suitable tilth obtained, the mangels sown vegetated, grew apace, and produced a heavier crop than under ordinary treatment. There was no difficulty in keeping the land clean, as very few weeds made their appearance. The writer found a smaller amount of salt added in spring increased still more the amount of the crop. And he found that other roots and also grasses, and the cereals, were considerably improved by its application.

Salt thus appears to be a safe and economical manure, provided it be not applied directly to the cereals or grasses in too large a quantity,

for in that case it will, for a time at least, materially injure them, if not ultimately destroy them. No soils naturally have too much salt, except those directly injured by springs. One of its most valuable properties is to attract moisture. For this reason it may be sown when the soil is perfectly dry,—a condition so fatal to many manures, and will absorb the moisture from the atmosphere, and convey it to the root of the plant. Its principal office is to keep every thing in the soil in a soluble state and consequently in a state fit for the nourishment of vegetable life. Its benefit is not alone experienced by the root crop, but by the grain crop which follows, for its presence checks the redundancy of straw, and enables that straw to strengthen itself by assimilating from the soil the silica, of which, in certain combinations, it is solvent. The coarse refine material of salt works is what is generally used in agriculture, and may be procured we presume at a low rate of charge for Syracuse, or other places where the pure article is properly prepared for market.

## Agricultural Intelligence.

### A Canadian Drill Plough in England

A late English exchange thus notices an implement introduced from Canada:—"The Scotch drill plow, like the reaping machine, is a gift from the New World to the Old, and the invention of Mr. L. Sovereign, of Canada. Its powers were lately tried and five furrows were made at one time by a single plough drawn by two horses, which at the same time sowed barley and clover, turning the flowers clean and the seeds so as to cover them safely from birds. This implement, which weighs no more than 3000 lbs, is as rough and ready as a bush harrow, and, like all colonial machines, has no mechanism which that a common tool-box will not suffice to repair. It consists of five ploughshares of cast steel, light and strong, placed transversely on a frame of five longitudinal beams. This frame is suspended on three wheels, two on one side and the other running in the furrow. The ordinary line of draught in ploughs is thus made, and the friction of the weight carried on the revolution of the wheels. Two boxes fixed on the frame, one for larger seeds (like beans to wheat,) the other for grass seed. The distribution is regulated by very simple mechanism—the mere turning of a screw by the hand acts by a wedge on a plate, which defines the given quantity to an acre; while a copper plate to each conductor closes or opens it according to the number of rows requisite to be sown. The advantageous simplicity of this arrangement will be evident to every practical man. A pair of light harrows were fixed behind, and thus completed the three processes of ploughing, sowing,

harrowing at one operation. The ploughs are removable, and give place to scarifiers or cultivators where requisite, so that the instrument may be termed a universal tool for tillage purposes. It worked admirably on a wet and heavy soil, making straight furrows, and laying them over evenly; on lighter soils it seems to be extensively used.

### Shipment of Stock for America.

We find the following paragraph in reference to the shipment of stock referred to in a communication in our last number, in the *Annan Courier*.

"On Wednesday the *Helen Douglas*, of Annan, started from Annan Waterfoot for Quebec, freighted with a full cargo of stock for America. She has been chartered by three parties who for some months past been purchasing stock for shipment to Canada and New York State, namely: Mr. George Miller, of Arsham, near Toronto,—formerly of Riggsfoot in the parish of Cummertrees,—who has re-visited his native country after an absence of nearly fifty years; by Simon Beattie, also from Arsham—a Nephew of Mr. James Beattie in Galzie; and by Mr. Brodie, of New York State, native of Ayrshire. Mr. Miller takes out six Norway Cattle, purchased from Mr. Graham Shaw; one Ayrshire cow and calf; two cotswold rams, and six gimmers from Gloucestershire; one ram and ten gimmers, Shropshire rams; five Leicester rams and eight gimmers from the stock of Mr. Wilkins, of Tinwald rams; and two Cheviot rams and nine gimmers from the stock of Mr. Graham Shaw. He takes with him three Boars, and a Sow and some poultry; a large cock and hen assant from Knockhill; and a beautiful Mule in the use of Miss Miller, who accompanies her. Mr. Beattie's stock consists of a two-fold Durham heifer, from the no less famous Galloway herd; an Ayrshire Cow; a fine Cotswold ram, and four gimmers from the stock of Mr. Walker of North Leech, Gloucestershire; two Leicester rams, twelve shearing rams, and six gimmers from the well-known Leicester stocks of Messrs. Simpson, Sandys & Co., in Yorkshire, and of Mr. Beattie, New York. The sheep have all been selected with great care—the Leicester Rams at a cost of not less than £15 sterling a piece, (equal to \$75) Mr. Brodie takes out to New York State, by way of Quebec, an Ayrshire Bull, a cow and three Heifers, selected from the best dairy stocks in Ayrshire; two Leicester rams, and six gimmers, and three Highland ewes. There are also on board sheep dogs and greyhounds, and a number of farming implements, as well as an abundance of Swedes, Angel wurzel, oil cake, corn, hay, &c., as provisions for the stock during the voyage."

**STEAM PLOWS**—An eminent Liverpool planter is about shipping a steam plow to his extensive plantations in Demerara. A competent man will follow to put the plow to work on arrival. On its satisfactory working depends other orders, and from what we know, we are justified in saying that cultivation by steam power is a want long felt by the growers of sugar, coffee, and cotton. This new power is likely to be introduced to meet the disturbed state of labor both in the Southern States of America and elsewhere. It remains only to add that if the steam plows can only be set to work fairly by the intelligent laborer, the alarm now felt as regards the present altered state of the American cotton planters will soon be removed. A new, well-manufactured two-furrow steam plow is being brought out under the auspices of Messrs. Richmond and Norton, the well-known implement agents, South John-street, Liverpool, the price of which, we understand, is very moderate.—*Vide Warrington Guardian of March 16, 1861.*

**TEETOTAL PLOWING "DAYS."**—At Scales Farm, near Richmond, Yorkshire, Mr. William Wilson (formerly of Skeeby) held a plowing day on the 8th of February, on strictly teetotal principles. The men had plenty of coffee and spice bread at ten o'clock, at noon a good dinner, and between three and four o'clock in the afternoon plenty of coffee and spice-bread. At Warton, within three miles of the above place, Mr. Harker held a plowing day on the same principles—no alcohol in any shape, but plenty of coffee, plum-pudding and beef, and we hear a few complaints; of course, there are some "thirsty souls" who would like a beer-barrel in the field continually. At Union House Farm, near Skeeby, about two miles from Richmond, R. M. Jacques Esq., of Wisby Abbey, held a plowing day on Wednesday, March 13th, on the same principles—no strong drink at all—coffee and spice-bread at ten o'clock; also just before dinner each plowman and driver was presented with a shilling each. At half-past twelve at noon a first-rate dinner was served up by Mr. and Mrs. Hall, Temperance Hotel, Richmond—splendid plum puddings, first-rate beef, also coffee to drink after dinner. Again at three o'clock came on bread and coffee, as before. The men worked like men; they appeared quite cheerful, contented, and happy. We heard no profane swearing or lewd jests, and the men are more likely to return home like good fellows, and be fit for their work on the morrow. If we mistake not, great credit is due to Mr. William Wilson, Mr. Harker, R. M. Jacques, Esq., also his worthy agent, Mr. H. J. Turner, of Richmond, for their example by facing the old custom of giving strong drink, which deceives men, and makes the plowman, as well as the gentleman "not wise." We were pleased with a remark from Mr. Turner to this effect, that farmers generally sent to plowing days a valuable team, if they had one

—sometimes worth £100. The men are generally primed with drink on those occasions, and a valuable team of horses is left to the charge of a man who cannot take care of himself. We hope the day is not far distant when all plowing days will be conducted on the same safe side, also all other work, whether farming or otherwise. A vast amount of trouble and vexation would be prevented, to say nothing about the gain in pounds, shillings, and pence in the long run. Let the men be well treated, mix a little silver along with kind usage, and no one need fear a teetotal plowing day.

## Horticultural.

**CUTLER'S SEEDLING STRAWBERRY.**—This variety after ten years trial is said by J. W. Manning, of Reading, Mass. to be distinguished for the following qualities:—It is a thrifty and strong grower; blossom perfect, a great bearer; of good size and flavour; is very hardy, and continues bearing longer than other varieties.

**THE UNION VILLAGE GRAPE.**—The *Horticulturist* for May has an engraving of a fine branch of this grape, which is a seedling of the Isabella, and was originated by the Shakers of Union Village. It is described as a vigorous grower, making handsome short jointed wood, and the whole plant, wood, leaves, and fruit of an unusual size. It is sweeter and better than the Isabella in quality and at least a week earlier. The vine is said not to ripen fully, its wood in some places, owing to the rampant growth, and in Canada, we should think, it would need some protection. But is pronounced to be certainly as hardy as the Isabella.—We shall be glad to hear from any of our readers, if any, that have tried it.

**THE ONTARIO GRAPE.**—Dr. O. F. Presbrey, of Buffalo, N.Y. gives the following description of this grape in the *Boston Cultivator*: by some it is thought to be identical with the preceding: "This new variety originated in Canada, near Lake Ontario, from which it is named. A native vine, bearing the superior fruit, was found in the woods, and was removed to a garden, in close proximity to an Isabella and a Black Hamburg, and fruited. The seeds of this fruit were planted, and the Ontario was one of its results."

Dr. P. says:—"The vine is a vigorous grower, a prolific bearer,—perfectly hardy,—never mildews,—does not drop its fruit,—grows in compact and cylindrical clusters weighing from 1 to 2½ lbs., with berries from ⅔ to 1½ inches in

diameter; ripened in 1859 and '60 from 15 to 20 days earlier than the Isabella. It has less pulp than the Concord or Isabella. The fruit is a jet black, covered with a rich velvet bloom, and is larger and more showy than the Black Hamburg." It was exhibited at the New York State Agricultural Society last fall, on which occasion the Country Gentleman said, "it excited much attention. The bunches measured eight inches long, and we were assured that some had weighed 2½ lbs. The berries were ⅔ of an inch in diameter. They appeared to be well ripened, and Dr. Presbrey assured us that this sort had proved 20 days earlier than the Isabella, and 10 earlier than the Concord. The berries were nearly free from pulp, possessed little or no foxiness, were juicy and quite agreeable, and moderately high flavoured."

The Southern Cultivator says:—"It seems to belong to the Isabella family, though, (unlike the Isabella) all the berries upon the bunch ripen. Bunches *very large*, shouldered, compact, often weighing from 1 to 1½ lbs.; berries also very large, nearly or quite round, black, with little bloom; pulp tender and dissolving; flavor mild, sweet, luscious, with little or no trace of malice. *Superior for the table*, and the best grape of its class yet fruited here."

It is proper to state that the fruit-committee of the Massachusetts Horticultural Society, in their last report, state that they regard the Ontario as identical with the Union Village grape. Dr. Presbrey, however, declares that it differs widely from that variety. Dr. P. is propagating the vines for sale. His address is Prospect-Hill Vineyard, Buffalo, N. Y.

**THE DELAWARE GRAPE.**—This delicious grape was introduced to the public by Mr. Thomas, of Delaware, Ohio. Its great excellence at once attracted attention. Indeed, so highly was it esteemed, that many supposed it to be a foreign vine, identical with the Rose Chasselas, as thousands of vines of that variety were sold for the Delaware.

It is difficult to understand how any one familiar with the Frost and Clinton grape should have failed for one moment to recognise its origin.

Some of our western horticulturists, if not theory, at least in practice, appear to have understood its relation to the Clinton, for I saw growing upon my grounds four vines obtained from Cincinnati, bought as Delawares, and for which I had the pleasure of paying twenty dollars. They turned out to be Clintons, and could have been obtained of Hovey & Co. for about one dollar each. Mr. Cabot, Mr. Walker and several others, were treated to the same happy result.

Our Cincinnati friends have at last found their mistake, and are planting their vines entirely with Delawares. Mr. John E. Moore

is planting them by the thousands, "and is determined to plant no other vine." Mr. Frederick Schmieke, thinks it not only best American grape, but the best in the world.

From these and very many other testimonials, it would appear that the Delaware is likely to have full justice done to it.

The Delaware is at first a slow grower, but when once established is all that could be desired. It is perfectly hardy, and ripening its fruit full three weeks before the Isabella. The limbs and berries are medium size, and of a rich vine color.

It is difficult to describe the flavor of this grape. To say that it is juicy, winey, sugary, spicy, with a fine delicate aroma, is to use words that convey very little meaning except to those who are familiar with the fruit.

The above description is furnished us by Mr. A. BRACKETT, of Winchester, a gentleman of large experience in grape culture, and who is perhaps as well qualified to judge of grapes as any person among us.—*New England Farmer*.

### Water Cress.

A correspondent of the Horticulturist gives his simple method of growing Water Cress:—This salad is easily raised wherever there is a well or pump. Take flooring boards, and make tank four feet wide and one deep: pitch the ends, and sink in the earth; fill with good soil, and set plants. Run in all spilt water.

"I have raised it in this way for three years, and the above size furnishing an ample supply. The last two years I sashed it, and cut from 1st of May until the middle of December. It should have a warm aspect to get it in bearing early, but it is better shaded by an arbor of peas, squash, etc., in July and August, or the cress is apt to cook it."

### Bees and Fruit Trees.

A writer in a literary journal of Paris states that the bees greatly improve the fructification of fruit trees. Orchards in which several hives are kept, always produce more fruit than those in which there are none. In the provinces on the Rhine, the fruits are more abundant and earlier than in any other part of Germany, and there it is the custom to keep large quantities of bees. Plants, too, which bees visit, thrive better in the neighborhood of hives.

### Greenhouse Plants in Rooms.

The various greenhouse plants which are kept in rooms require a constant supply of water, which should always be applied on the tops of the pots, and from no consideration whatever should any be suffered to remain in the water in saucers under the pots, and they must be kept clean from dead leaves. &c. They should be fumigated when there is any appearance

of insects. With respect to air, the plants should have a good share in fine, warm weather. It is a very common practice to open the under-sash window where the plants stand; when thus exposed to the draft it injures them more than if they were entirely exposed to the open air. When they begin to grow long and spindling, the tops of the shoots should be nipped off with a pair of scissors, which will cause them to become thick and bushy.

### Hardy Grapes.

Mr. Wm. A. Woodard, of Mortonville, N.Y. has communicated to the *Horticulturist* the results of observations he has been making upon grapevines on his premises in regard to their capacity of withstanding the severe changes of winter. He residence, he says, is in the highlands of the Hudson, at an elevation of about four hundred feet above the Hudson river, (lat. 41° 30' and where the thermometer sometimes indicates 30° below zero. The following he classes as perfectly hardy with him. They were exposed to the open air, tied to a trellis, and not protected in any manner. They are three years old, and grew last year strong, healthy wood, which was pruned down to four feet last fall, and intended for fruiting in 1861.

*Clinton*—Wood of last year's growth, 15 feet, very strong, ripe early, now green and healthy to the end.

*Hartford Prolific*—Growth 10 feet, strong, ripe wood, uninjured.

*Concord*—Growth 15 to 18 feet, strong, vigorous, ripe wood, uninjured.

*Perkins*—Growth 20 feet, robust, large, ripe, wood uninjured.

*Early Northern Muscadine*—Growth 16 feet, strong, and vigorous, uninjured.

*New Native of Orange Co.*—Fruit ripened by first week in September; wood fully ripe by first of October, uninjured.

The following he considers *half-hardy* and recommends protection for them during winter: *Isabella*, *Catawba*, *Diana*, *Tokalon*, *Union Village*, *Garrigues*, *American Hamburg*, *Hyde's Eliza*.—*Maine Farmer*.

### Dwarf Pears.

[The following paper was recently read before the Hamilton Horticultural club, by Mr. Charles Weston, gardener, of that city.]

There is perhaps no hardy fruit tree that claims our attention at present more than does the pear, and more especially the pear grown as a dwarf. At a time when peaches, the finer varieties of cherries, (and to a great extent the plum) are cut off from the effects of a severe winter, it behoves every cultivator of fruit trees

to do something towards the cultivation of the pear as a dwarf. There are several reasons which might be urged for the cultivation of the pear as a dwarf. I shall content myself with naming four. The first is hardiness; second, early productiveness; third, the number of varieties that can be grown on a limited space of ground; fourth, the facility afforded for summer pruning, thinning the fruit, detecting insects, and the security of the fruit from being blown off the trees by high winds.

**Hardiness.**—In this respect the pear seems to stand next to the apple; for the low temperature with which we were visited early in March, proving fatal to peaches and cherries, has not in the least injured the dwarf. The blossom buds of most varieties of pear are apparently as little affected by a (winter) temperature of 16 or 20 degrees below zero (if the wood is thoroughly ripened the previous summer) as are apples, is satisfactorily proved the past winter.

**Early Productiveness.**—Many varieties of pears worked on the quince, if judiciously root-pruned, and young wood pinched in summer, will bear fruit at from three to four years from the bud in graft; and, barring spring frosts while in blossom, we may depend on them bearing regularly afterwards. Root-pruned trees in a bearing state are in no danger of being winter killed or blighted. The principal thing to guard against is overcropping; for although a pear tree may bear fruit at two years from the bud or graft, it must not in every instance be allowed to bear as much as it would, or the result will certainly be a stunted growth for several years, and a probability of the ultimate loss of the tree. I prefer five or six fine sized fruit from a young tree, in preference to a dozen inferior both in size and flavor.

**The number of Trees which can be grown on a limited space of ground as compared with standard Trees on the free stalk.**—The distance apart at which standards have been planted is from 18 to 24 feet, and with many varieties the planter or cultivator would have to wait at least a dozen years before he had the satisfaction of tasting fruit from them; whereas dwarf trees may be planted from five to six feet apart, root-pruned annually or biennially, and summer pruned. Many years will elapse ere the trees get overcrowded. Should they become so, the facility with which they can be removed is a great recommendation. I may mention that on the 11th of April, 1860, I had four pear trees removed from where they had been growing for three years, but had not fruited, although root-pruned twice; three out of the four trees bore a fair crop of excellent fruit the same season. Three of the varieties were Glout Morceau, Buffam, Belle Lucrative. The other I cannot name with certainty.

Another reason to be urged in favour of dwarf pear trees is the facility with which they can, or should be, attended to in summer. The various

manipulations requiring attention during the growing season are thinning the blossom buds, impregnation of the shy setting sorts, thinning the fruit, pinching, or summer pruning the young shoots, and destroying insects; all of which can be got at from the ground without the trouble of steps or ladder. The operator can get over double the number of trees, and do the work equally well, when such is under the eye and hand, as when he has to climb ever so short a distance. Dwarf trees, especially in exposed situations, are not so liable to be injured from the effects of strong winds. Large varieties, such as the Duchesse d'Angoulême, Blum Diel, Bartlett, &, on standard trees, especially in exposed situations, are so much rubbed, if not shaken off the tree, as to be rendered almost useless, either for stewing or dessert.

Soil to suit the pear should be pretty strong, rich, naturally dry, or drained artificially, and well supplied with manure. Pear trees on the plan, from four to six feet high, branched within twelve inches of the surface of the soil, root, pruned four times in six years, receive annually a good covering of decomposing stable yard manure before winter, and in spring before the frost is out of the ground, (say March) each tree has from six to eight gallons of cesspool sediment put over the surface of the soil as fast as the roots extend, and allowed to wash in the spring rains. The result of such like treatment has hitherto proved very satisfactory.

Root pruning may be defined as digging a trench about the tree at a distance of one foot from the stem, (for a tree of from two to four years old) and to a depth of 12 inches, or until the lowest roots are reached. Should the tree be vigorous, one half of the roots thus exposed may be cut off—using a very sharp spade or knife, and the spade inserted under the ball of soil, as to reach the top root, but returning the ball as whole as possible. The soil removed in exposing the root is now to be filled in; and when the ground be dry, each tree operated upon requires over 10 gallons of water. The object of root-pruning is to give the tree a healthy character—not too much at one time—but should it not be obtained the first time, the operation must be repeated at a distance of three or four inches further from the stem than on the previous occasion, i. e., at 15 or 16 inches from the stem of the tree all round, leaving a ball about 30 inches in diameter, when the roots, uncut at last pruning, may now be cut, and the tree laid a little on one side, so that every root thicker than a goose-quill, protruding beyond the ball aforesaid, shall be removed, the soil led in the trench, and the tree as it were planted afresh. In root-pruning a very vigorous tree that has been growing undisturbed for several years, some caution is necessary at the first operation so as not to cut off too many roots at once; but after the first pruning, the cut roots producing so many fibres or small roots that

ould be difficult to injure the tree if done at e right season, and the proper distance from e stem.

*A small selection of Pears that do well in e neighbourhood of Hamilton.*—Madeline, a tron or Carnes, very fine medium sized fruit, pe early in August. Bartlett, an unusual fa- ante, large, ripe in September. Belle Lucra- re, fine fruit, large, ripe in October. Beurre el, very large and prolific, ripe, November to umber. White Doyenne, medium size, ripe, ptember to November. Flemish Beauty, ge and fine, ripe in October. Duche s de ogoulime, very large, ripe in November.— kel, a much esteemed small pear, ripe in umber. Tyson, a refreshing pear to cut off e tree, but does not keep after ripe. Beurre Aremburg, medium size, December to Janu- ry. Glout Marceau, large, ripe, December to uary. Napoleon, large, regular bearer, ptember and October.

Summer pruning, thinning the fruit, gathering d keeping of fruit, &c., may form the subject ran other paper, or be brought out in the dis- sion.

Hamilton, May, 1861.

### Growing Cuttings in Flower Pots.

When cuttings of flower plants have struck t, they should first be put into small sized ts; and if they are not to remain a very long e in their first pots, a bit of moss at the bot- ill do for drainage as well as a piece of hen pot, though, as the latter is m re con- ciently to be had, it is more generally used. t the mould or compost be filled in highest in middle, like a cone, the top of which may even with the top edge of the pot; raise the tings with a flat piece of wood formed like blade of a knife, raising them clean out of soil, or the pot a few at a time. They ve to be carefully treated, so that the roots, ch are always tender, be not broken by the ration. Hold the root on the top of the e, so as to spread the fibres; then put ttle soil on the root and press the plant wa to its place, so that the upper part of the t will be just covered—for many plants are the worse for being placed with the root much on the surface. The tender roots must not pressed hard, as this would injure them, and watering settles the roots and the soil to- her very well. This treatment will suit any t, but there are some which will strike all way up the stem if they are planted deep, as geraniums, which would root at every t, and many other plants which would strike ly. But all hard wooded plants would be ously damaged, and in many cases killed, e they what is called planted deep.

## The Dairy.

### Soiling Advantageous to Dairymen.

The Watertown (N. Y.) Reporter has been furnished with the proceedings of the Farmers' Club at Belleville, in which we find that the following Report on the practice of soiling was unanimously approved:

Let five acres be appropriated to pasturing ten cows during six months, commencing with the 1st of May. One-half acre may be sown to winter barley or rye, which can be commenced being used for feed by the first of June. This, at one and a half tons per acre, will supply the cows 10 pounds a day, which is all they will eat in addition to what they get from the pasture, and will last to June 15. One acre of clover, which will be amply large to commence feeding by the time the rye is gone, at two tons per acre, will last 30 days, or until July 15. One-half acre of oats and barley will supply the demand from this date until Aug. 1. One acre of corn, which has been sown early, will be ready to feed, which, at a yield of 4 tons per acre, at 20 pounds per day, will last 40 days more, or until Sept. 10. Now, as the barley or rye will have been fed by June 15th, there will be ample time to raise a crop of sowed corn on the same ground, which will obtain sufficient growth to be used by Sept. 10th, and, according to previous allowance, will last until Oct. 1st, from which until the first of Nov., then the cows should go into winter quaters, a half acre of corn fodder is an ample provision, and a large part of it will be left for winter use.

Now for the winter keeping. In the first place, they should have good, warm, well ventilated and well littered stables, plenty of good water, and be regularly fed. Three-fourths acre of carrots at 700 bushels per acre, would yield 525 bushels; also three-fourths acre of beets at the same rate, 525 bushels. If the carrots should be fed from Nov. 1st, at the rate of one bushel per day for each cow, they would last until Feb. 10th, from which time the beets may be fed until June 1st, which is the time the green feed is to be used. Two acres planted to corn at a yield of 40 bushels, and three acres sown to oats, peas, and barley at the same rate, would yield a total of 200 bushels, which would be sufficient to give each cow three quarts per day during the six months of winter feeding. The pumpkins raised with the corn, could be fed during the month of October. Five acres of grass at two tons per acre, together with the straw and cornstalks, would supply sufficient fodder for the cows, together with feed enough for a team to do all the work to be done on the land. The manure made by these ten cows, if they were stabled nights, as they should be, during the summer, and all the time during the winter, would be ten loads each, or 100 loads in all, which, at 20 loads per acre, would give you a thorough manuring once in

four years. To this add a top-dressing of plaster and enough nutriment is given to the soil to warrant the above estimates.

Ten good cows with such keeping, will produce a yearly average of butter and cheese worth at least \$40, or a total of \$400, and the soil, instead of being impoverished, as it certainly must be by a contented system of grain raising, will be constantly increasing in fertility.

## Veterinary.

### KEEPING HORSES' LEGS AND FEET IN ORDER.

—If I were asked to account for my horses' legs and feet being in better order than those of my neighbour, I should attribute it to the four following circumstances: First, that they are all shod with few nails, so placed in the shoe as to permit the foot to expand every time they move; second, that they all live in boxes instead of stalls, and can move whenever they please; third, that they have two hours daily walking exercise when they are not at work; and fourth, that I have not a head-stall or track-chain in my stall. These four circumstances comprehend the whole mystery of keeping horses' legs fine, and their feet in sound working condition up to a good old age.—*Miles.*

**REMEDY FOR THE SCOUR IN LAMBS.**—Take the seed of the common dock, make a strong decoction, sweeten with loaf sugar, add half a teaspoonful of cayenne pepper to a quart; give to each lamb a wineglassful three or four times a-day until a cure is effected. Mr. Higgins's shepherd, of Wishford, tried it last year, and never lost a lamb during the season.

**REMEDY FOR BLIND STAGGERS.**—A writer in the Charleston Courier gives "an effectual remedy for that formidable disease in horses, the blind staggers," the recipe being as follows:—"Gum camphor, one ounce; whisky or brandy, one pint—dissolve. Dose—One gill, in a half pint of gum arabic, flax seed, or other mucilaginous tea, given every three or four hours; seldom necessary to give more than three doses. The horse must be kept from water twenty-four hours. Never bleed in this disease."

### Cattle Disease.

DIRECTIONS AS TO TREATMENT OF INFECTED HERDS. BY DR. S. COPEMAN, V. S.

**Quarantine.**—No neat cattle in the infected herds to be bought or sold under any pretext; all the cows to be kept in the stables, the young stock to be carefully secured in barnyard or sheds; in other words, communication with other cattle to be rigidly guarded against. The stables to be kept carefully cleaned and well ventilated.

**Care of the Infected Herds.** Every animal to be watched closely. If any show symptoms of disease, it should immediately be removed to some convenient place for observation or treat-

ment. More than ordinary care should be given to the whole herd; keep them warm, clean and dry; give a liberal supply of nutritive food and clean water.

**Symptoms of the Disease.**—Among the earliest indications of this malady are dry, husky cough, fastidious appetite, staring of the coat and in a short time the breathing becomes more or less laborious; horns, ears and legs alternately hot and cold, an occasional chill; the animal wanders slowly from the herd, with drooping head, grinds its teeth, and, if disturbed, a wheezing cough or short grunt may be heard.

**Treatment of the Sick.**—On the appearance of the disease the sick animals should at once be separated from the herd, rigidly confining them to appropriate sheds, removed at considerable distance from all other cattle on the farm; keep the sick warm, quiet and clean; feed liberally with any kind of food it will eat. If the appetite fail give two quarts of gruel, sweetened with molasses; half an ounce of ground ginger, annice seeds or caraway seeds may be added and administered two or three times daily. Each adult animal may also get, morning and night, two drachms of iodide of potassium dissolved in a pint of clear rain water.

**Slaughter.—Burial of the dead.**—After an extensive experience and close observation, I am convinced that the safest and best means to combat this direful malady, is the immediate slaughter of all infected animals which do not exhibit marked evidence of improvement after week or ten days' treatment. The dead to be removed on a "stone-boat" (best) to the work or some remote place; the carcass to be buried (with the hide on) and covered by at least four feet of earth, to prevent dogs from carrying it off. [Great care should be taken not to introduce any strange cattle into a herd until they have been tested separately, sufficiently long to ascertain whether the animals are diseased or not.]  
*Journal of N. Y. State Ag. Society.*

## Transactions.

### Abstract of Reports of Agricultural Societies received in the year 1860.

(Continued from page 316.)

#### RENFREW.

**COUNTY SOCIETY.**—Eighty-two members amount of subscriptions, \$84; reported by township branches, \$165; government grant \$450; entries and sundries, \$82.12; total receipts, \$781.12. Paid township branches \$343.20; paid balance due treasurer from previous year, \$63.40; paid premiums on standing crops and at fall show, \$254.20; expenses \$195.75; total expenditure, \$860.05; balance due the treasurer, \$78.93.

## TOWNSHIP BRANCHES.

**MACNAB.**—Fifty-eight members; subscriptions, \$87; balance from 1858; government grant (partly on account of 1858), \$175; total receipts, \$275.88. Paid for copies of *Agriculturist*, \$27.50; paid in premiums, 118 63; expenses, \$38.86; balance in hands of treasurer, \$110.89.

**ROSS AND BROMLEY.**—Thirty three members; subscriptions, \$40; balance from previous year, \$63.97; government grant, \$3.20; received from clover seed sold, \$28; total received, \$175.17. Paid for clover seed 32; premiums, \$69.15; expenses, \$19.45; balance in Treasurer's hands, \$54.57.

**WESTMEATH.**—Fifty members; subscriptions, \$54; government grant, \$43.20; total received, \$97.20. Paid in premiums, \$94.50; expenses, \$11.75; balance due treasurer, 9.05.

## RUSSELL.

**COUNTY SOCIETY.**—Sixty-six members; amount of subscriptions, \$66; deposited by township branches, \$427.77; government grant, \$479.98; total received, \$973.75. Paid township branches, \$685.77; incidental expenses, \$43.40; balance in treasurer's hands, \$244.58. Not having obtained their seeds till late in the season, the society did not hold an exhibition. They decided to apply their funds to the purchase of Ayrshire bulls for the improvement of the cattle in the county, believing the Ayrshires best adapted to the circumstances of the county.

*Extracts from Report.*

It is time for our farmers to bestir themselves in the matter of stock raising. If we cannot yet introduce into the country imported animals, the day is not far distant when they can do so. In the meantime, it is their power to infuse new blood into our native breed; that itself will be a step in the right direction.

The county of Russell has a very level aspect; soil generally good, well adapted to the raising of grain, hay, roots, and stock; great room yet for improvement in the different varieties of husbandry, although there are many instances of individual comfort and prosperity.

The crops of last year were better than those of the preceding in every instance, with the exception of hay, which was generally light. There has not yet been much attention paid to growing root crops, or to

horticulture. Arts and manufactures are not in a condition to enable us to make any remarks on the subject. The price of land varies from \$10 to \$20 per acre, according to quality and location.

In conclusion, the farmers of Russell may well be satisfied with their lot, possessed of soil capable of raising all the necessaries of life in abundance. In close proximity to the future capital of Canada, as well as the great lumbering depot of the Ottawa country, they should redouble their exertions, study their profession scientifically as well as practically, and in due time they will make this fine country what nature intended it for.

## TOWNSHIP BRANCHES.

**CUMBERLAND AND CLARENCE.**—Thirty-four members; amount of subscriptions, \$136; share of public grant, \$96; total received, \$232. Paid in premiums, \$197.80; expenses, &c., \$34.20. The directors say:

"We regret to observe that the extent of land in fall wheat, in 1859, was considerably less than in the previous year, owing no doubt to the numerous failures then reported. It evidently appears that to ensure good crops of fall wheat more exertion and outlay will be necessary in preparing the land for this crop, as the light lands heretofore chiefly used cannot be relied on. The drainage of the heavy or clay lands, with suitable applications and tillage, must be resorted to before it will be profitable to cultivate extensively this most important crop."

**GLOUCESTER.**—Forty-one members; subscriptions, \$134.77; balance from previous year, \$31.90; share of public grant, \$96; total receipts, \$262.67. Paid premiums, \$192.38; copies *Agriculturist*, \$9.50; expenses, &c., \$59.43; balance in treasurer's hands, \$1.36.

*Extracts from Report.*

Root culture of the different sorts is on the increase. Awards at the Provincial Show being the result. The soil in various parts is well adapted for green crops. The manure heap is better looked after. Sheds for stock rapidly rising throughout the township, not haphazard system, but on the very best principle for utility as regards the animal, comfort, saving of labour, and neatness of design.

Some few have begun draining, while others are in a hopeful condition, wondering and considering if such a thing as a 3½ feet



depth of drain is necessary and possible. At the same time the subsoil of their farms is as retentive as the bottom of a frying-pan—preventing the plough in spring and roasting the roots in summer. This we call your serious attention to, and also to follow the draining with the subsoil plough. We are happy to be able to state that the want of draining tiles, once felt, is now removed; and next summer any supply can be had from Mr. John Singleton & Son, brick and tile factory, near Ottawa.

OSGOODE.—Thirty-eight members; subscriptions, \$172; share of public grant, \$96; total received, \$248. Paid incidental expenses and sundries, \$35; balance in treasurer's hands, \$213. The society did not hold an exhibition, in consequence of not being in possession of their funds till late in the season. They decided to appropriate a portion of their funds to the purchase from a distance of seed grain of a superior character.

*Extracts from Report.*

In reference to the state of agriculture in the township, your Directors have to remark that on that head, they have not the same facilities as in former years for reporting, nevertheless from their own observation, and such information as they could glean from parties conversant with the subject, they cannot be far wrong in the following remarks: Fall wheat, an average crop, but not extensively sown. Spring wheat, (Fife or Scotch) an average crop; peas and oats very good, above an average crop; potatoes a good crop; Indian corn, almost a total failure, owing to being cut off by frost during the middle of June; hay, a very poor crop, owing in a great measure to severe spring frost, followed in the early part of summer by intense heat and drought, and owing in a certain measure to imperfect cultivation, such as mowing the same meadows, as is too often the case, from four to seven years in succession, which in place of cultivation we should say is no cultivation at all. We do not, however, intend that the foregoing remark should be general in its application. While speaking of the crops of the past year we should not omit mentioning that in our opinion they have not been injured to any serious extent, by any insect or other cause of blight. Root crops are not extensively cultivated, if we except the turnip.

A great many of our farmers are paying particular attention to the dairy, which they

justly look upon as a very important and remunerative branch of husbandry.

In regard to cattle there has been no improvement made in the native breed worth mentioning here, but we are gratified to learn that the County Society has expended its funds for 1859 in the purchase of bulls for the society, and that three splendid animals of the Ayrshire breed have already arrived in the county, being purchased in the vicinity of Montreal.

There is no visible improvement in agricultural implements, except the plough, those cast and made at the foundries throughout the country, and heretofore in general use here, are fast giving away to the iron ploughs made by our own resident mechanics, of whom there are three in the township; all good plough-makers.

There are evident symptoms of a taste for Horticultural pursuits springing up amongst our population, yet they are too limited to elicit anything more than this passing remark.

At the risk of digressing from our subject, we will now give a few specific facts, which will enable the distant reader, (if the eye of such should ever alight on the pages of this report,) to judge of the situation, resources, and future prospects &c, of this township.—It is generally level, with a good deal of swamp, generally good soil, watered by the Rideau on the west side, and many branches of the Castor running through it. The Ottawa and Prescott Rail Road passes through the west end of the township. It has three Post Offices, West Osgoode, Metcalfe and Kenmore, a daily mail runs between Metcalfe in the centre of the township and the Rail Road Station in the Township of Gloucester. It has eight places of public worship. Sixteen Common Schools, all in operation.—There is one Grist and three Saw Mills in the township. It is well settled, the soil and climate being well adapted to the raising of the different varieties of grain and roots grown in Canada.

The price of land varies from \$10 to \$20 and upwards per acre, according to quality and location. The humble shanties of other days have mostly all disappeared, and their places are supplied by comfortable frame or stone houses, splendid frame barns, sheds, and out houses.

The township of Osgoode is within a few hours travel of the future capital of Canada.

and knowing the energy and determination of his sons we predict for it a bright and prosperous career.

#### NORTH SIMCOE.

COUNTY SOCIETY.—Seventy-two members; amount of subscriptions, \$98.97; balance from 1858, \$56.92; deposited by township branches, \$430.75; special subscriptions, donations, &c. \$121 35; government grant, \$479.98; total receipts, \$1187.71. Paid township branches, \$718.74; premiums, \$302.02; expenses, \$145.82; balance in treasurer's hands, \$21.39,

#### *Extracts from Report.*

In the North Riding of the County of Simcoe, every variety of soil may be found, and in some localities every variety in the reach of half a lot. Indeed, even within the precincts of the Town of Barrie—the county town of the County of Simcoe—clay suitable for brick-making, or sand fit for building, may be obtained in any quantity; and, singular as it may appear to persons residing at a distance, better land cannot be found in the Province of Canada for farming purposes, or worse than may be found within the limits of this Town. And if building is to be required, every description may be obtained here. If the builder delights in the romantic, it is at Barrie that he may be suited; or if he prefers to erect his mansion near the water, let him steer his course to the north shore of Lake Simcoe, where a beautiful sheet of water some twenty miles in extent greets the eye, and where the scenery is unequalled, and, added to this, a more health-spot cannot be found.

It was here that several half pay officers of the Army and Navy, who had been awarded grants of land, first settled some thirty years ago, and no doubt expended large sums of money in improving their properties. Those gentlemen improved first class cattle direct from England, of different breeds, the best of which may be seen in the stock of the present day. But, like all other enterprises, the first promoters very rarely enjoy the ultimate advantages; and from causes which it is material to notice here, they abandoned enterprise, and the property in most instances is now in other hands. True it is, they laboured under many disadvantages, which the present occupiers have no conception of; they were without roads, without schools, and without society. But all these great measure are privations of the past;

for no community has more cause to be proud of its facilities for the education of the rising generation than the inhabitants of Barrie, and very few have more enjoyments. To take a more extended glance at the soil of this Riding, we may refer to Nottawasaga as the extreme west, a township always famed for wheat and other grain; while Matchadash, the opposite extremity of the riding, is almost useless for farming purposes. Good and bad land will be found in all parts; and allowing four qualities of soil, the north riding of the county of Simcoe, may be considered to stand in the second class.

The northern position of the riding may be considered by many as a great disadvantage, and consequently objectionable. Be it so, nevertheless it has its advantages, for while the more southern districts have neither waggoning or sleighing, the settlers in the north have usually from three to four months good travelling on the snow; and when the rigour of winter is past the snow disappears as if by magic, and the soil is ready for the hand of the husbandman, without frost; the consequence is, spring work is commenced by the farmer in the north nearly as soon as by those settled in the more southern districts. It is only justice to the reader at a distance in a report like this, to state that a large portion of each township will require draining before it will be serviceable for agricultural purposes, but when drained will be the most valuable land. Very extensive tracts of this riding are high and dry, and the subsoil is of such a quality that water cannot be obtained by digging; but notwithstanding this, the land will produce an excellent quality of grain and roots. This situation is frequently chosen as a first residence by the humbler class of settlers, for the reason that every foot of land reclaimed from the forest is available for producing something for themselves and families; for were they in possession of wet land their means would not be adequate to its improvement, and, although superior in quality, it would, in consequence of its wetness, be worthless to them. And it should be borne in mind that the majority of our pioneers, or first settlers, are parties with slender means. But in many instances those persons have been successful, and have realized a very comfortable subsistence, and are enjoying, as working farmers, everything that is required to make a comfortable home.

## VALUE OF LAND FROM ACTUAL SALES.

With respect to the value of land, it would be difficult to give a report that would be truly reliable from actual sales: for instance, a settler, through misfortune or otherwise, over which, perhaps, he has no control, is obliged to sell; and the purchaser, knowing this, obtains the property for less than its actual value. On the other hand, a person arrives from some part of the United Kingdom, enquiring for land, with plenty of cash. Soon a person is found willing to sell; the price asked the stranger looks upon as merely an acknowledgement, and a bargain is made at once, and the property in all probability is purchased at more than its actual value. Another consideration should never be lost sight of with respect to the actual value of land, supposing all other things to be equal, which is locality. A farm situate within a mile or two of a good market is worth much more than a farm from twelve to twenty miles distant. Taking this view, just in proportion to distance, so is actual value. Sales for cash have been effected during the last year, twelve miles from our County Town, where one-tenth was cleared and fenced, but without buildings, for \$12 per acre. Another sale, where one-half was cleared and fenced, but with log buildings erected, for \$20 per acre. Wild land of the same quality, cash sale for \$8 per acre. A Canada Company lot was taken up on lease at \$10 per acre.

## CULTIVATING THE SOIL.

Of the system of cultivating the soil little can be said. In fact there is no system; every man appears to do what to himself appears right; but almost invariably too much land is kept under the plough. If a less quantity was cultivated, and cultivated better, a much greater profit would be realized, take ten years together. The old adage will always stand good with respect to tilling the soil—"What is worth doing should always be done well." Just in proportion to the amount of labour expended, the farmer may expect his returns. We might state that from ten bushels of wheat per acre to forty bushels, have been realized during the past year. Average, say twenty-five bushels per acre; other grain in proportion. Of root crops the public will be well informed from our township reports, almost every farmer cultivates root crops now-a-days.

## PRICE OF LABOUR.

Farm labourers are not so much in request in this riding as they are perhaps in many other parts of the Province, for the reason already assigned, viz., the majority of the settlers being of the humbler class, and the operations of the farm being carried on within themselves. Where we find this class in their purity, the spinning wheel is still part of the household furniture, if not the loom. Here the aged sire, with the youthful bairn, wear the home-spun garb; and there is no doubt here more true happiness is to be found than among any other class who go into the backwoods of Canada. Poor Richard's saying, which we were familiar with in our youthful days, would well apply to their history:

"They eat their own lamb, their chickens and ham;  
And they shear their own fleece, and they wear it."

The usual price for farm labour is 50 cents per day, with board; and if by the month, from \$10 to \$12, with board. But by far the greater part of farm work is done by way of exchange. Carpenters' wages is usually \$1, with board, and masons, \$1.25. In the towns and villages mechanics' wages rule somewhat higher.

## DAMAGE BY WHEAT FLY.

Very little damage, if any, has been done to the crops of grain in this riding by the wheat fly or midge; indeed, we were not aware that such depredators had made their appearance among us. But the Orillia Report states in one paragraph—"we have suffered no loss as yet from midge or wheat fly; but it has made its appearance in Nert Simcoe, at no great distance from us; and judging from its depredations in other sections, we have reason to fear such a visitor. In the Township reports of Oro, and Vespallusion is made to the severe frost of the summer and autumn, whereby the crops of Indian Corn and potatoes suffered extensively.

## IMPROVEMENT IN CATTLE, SHEEP, &amp;c.

We have already alluded to the importation of first-class cattle to this Riding, direct from England, by several gentlemen many years ago; and now we have the pleasure to report subsequent purchases which have been made by different individuals, of first-class stock from our Provincial Breeders. Indeed we flatter ourselves that if our stock con-

be seen as a whole, we should compare very favorably with those who reside in more southern latitudes.

#### DRAINING NEGLECTED, AND WHY.

Draining the land has not been attended to in this riding as much as the health and prosperity of the occupier have required; and without doubt for the very palpable reason—want of funds. It must be patent to every body, that when a man goes back into the forest to clear a home for himself and family, every surplus dollar is required for the erection of a few buildings; and before he is aware, those he first erected require to be replaced by others, at an extra cost, thereby earning no surplus for draining. But this is not all, for if the unfortunate settler on a lot of land happens to be of a subsequent importation to that of his neighbor, who purchased his land from the Government, he has to purchase his lot from the speculators, who have taken up every lot from the land agent at a nominal price of, say \$1.50 or \$1.75 per acre, by merely paying the first instalment, and who then sell their right for four times its actual value.

This system of land jobbing has been carried on to a ruinous extent in North Simcoe, and has been the means of crippling the poor settler for life; for every dollar must go to pay those who have been greedy of gain, instead of being expended in draining or otherwise improving property. Another fact which is not generally known, and which is really injurious to actual settlers is, that lands are taken up by speculators, and are not settled, and whereon no settler resides, cannot be assessed for taxes. Had the lands in North Simcoe been sold to none but actual settlers, by this time we might have been a flourishing community, for a healthier part of the Province cannot be found. While the actual result is, emigrants from the old country are going past us; and our sons who ought to have been an acquisition to our adoptive country are moving to some far off place, seeking a home to themselves; and in many instances to the United States. We have noted that the speculators have crippled every poor but honest settler so much that they cannot properly cultivate and drain their land; but we are pleased to be enabled to report that there are a few who are in better circumstances, and have commenced draining, and with very satisfactory results. The roads which have come under our observa-

tion, and which, when in a state of nature, were wet and cold, and actually useless, have been rendered extremely valuable by drainage. In the spring of the year when the farmer should be plowing such land, and otherwise preparing the soil for seed, the water prevented the teams from walking over it, and this state of things was obliged to be submitted to until the water was partially evaporated by the sun—the subsoil being of a hard nature always prevented it sinking. While in this state seeding was late; and harvesting was late; ten to twelve bushels of wheat, per acre, was considered a tolerably good crop, and to think of planting potatoes, Swedish Turnips, or any other roots, would be considered the height of folly. But when drained, that portion which before was worthless for roots now yielded, in 1858, over 300 bushels of potatoes per acre; and in 1859, nearly, if not quite 40 bushels of wheat per acre, and of superior quality. We hesitate not to state that there are thousands of acres of land in North Simcoe, which, if properly drained, could with ease be made to yield four times the quantity it produces at present, but the occupiers, for reasons already stated, are too crippled to attempt it.

#### IMPLEMENTS.

North Simcoe may be considered in the rear with respect to improved implements; mowers and reapers are not numerous, in fact they are almost useless until the stumps and stones are removed, and the surface of the soil levelled. The Horse-rake cannot be said to work properly on the virgin soil; and in a vast number of instances the farms are too small to require implements similar to those already mentioned; and in others, until a better system of cultivation is adopted, the returns will not warrant the outlay.

#### HORTICULTURE.

In horticulture we cannot report very favorably. The peach and more delicate fruit trees do not thrive here, they may live through some of our winters, but cannot be relied upon. Even apple-trees brought from the Nurseries have proved almost a failure, nevertheless we believe we are not singular in this case. Although much trouble has been taken and large sums of money expended, yet we have not met with encouraging success. But this privation is now in a great measure overcome by the construction of the Northern Railroad. Apples, the growth of

our neighbors across the line, are now sold by the barrel or otherwise, in our market in Barric; and by the same means of transit we can supply them with lumber, &c., the growth of our Canadian Forest.

#### TOWNSHIP BRANCHES.

**NOTTAWASAGA.**—Sixty eight members; amount of subscriptions, \$103; balance from 1858, \$34.09; share of public grant, \$50.80; total received, \$187.89. Paid in premiums, \$112; expenses, \$33.10; balance in hands of Treasurer, \$42.79.

**ORILLIA.**—Twenty five members; subscriptions, \$134; balance from previous year, \$30.12; government grant, \$82.90; total received, \$247.02. Paid for clover seed, \$53.72; paid for keep of bull owned by Society, \$42.55; copies of *Agriculturist*, \$13; paid for seed wheat, and charges on do., \$91.50; expenses, \$22.45; balance in hand \$23.80.

#### *Extract from Report.*

We have pleasure in stating that root crops are more extensively cultivated than formerly, and especially this season. The backwardness of the spring and appearance of a failure in the hay crop caused many to sow more than their ordinary quantity of Swedish Turnips, which have generally done well, and will in some measure meet the deficiency of the hay crop.

Fall Wheat is not sown to any extent in this locality, being liable either to be winter-killed or injured by rust. This year however, the crop has been an average one, and quality good.

Spring Wheat has been a full average crop, quality excellent, yield varying from 15 to 30 bushels per acre, according to quality of soil and state of cultivation. We have suffered no loss as yet from midge or wheat fly, but it has made its appearance in North Simcoe, at no great distance from us, and judging from its depredations in other sections we have reason to dread such a visitor.

Peas and oats were both a fair crop, some early oats suffered from the dry weather in the early part of summer, but on the whole may be considered an average crop, quality good.

Indian Corn, which generally does well here, has this year in general proved a complete failure, being injured by frost both in spring and fall.

Potatoes—a considerable breadth of ground

was under this crop, which had a fine appearance and gave promise of an abundant return, but the severe early autumnal frosts reduced the probable amount at least one third.

**ORO.**—Forty-three members; subscriptions, \$142.45; balance from 1858, \$45.35; share of public grant, \$83.72; entries, &c. \$15.69; total received, \$287.21. Paid premiums at show and plowing match, \$144.75; paid for clover seed, \$74.30; copies *Agriculturist*, \$20; incidental expenses, \$33.01; balance in Treasurer's hands, \$15.15.

**VESPRE.**—Thirty-eight members, subscriptions, \$109.50; balance from previous year, \$46.01; share of public grant, \$70.55; total received, \$226.07. Paid in premiums, \$110.25; paid for clover seed, \$79.52; copies *Agriculturist*, \$12.50; incidental expenses, \$28.09; total expenditure, \$230.36; balance due Treasurer, \$1.29.

#### *Extracts from Report.*

The soil of this township, (a sandy loam) generally speaking, not being of the best, though yielding fair average crops as long as the surface vegetable mould lasts, which is only for a very few years, requires careful tillage to keep the crops up to the mark. Experience has taught that sowing with grain year after year will not answer. To keep the soil productive a regular rotation of crops must be adopted, root crops and clovering cannot be dispensed with, and it is imperitively necessary that the most should be made out of the barn-yard by way of manure; too much neglect is apparent in this respect. The farmer appears to make the most of every thing to supply his present necessities, takes to market his hay, and even his straw, half starves his cattle, robs his farm and consequently himself. So long as this continues the yield of our farms will necessarily decrease. There is a great necessity for improvement in the stock farming of this township, a majority of the farmers seem to content themselves with the old state of things, and, with few exceptions, make no effort to improve their stock, though the means for so doing are placed within their reach, for, as might be seen at our exhibition, we have some excellent thorough bred animals in the townships, and the farmers have only themselves to blame for having stock which is neither fit for the dairy or the butcher. We are of opinion that it would conduce materially to the interests of the

farmer of this vicinity if he would turn his attention more to the raising and keeping of sheep as farm stock, than which there is no kind of animal more profitable, whether considered in a pecuniary point of view, or as a fertilizer of the farm.

The crops generally speaking, of last year, with the exception of hay, were good. As near as your Directors can ascertain, the average yield per acre for the township was as follows: Spring wheat 20, peas 23, and oats 30 bushels. What little fall wheat was sown, suffered greatly by the frost in June. The root crops yielded abundantly; there is no doubt but a large surplus produce was raised in the township, which has been disposed of at fair remunerating prices.

#### SOUTH SIMCOE.

COUNTY SOCIETY.—One hundred and thirty five members; subscriptions, \$135; balance from previous year, \$63.01; deposited by Township Branches, \$300; government grant, \$479.98; entry fees, &c, \$2.93; total received, \$1011.92. Paid Townships Branches, \$619.98; paid premiums, \$289.85; sundries, \$30; balance in treasurer's hands, \$72.09.

#### *Extracts from Report.*

This District, taking it altogether, is well adapted and favorably situated for agricultural purposes. It is about forty miles north of the City of Toronto, having the macadamized road, Yonge Street, to within three miles of the county, it also has the Northern Railroad of Canada entering at nearly its northern limits (through the incorporated Village of Bradford, which is the Market town) and passing north along its eastern border through the Townships of West Gwillimbury and Innisfil.

#### SOIL, &c.

The general character of the soil is a long loamy clay, and well adapted for the growth of all kinds of white and green crops, particularly fall and spring wheat, of which the average yield the last season of the former was 25 bushels, and of the latter 30 bushels per acre. There are some swamps or marshes to be met with here and there through the county, most of which supply quantities of peat that is considered almost indispensable for fencing purposes. The face of the county is generally sloping, or what is called by the farmers rolling.

#### VALUE OF LAND.

It is difficult to give a correct idea of the value of farming land in a report of this kind, the prices vary so much both with circumstances and situations. Nearly every farm in the riding, except what is under swamp, is in a state of improvement, some of them half cleared, and others three parts cleared and free from stumps. Some farms have been sold since the depression in prices, or the land fever as it was called, for from \$60 to \$80 per acre, but for farms say one-half cleared, with comfortable buildings, the average price would be about \$40 per acre.

#### CROPS, &c.

The quantity of green crops now grown is much greater than formerly, and an increased interest is taken in them, which we attribute in part to the attention of the farmers being directed to their importance as well as offering premiums by this society for the best crop of Swedish Turnips to be judged on the ground as they grow. The only barrier we know to their growth is the destruction of the young plant by the Black Fly, for which we are not aware of any remedy. All kinds of green crops did well last season.

Potatoes in a few instances which were planted on low or wet ground, showed some symptoms of the old epidemic or rot, but not to any alarming extent. Carrots were by some farmers sown extensively, and yielded largely.

#### HORSES.

There are some very superior heavy team horses, but we cannot say so much in favor of the carriage or saddle horses, which is to be regretted the more on account of the fame or character this riding had some years since for its valuable roadsters. The average price for good horses at present is about \$100 each and the supply is rather greater than the demand.

#### CATTLE.

In cattle there is quite a marked improvement to be seen at each of four succeeding annual exhibitions. The good effects of some Durham Bulls imported into the riding some years ago, is now manifesting itself. Gallopway cattle are also being introduced, and by some are sought after, and thought to be well adapted to this Canadian climate. The feeding or fattening of cattle, with the increase and growth of green crops, is becoming much more general, each good farmer

usually feeding three or four beasts every winter. Some young cattle, such as 3 or 4 year old steers or heifers, after three months feeding, have been sold for \$65.00 each, which before being fed could have been bought for \$35.00 a head, leaving a profit of \$30.00 each, less the expenses of raising turnips, &c. The subjoined table will pretty nearly show the cost and profit of feeding four head of cattle, which were sold in January last.

To 4 head of cattle, \$35,00.....	\$140 00
“ Preparing ground for raising 2 acres turnips.....	8 00
“ Seed and sowing.....	6 00
“ 10 doz. sheaves oats, 25c.....	2 50
“ Balance.....	103 50
	\$270 00

By amount received for 4 head of cattle.....	\$260 00
	\$260 00

By balance ..... \$103 50

We do not take into consideration the value of the straw, or the trouble of attending to them, for they are more than doubly paid by the additional quantity and quality of the manure.

Dairy Husbandry is not very extensively followed, we suppose from and on account of the scarcity of pasturage, every arable acre being put under crop, the cows being obliged to pick through the bush until the crops are harvested, after which they have abundance of feed; however each farmer keeps as many as supply his own household, as well as having a few firkins of butter to dispose of in the fall.

**SHEEP.**

An increased interest is taken in sheep, and we are of opinion no stock pays better, or shows the benefit of the cross with the improved breeds more quickly. The kinds most in favor here are the Leicesters first, Cotswolds next. Some fat sheep have been sold in this place last winter at \$12,00 each, weighing when dressed 132 lbs., but these were much beyond mediocrity, in fact might be said to be the pick of the county; the average price for fat sheep might be quoted at \$5,00.

**PIGS.**

There is not yet enough of interest taken

in raising good breeds of pigs, and we must say there is great room for improvement. A great number are annually raised in the county, the greater part of which have been sold on foot the last two or three years to America at the rate of about \$4.50 per cwt. gross, which the farmers consider pays better than fattening them, in fact that this does not remunerate them for peas, &c. which they consume, and the trouble of attending to them.

**FLAX.**

In many parts of the county flax is sown on a small scale for the value of the seed. It grows and yields well, and your Directors are of opinion that their soil and climate is well adapted for its cultivation, and have no doubt that if there were a market or manufactory for the raw material it would soon be extensively grown.

**HAY.**

This crop was very deficient last season, and as a good deal of interest appears now to be taken in the growth of Hungarian Grass or hay; we give an extract from the address of our President, delivered at the agricultural dinner last fall touching its cultivation. He said: “As far as I can learn, the hay crop may be considered a failure through most parts of Canada as well as some parts of the United States, and therefore I think it my duty to direct your attention to this subject, and give you the result of what experience I gained this season relative to a new kind of hay, that is, Hungarian Grass, Honey Bled American Millet, for by these different names it is called, some asserting that they are different kinds and that some are superior to others. Be this as it may, they all belong to one species or family, and as far as I have seen they are all equally good. The first notice of it I saw last winter in some of the United States Agricultural Journals, at from the praise there bestowed upon it, came up my mind to give it a trial upon Canadian soil. I was fortunate enough to find some seed at Mr. Simmers, seed merchant, Toronto, and sowed it on a piece of rich ground on which there were turnips the previous year, manured with Peruvian Guano and stable manure in the last week of April (being at that time ignorant of the proper time of sowing), which was a month at least too soon, for although it came up beautifully, and grew luxuriantly, the late frosts which came about the first of June almost completely killed it, so I plowed up the ground and

turnips, leaving a small portion to see if it would recover, which some of it did, and grew enough of seed for next year. On the first week of June I prepared and sowed another piece of land with seed, at the rate of about one bushel to three acres; this came up quickly and grew rapidly, and about the middle of August, or ten weeks from the time of sowing, I cut it, and it yielded at the rate of six tons of 2000 lbs. the acre, of the very best description of hay. I say the very best, for it is both nutritious, clean, free from rust and all other impurities, and it is less subject to injury by rain or bad weather. When it first makes its appearance it looks very much like fox tail grass, after this the plants grow thick and strong not unlike Indian Corn, and ultimately it spins out and again resembles giant fox tail in appearance. Here is a fair specimen of the hay, also of a seed which I grew in the way described. You see the hay averages about  $3\frac{1}{2}$  feet in length, with a large head containing almost handful of seed, and from the appearance of the head you will not be surprised to hear that it produces from 25 to 30 bushels of seed to the acre, and which weighs from 45 to 50 lbs. per bush, and I need hardly tell you that horses are particularly fond of both hay and seed. Now I would recommend the Officers and Directors of this Society to try next spring, to keep an account of the time of sowing and cutting, also the quantity of seed sown per acre, &c., and when we meet again we will be better able to judge of its merits and adaptation to Canadian soil and climate."

#### HORTICULTURE.

This County is not very far advanced in the way of Horticulture. Apple and other hardy fruit trees heretofore have done well, and been very productive; but in late years, the young trees (particularly the apple) die off in large numbers, we say on account of the ravages of the bark louse, others say theirs have died off without any appearance of this insect upon them. The apple crop the last season may be said to have been a total failure, which we attribute to the unusually late and severe frosts.

#### LABOURERS' WAGES, ETC.

Labourers, as also male and female servants, are rather scarce, and generally inquired after; daily labourers receive 75c. per day with, or 75c. without board,

and about \$1.0 per month is the average wages for farm hands, and from three to four dollars per month for female servants. Tradesmen are not much employed by the day, they prefer working by the job or piece; the average wages for all the trades is about \$1.50 per day, when they are employed in that way.

#### IMPLEMENTS.

We are well provided in the way of agricultural implements; reapers and mowers are in general use, and are of great advantage to the farmers, doing the work quickly and efficiently at that season of the year when labourers are scarce and much sought after. Straw or chaff cutters are in great demand this season, in consequence of the scarcity of hay. Subsoil ploughs have not as yet come into general use, though we feel assured much benefit would arise from them on many of the old cleared farms in this County, with stiff clay soil and subsoil, where the surface lime has been pretty well exhausted by repeated croppings of wheat.

#### DRAINING.

In this branch of agriculture, improvement there is not much improvement as yet made. Most farms certainly have some drains cut through them in the wettest places—some of them open drains, others covered; the materials used to conduct the water through the latter are principally stones or rails. Small stones make a very efficient and permanent drain, thrown loosely into the drain to the depth of eight or ten inches, and protected in the usual way, with straw, brush or sod. There are as yet no pipes or tiles manufactured in this county, though they are made on its borders, in the township of King.

#### WEEDS.

On some, in fact we might say many, farms in this Riding, noxious weeds of different kinds are to be seen—such as pigeon weed, wild mustard, and worst of all, Canada thistle, and too much attention cannot be paid to their destruction or eradication. The two former can be got rid of by hand pulling, and by being careful in getting and sowing pure clean seed—not so with the Canada thistle. Many and various ways have been tried



to rid the farm of it, with only partial success, but we are not aware that any scientific principles have been adopted with this object. Your Directors would recommend a premium being offered by the Board of Agriculture for the best essay upon their destruction or eradication, to be tested by actual experiment.

FENCES.

The old serpentine or rail and rider fence is the one still in general use, and as yet appears to be most suitable to the country and to the wants of the farmer; but in many places, particularly along road sides, are straight fences of cedar posts and boards. There are also some picket fences made with split cedar sunk into the ground, or with sawed slats of pine nailed upon scantling and cedar posts. No live fences as yet have been successfully cultivated. The English white thorn has been tried without any marked success. They sometimes grow well and then die off. If some hardy native shrub or plant suitable could be found, we have no doubt it would be of great advantage, affording shelter for cattle, &c., as well as protection to the crops.

TOWNSHIP BRANCHES.

ESSA.—Forty-six members; subscriptions, \$42; balance from previous account, \$33.29; share of public grant, \$42.66; total, \$117.95. Paid in premiums, \$73.50; expenses, \$16.71; balance in Treasurer's hands, \$27.74.

WEST GWILLIMBURY.—Report very imperfect; 38 members reported.

INNISFIL.—Sixty-one members; subscription, \$63; balance from previous year, \$58.68; Government grant, \$60.80; total received, \$182.48. Paid in premiums, \$159; expenses, \$13.95; balance in hands of Treasurer, \$18.53.

MULMUR.—Thirty-six members; amount of subscriptions, \$50.

TECUMSETH.—Forty-four members; subscriptions, \$77; balance from 1858, \$14.74; share of public grant, \$82.13; total receipts, \$173.87. Paid in premiums, \$148 52c.; expenses, \$16.82; balance in hand, \$8.53.

STORMONT.

COUNTY SOCIETY.—Amount of subscrip-

tions, \$48; balance from previous year, \$29.16; deposited by township branches, \$210; Government grant, \$479.98; total rec'd, \$767.14. Paid township branches, \$498; paid for clover seed, \$16; expenses and sundries, \$76.63; balance in Treasurer's hands, \$176.51.

TOWNSHIP BRANCHES.

CORNWALL.—Amount of subscriptions, \$62; balance from 1858, \$259.81; Government grant, \$86.50; received for a ram sold, \$5; total receipts, \$413.31. Paid for copies *Agriculturist*, \$20; paid in premiums, 104; paid for young bulls and ram lambs, and freight, &c., \$305.30; incidental expenses, \$14.50; total expenditure, \$443 80; balance due Treasurer, \$30.49.

FINCH.—Forty members; amount subscribed, \$41; no further report.

OSNABRUCK.—Amount of subscriptions, \$110; balance from 1858, \$7 43; Government grant, 148; total received, \$265.43. Paid in premiums, \$237.16; expenses, \$25.50; balance remaining in hand, \$2.77.

ROXBOROUGH.—Forty-two members; subscriptions, \$49; share of public grant, \$53.50; sundries, 87c.; total received, \$103.37. Paid in premiums, 75.25; expenses and sundries, \$9.50; balance in hand, \$103.37.

VICTORIA.

COUNTY SOCIETY.—Three hundred and sixty-five members; subscriptions, \$354; balance from previous year, \$700; deposited by township societies, \$267.80; Government grant, \$479.98; donations and sundries, \$105.58; total received, \$1907.36. Paid for seeds, \$389.30; paid township branches, \$554.80; premiums, \$150.25; expenses, 33.17; sundry payments (objects not stated), \$637.53; balance in Treasurer's hands, 142.01.

Extracts from Report.

This County is divided into 19 Townships, viz.: Emily, Ops, Mariposa, Eldon, Fenelon, Verulam, Laxton, Garden, Semerville, Bexley, Lutterworth, Anson, Macaulay, Dalton, Ryde, Digby, Draper, Oakley, and Hindon. The inhabitants are principally emigrants from Great Britain and Ireland, and are almost exclusively engaged in agriculture. The soil of the first five mentioned township is a heavy clay, lying on a bed of limestone gravel; that of the remaining 14

townships, which lie in the more northern part of the County, is of a more loamy and gravelly nature. It is observed, that the quality of the wheat grown is gradually improving, and it is suggested, that this improvement arises through the steady increase in the quantity of the limestone that is brought to the surface by various means. A peculiarity of the geological formation of the County should be brought under especial notice. In the townships of Mariposa and Ops, the limestone is of the hardest nature known, but on exposure to the atmosphere, from one to three years, it crumbles first into pieces and then into a dust resembling plaster.

The County is favoured with excellent water communications. The Scugog Lake empties itself into the Scugog River, at the south part of the County, runs past the Town of Lindsay, falls into Sturgeon Lake, and leaves the County on its course by the Rivers Otonabee and Trent to Lake Ontario, at Bobcaygeon, at which point a Government Road, 120 miles in length, leading to Lake Nipissing, is in progress of formation. This road is already graded for 30 miles, and is rapidly being taken up by settlers, and considerable advantages are anticipated from the opening up of this County. A fine chain of lakes, viz.: Gull, Balsam, and Cameron Lakes, intersects this water communication from the north-west, uniting with Sturgeon Lake at Fenelon Falls. These waters are at present navigated within the boundaries of the County for fully 36 miles, by four steamboats and other craft, and this navigation can be beneficially extended by a small outlay for Locks at Fenelon Falls and Balsam Rapids. These lakes are now the scenes of considerable lumber operations; during the year white pine, commanding the highest price in the Quebec market, has been cut on their banks and rafted through them, en route to the seaboard. It is, however, a source of regret, that so large a quantity of timber should be carried out of the County, in an unmanufactured state.

The facilities for forwarding the produce of the County have been greatly increased by the making of the Port Hope and Lindsay Railway, which enters the

County at the south-west corner of Emily, and has its terminus at Lindsay. The railway presents to immigrants and tourists a daily facility for reaching the back country, and it is satisfactory to state, that its receipts are increasing.

The County contains 5 mills for gristing, driven by water, and one by steam power; one oatmeal mill; 10 saw mills, driven by water, and two by steam power; two carding, fulling, and cloth dressing machines; two shingle manufactories, and three foundries and machine shops. By the best estimate that can be arrived at, there were 519,500 bushels of wheat grown in the County during the year, the quality of which is represented by purchasers to be worth fully five cents more per bushel than the wheat of 1858. The fall wheat raised was principally of the Soule kind, and has yielded well; the prize wheat at the County Show weighed 64 lbs. per bushel. The spring wheat, which is most extensively cultivated, is generally the Fife or Scotch wheat, which, in this County, has also yielded well—the prize wheat weighing 62 lbs. a bushel. Wheat sown previous to the 12th of May was liable to the ravages of the midge, but if sown after that time, was almost entirely free; in fact, this district did not suffer so much from this insect as in the previous years; it was observed that a small spider destroyed this insect early in the morning, and to this cause and to a sharp frost in June, our comparative immunity is ascribed. But little barley is raised; peas and oats were extensively cultivated, and, on an average, 20 bus. of the former and 25 of the latter, per acre, were raised. In Mariposa and some parts of Ops, peas averaged 30 bushels an acre; potatoes were extensively cultivated, and averaged 100 bushels to the acre; maple sugar was largely manufactured, and on no previous year has the sap been more prolific. The hay crop was almost a total failure, but in instances where plaster was used, beneficial effects resulted; root crops were an average. The butter exhibited at the County Show did great credit to the dairy women, and our cheese, although not so good as could be desired, is gradually improving in quality. There has been a steady and uniform market for wheat,

and all descriptions of produce, in Lindsay, at prices which almost approximate with those of Toronto.

In agricultural implements, it is to be regretted, that the County is in the back ground; but since the Railway has been completed, some of the most modern improvements have been introduced.

The breed of horses may be described as of the old native stock, and the Directors, feeling the necessity of improvement, purchased a thorough bred horse, whose sire stood at the Royal Paddocks, at Hampton Court, in England; but unfortunately, though well cared for on its passage by an experienced groom and the officers of the Montreal Steam Ship Company, it died on its third day out at sea. A cross between a thorough bred horse and the Clyde breed, is considered most suitable for this district. The breed of cattle is altogether of the native sort; the farmers of Mariposa have made some few attempts at improvement in this respect. The breed recommended as most suitable is the Durham, if in the hands of careful and attentive farmers; but, in ordinary cases, Devons are preferable. More advance has been made in sheep—by crossing the breed already existing with Leicester rams, both the quantity of the wool and the quantity and quality of the mutton brought to market have improved. Of pigs, all the improved breeds have been introduced with success.

There has been but little interchange in landed property, sufficient, however, to indicate, that with moderate improvements it is worth \$40 per acre—the average rental \$2½ per acre. But very few attempts have hitherto been made at draining, and, where effected, it has been done with stone and cedar—tiles not being as yet manufactured in the County. The average rate of wages for an agricultural labourer, with board, is \$120 per annum; per diem, commonly from 50 to 60 cents; in haymaking, 75 to 80 cents, and in harvest, \$1—these rates indicating a decline of one-fourth.

With respect to the Horticulture of the County, the Directors regret they have but little favorable to report. Its northern position, and comparatively late settlement, prevent its competing in this re-

spect with many other counties, the attention of its inhabitants being naturally more directed to agriculture; but the season of 1859, from its late spring and early autumnal frosts, must be chronicled as a peculiarly unfavourable one to the gardener.

Amongst the undeveloped resources of this County must be enumerated as existing in its northern parts—black and white marble, plumbago of the finest quality, copperas, iron, lead, and silver ore. These articles could be transported at a comparatively small cost to the marts of commerce; and it is believed, that if more publicity was given to these facts, that the attention of parties engaged in and conversant with mining, might be directed to them, so as to turn them to profitable account.

#### TOWNSHIP BRANCHES.

FENELON AND VERULAM.—Amount of subscriptions, \$73; balance from 1858, \$43.37; received from County Society, deposit and public grant of 1858, \$115; share of public grant, 1859, \$77.60; total received, \$308.87. Paid for seeds, gypsum, breeding stock, expenses, &c., \$299; balance in Treasurer's hands, \$9.87.

MARIPOSA.—One hundred and forty-four members; amount of subscriptions, \$144; Government grant, \$154.40; amount paid in premiums, \$81. Report imperfect.

OPS.—Amount of subscriptions, \$51; grant, \$54.80. Funds expended in purchasing clover seed, turnip seed, premiums at show, ploughing match, &c Report defective.

#### NORTH WATERLOO.

COUNTY SOCIETY.—One hundred and fifty-seven members; amount of subscriptions, \$196.25; balance from previous year, \$72.84; deposited by township branches, \$204; grants from Township Councils, &c., \$80; Government grant, \$479.98; total receipts, \$1033.07. Paid township branches, \$404; paid in premiums, \$521; expenses, &c., \$120.98; total expended, \$1045.98; balance due Treasurer, \$12.91.

#### TOWNSHIP BRANCHES.

WELLESLEY.—Eighty members; amount of subscriptions, \$117.50; Government grant, \$100; total received, \$217.50. Paid in premiums, \$178.50; expenses, &c. \$39.

WOOLWICH.—One hundred and four members; subscriptions, \$122; Government grant, \$100; receipts at show, \$8; total received, \$230. Paid in premiums, 163.53; expenses, \$50.13; balance in hands of Treasurer, \$15.34.

#### SOUTH WATERLOO.

COUNTY SOCIETY.—Two hundred and forty-five members; amount of subscriptions, \$405; balance from previous year, 233.32; Government grant, \$479.98; receipts at show and sundries, \$162.87; total received, \$1286.17. Paid in premiums, \$773.25; copies *Agriculturist*, \$25; erecting floral hall, preparing grounds, printing, and other general expenses, 352.74; balance in Treasurer's hands, 35.18. There are no township branches in this division.

#### *Extracts from Report.*

It is satisfactory to observe the great improvement that has taken place in the breeds of all kinds of stock during the last four or five years, and more particularly in Leicester sheep; in fact, the noted roughbreds, as shewn in this Riding, some counties would pass muster for the

There appears to be more attention paid to the breeding of pigs; still, however, leaving room for more general improvement, particularly when the fact is taken into consideration that a farmer on half the food may raise almost double quantity of pork.

The roots exhibited could not be surpassed in any part of the Province. The crops of potatoes and turnips throughout the Riding have been most excellent; and the report of the judges on "the best acre of turnips," in some instances yield of the latter root was enormous. The fall wheat crop by no means fulfilled the promise of the early part of the season—never was there prospect of a better harvest; but the untimely frost in the autumn rendered the crop in some cases nearly worthless, and in most instances yielded it more or less.

The hay crop, owing to a long continuation of dry weather, has been a complete failure, and were it not for the yield and excellent quality of straw, farmers would have considerable difficulty in wintering their cattle.

Oats and peas, in the Township of North Dumfries, owing to the same cause, are but an indifferent crop; but in the Township of Wilmot they are above the average.

The introduction of the gang plough and cultivator has been attended with the most beneficial results, and appears to be very generally adopted. The reaping and mowing machines, also manufactured by our own enterprising mechanics, have proved themselves most valuable auxiliaries to our farmers, making them in a measure independent of manual labour; this, in a county at such times so scarce of labouring hands, is a great boon.

It is a matter for very serious consideration for our farming community, in the face of so many failures in the wheat and other grains, whether it is advisable to depend so much on these crops for a profitable investment, or whether it would not be much more to their advantage to go more extensively into the breeding and fattening of stock? The Americans now look to Canada, particularly this portion of it, for a proportion of their supply of beef and mutton for the New York market. With our soil so well adapted for the culture of the turnip and mangel wurzel, it is a great question whether it would not pay better in the meantime, and be a decided advantage to their land in the future.

The breadth of turnips now grown in the Riding is very large, in one instance reaching as high as sixteen acres—three and four being quite a common average. Your Committee are of opinion that the premiums offered by the Society, for the best acre of turnips, will have a good effect, as tending to improve the system of cultivation.

Your Board view with much pleasure the increase of our home manufactures, as in that lies one of the great sources of wealth of a country, bringing a good market for our produce to our very doors, and checking the great efflux of capital. It is a matter of great gratification that the woollen manufactures of Galt and Preston stand second to none in the Province.

The farmers of this Riding, and more particularly the Township of North Dumfries, have much to be thankful for, and

also to be proud of. Coming, as they did, into one of the most rugged and intractable parts of Canada, they have converted it, by untiring industry and assisted by a kind Providence, into one of the most fertile and flourishing sections of the Province; and they can now sit down, surrounded with smiling plenty, to enjoy a good old age, the results of a hard working, energetic youth.

### Miscellaneous.

**GREASE AN ANTIDOTE FOR ARSENIC.**—M. Blondlot, of Nancy, (France), has lately called attention to a very curious toxicological fact, namely, that greasy matters have the power of diminishing considerably the solubility of arsenious acid either in pure water or in acid and alkaline liquors. Thus, in contact with grease, the poisonous properties of arsenic are very much decreased, and at the same time it becomes more difficult to render its presence evident by chemical reactions. A very slight quantity of greasy matter, according to M. Blondlot's experiments, reduces the solubility of arsenious acid to 1 15th or 1 20th of what it is when in a pure state. This explains why arsenic, taken in the form of powder, remains sometimes for a considerable interval in the body without producing injury; it explains also how it is that in cases of poisoning by arsenic, this substance has not been readily detected in such portions of the body or the aliments which contain much grease. It seems to teach us, also, that cream, for instance, is an excellent antidote for arsenious acid. Morgagni tells us, in his writings, that, in his time, the Italian boatmen used to astonish the bystanders by swallowing, without hurt, large quantities of arsenious acid, having taken the precaution beforehand of drinking large quantities of milk or eating some greasy matter. As soon as the public had retired they got rid of the poison by vomiting.—*London Photographic News.*

**PIN-MONEY.**—Towards the close of the fifteenth century, an epoch that marks a transition style in the dress of ladies, pins were looked upon with great favor as New-Year's gifts. They displaced the old wooden skewer, which no effort of skill, no burnishing or embellishment could convert into a sightly appendage. Pins, in that simple age of the world, were luxuries of high price, and the gift was frequently compounded for in money—an allowance that became so necessary to the wants of ladies of quality, that it resolved itself at last into a regular stipend, very properly called, "pin-money."

**A CENTENARIAN.**—There is at present residing at the village of St. Mary Cray a man named

Joseph Knee, who was born on Christmas-day, 1738, christened on Christmas-day, 1739, and married on Christmas-day, 1782. He is a farm-labourer. His wife lived with him fifty years, and he had three sons and four daughters, of whom only three of the latter are now living. He was born in the parish of Seau, in Wilts, and came to St. Mary Cray at the age of 90, to reside with his son-in-law, Mr. Reeves. The old man is in possession of all his faculties, walks about daily, and takes his glass with perfect ease.—*Maidstone Journal.*

**PLANTED BY NATURE.**—Some seeds when ripe, are provided with hooks made to each hold of passing animals, which, after a time, get rid of them by rolling on the ground. Those seeds which are surrounded by a succulent pulp, and are swallowed by birds and quadrupeds, are generally favorably consigned to the earth. Most seeds pass uninjured through the stomach and intestines of all animals, with the exception of gallinaceous fowls. Current seeds, after having been eaten by man, can germinate. Foxes sow the seeds of the cranberry (vaccinium) after eating its red berries. Apple and pear trees are often found in ditches and under hedges, proceed in this way, it is said, from fruit which has been devoured by peasants. Farmers are often astonished when, after having, as they think, perfectly prepared their fields, and sown excellent corn, or reaping they find some places covered only with useless oats. In other cases, mammals and birds devour only a portion of seeds, while the rest fall and become productive. When the squirrel shakes the cone of the pine-tree to obtain the seeds, a great number fall to the ground and are lost to him. The inhabitants of Iceland call a particular sort of nut "rat's nut," from the circumstance that the rats gather them in great numbers, and hide them in the ground. But the rats are very often killed by one or other of their numerous enemies, the nuts are left to germinate. Seeds falling into worm-holes are sure to germinate, as well as seeds which drop into the subterraneous passages made by mole to ensnare worms and insects. The hog, by treading up the earth as with a plowshare, prepares it for the reception of seeds. The hedgehog passes his life in doing the same service.—*Dickens' All the Year Round.*

**GAMR IN THE LONDON MARKET.**—The quantities of game and wild birds consigned to sport of the large London salesmen almost exceed belief. After a few successful battues in the Highlands, it is not at all unusual for one firm to receive 5,000 head of game, and as many as 20,000 to 30,000 larks are often sent off to market together. Ostead sends annually 600,000 rabbits, which are reared for the purpose; the neighboring sand-dunes, in addition to those which are caught in our own areas, and which love-cries make night hideous. We are indebted

ed to Ireland for flocks of plover, and quails are brought from Egypt and the South of Europe. Some 17,000 quails on one occasion descended upon London *via* Liverpool, whither they had been brought from the Roman Campagna. Of the 2,000,000 fowls that every year flank the billed tongues on our London tables, by far the greater number are drawn from the counties of Surrey and Sussex, where the Dorking breed is in favor. Ireland also sends much poultry. No less than 1,400 tons of chickens, geese, and ducks are brought to town annually by the Great Western Railway, most of which are from the neighborhood of Cork and Waterford, whence they are shipped to Bristol. The bulk of the geese, ducks, and turkeys, comes from Norfolk, Cambridge, Essex, and Suffolk—our fat counties which do much to supply the London commissariat, the Eastern Counties Railway alone having brought thence in one year 22,462 tons of fish, flesh, fowl, and good herrings. The estimate of all the poulterers' stock which is annually consumed here, including bares and rabbits, amounts to some unknown figure of between 100,000 and 10,000,000 items.—*Times*.

**LOW DIET**—In 1307, when the Archbishop of St. Andrews was a prisoner at Winchester, he was allowed 1s. per day for the maintenance of himself and servants, divided in the following proportions:—For the archbishop's own daily pence, 6d.: one man-servant to attend him 1s.: one boy ditto, 1½d. And the Queen of Robert Bruce, who was a prisoner in England 1314, was allowed only 20s. a week for her "and household."

**THE WALRUS**—The chase of the walrus is of antient antiquity. Othoer, the Norwegian, about the year 890, gave an account of it to Alfred the Great. "Having," he says, "made a voyage to Norway for the more commodious of the sea-goose whales, which have in their teeth tusks of great price and excellencie, whereof he brought some at his return to the king." In the present day the sea-horses range the coasts of Spitzbergen almost without molestation from the British. The whale-fishers rarely take half a dozen in a voyage. The Russians are their principal enemies, who, by means of the hunting ships, sent out to winter on the coast, capture a considerable number. The flesh of the walrus is said to be tolerably good by Europeans, and affords a variety amid the ordinary sea fare; and there are few of the sailors who do not prefer it to meat. Among the Chinese, the tusks are employed for those curious uses to which the so wonderfully turn ivory, as it is said to be that of the elephant in hardness and perfect whiteness; and in most civilized nations extensively used for the invaluable purpose of giving teeth to the toothless.—*Lessons from Geographical Distribution of Animals*.

**WOMAN**.—Great, indeed, is the task assigned to woman! Who can elevate its dignity? Not to make laws, not to lead armies, not to govern empires; but to form those by whom laws are made, armies led, and empires governed; to guard, against the slightest taint of bodily frailty, the frail, yet spotless creature whose moral no less than physical being, must be derived from heaven; to inspire those principles, to inculcate those doctrines, to animate those sentiments which generation yet unborn, and nations yet uncreated will learn to bless; to soften firmness into mercy, and chasten honor into refinement; to exalt generosity into virtue; by a soothing care to allay the anguish of the body, and the far worse anguish of the mind; by her tenderness to disarm passion; by her purity to triumph over sense; to cheer the scholar, king under his toil; to console the stricken man for the ingratitude of a misshapen people; to be compensation for friends that are perfidious—for happiness that has passed away. Such is her vocation. The couch of the tortured sufferer, the prison of the deserted friend, the cross of the rejected Saviour—these are the theaters on which her greatest triumphs have been achieved. Such is her destiny: to visit the forsaken, to tend to the neglected when monarchs abandon, when councilors betray, when justice procrustes, when brethren and disciples flee, to remain unshaken and unchangeable, and to exhibit in this lower world a type of that love, pure, constant and ineffable, which in another we are taught to believe the test of virtue.—*Blackwood's Magazine*.

## Editorial Notices &c.

### Death of Dr. Robb.

We learn with deep sorrow of the decease of Dr. Robb, the very able Secretary of the Board of Agriculture of New Brunswick. The Doctor was Professor of Chemistry and Natural History in King's College; and for many years distinguished himself as a zealous and enlightened promoter of scientific and practical agriculture. Much of the late improvement that has taken place in that important colony may fairly be attributed to the exertions of the late highly esteemed Professor, and the few enterprising men who, for many years, have been associated with him. His premature removal must be felt as a most serious calamity in our sister colony; and also as a heavy loss by the agricultural community throughout British America, and the neighboring States.

James G. Steuens, Esq., of Charlotte Co., has

been appointed Dr. Robb's successor as Secretary of the Board, and from the correspondence which we have had with him since his appointment, we have good reason for believing that he will do his part in sustaining efficiently the important interests entrusted to his care. We have to thank Mr. Stevens for a copy of the "First Annual Report of the Board of Agriculture of the Province of New Brunswick," in which we find some very able and interesting articles, some of them from the pen of the late Dr. Robb; and also a copy of the prize list of the Provincial Exhibition of New Brunswick, to be held at Sussex Vale on October 1st, 2nd, 3rd, and 4th next.

#### TORONTO HORTICULTURAL SOCIETY.

We have lying before us the Report of the Directors of this important Society for 1860; a few extracts from which cannot fail to be interesting to many of our readers. The Exhibitions of the Society were more than usually successful, and the land, the munificent gift of the President, the Hon. G. W. Allan, has already been converted, under the able superintendence of Mr. E. Taylor, landscape gardener, of this city, into a beautiful and tastefully arranged garden, highly creditable to the Society, and a great ornament to the city. It is to be regretted that, mainly owing to the unpropitious state of the weather, during the formal opening of the Garden by His Royal Highness the Prince of Wales, the receipts fell much short of the expenditure, and left the Society considerably in debt. Some extra effort it is hoped will soon be made for relieving the Society from this incumbrance.

The Report says:—

"The season of 1860 has been an eventful one in the history of your Society. It has witnessed the accomplishment of an undertaking which has not only engaged the earnest attention of the Directors during the past two years, but has excited much interest among all the members of the association.

"Despite the many difficulties and discouragements, the works commenced in 1859 in the grounds presented to the Society by the President, have been successfully completed, and on Tuesday, the 11th of September last, the Directors had the satisfaction of seeing their gardens opened for the first time for the admission of the public, and of holding in them, in conjunction with the Electoral Division Society, a grand united exhibition of flowers, fruits and vegetables.

"This auspicious event, so full of interest to the Society, was rendered doubly gratifying by the opportunity which was then afforded to its members of joining in their corporate capacity with other bodies on the occasion of the late visit of his Royal Highness the Prince of Wales, in testifying their respect and affection to the heir of the British Crown, and their loyalty and devotion to his Royal Mother.

During his stay in this city, his Royal Highness was graciously pleased to accede to the request of the society to be present at the opening of the gardens, and he accordingly conferred the distinguished honour on our body, of inaugurating the proceedings of the day by receiving and answering an address presented to him by the President and Directors on behalf of the society, and leaving at the same time a lasting memorial of his visit by planting a Canadian Maple in front of one of the principal walks of the garden.

The season of 1860 has also been remarkable as one of extraordinary productiveness. Not only have the labours of the husbandman been blessed by a kind Providence with the most plentiful returns, but the garden and the orchard have rivalled the farm in the abundance and excellence of their respective productions.

Tuesday, the 11th of September, was the day fixed upon for the public inauguration of the Garden by the Prince, and the Directors have done everything in their power to make the arrangements worthy of the august occasion. Nothing indeed seemed wanting but the sun's cheering rays, so essential to the perfection of horticultural fete.

The following is the address presented to the Prince on that ever memorable occasion:—

*To His Royal Highness, Albert Edward, Prince of Wales, &c., &c.*

MAY IT PLEASE YOUR ROYAL HIGHNESS,—

We, the Directors of the Toronto Horticultural Society, desire, on behalf of the Association to express our grateful sense of the high honor conferred on the Society by the visit of your Royal Highness to our gardens.

In prosecuting the work of laying out the grounds, now for the first time to be opened to the public, the Society have been actuated by desire to promote the interests of Horticulture and at the same time to prove a new source of healthful recreation, and rational enjoyment to their fellow citizens.

The encouragement which has always been accorded to undertakings of a similar nature in our fatherland, both by Her Majesty and the Prince Consort, have emboldened us to hope for the countenance and favor of your Royal Highness upon the present occasion, and we now, on behalf of the Horticultural Society, most respectfully request that your Royal Highness will graciously please to inaugurate these gardens, and at the same time to leave a lasting memorial of your visit, by placing in our grounds a Cal.

in Maple, which may long continue a living monument, both to us and to our children, of the trying events of the day, as well as of the honor conferred upon our country by the visit of the Heir Apparent to the British Throne.

G. W. ALLAN,  
President.

To which his Royal Highness was graciously pleased to make the following reply :

GENTLEMEN,—I shall have great pleasure in doing any thing which will tend to encourage in you a taste for the cultivation of gardens, such as may increase the comfort and enjoyment of the citizens of Toronto. I shall be glad if the tree which I am about to plant, wishes as your youthful city has already done.

**FRESH CLOVER SEED FOR SALE.**

**80 BUSHELS OF GOOD CLEAN SEED** Canadian growth.

See on application and samples sent by mail or otherwise. The seed is put up in two 50 lb bags of the best quality, and can be forwarded with safety to any part of the country. Descriptive catalogues of seeds furnished gratis to applicants.

JAMES FLEMING,

Seedsman, 350 Yonge Street.

Toronto, April 22, 1861.

**SHORT HORNS.**

FOR SALE—FIVE BULLS, all entered in American Herd Book. Prices, from 100 to 200 dollars. Also, a few HEIFERS, at low prices. Apply to

T. L. HARISON, *Morley,*

*St. Lawrence County, New-York,*  
at the *Agriculturist's* office, Toronto.

March 9, 1861.

6t.

**FOR SALE.**

FEW pure bred Devon Bulls, Cows, Heifers, Calves, &c., of unquestionable quality.

GEO. Z. RYKERT,

St. Catharines, C. W.

April 10th, 1861.

3-t.

**FRESH GARDEN, FIELD and FLOWER Seeds for Spring Sowing.**

The Subscriber begs to inform his friends and the public that his stock of Fresh Seeds is now complete, and very extensive, embracing almost

**EVERY VARIETY OF SEED**

that is adapted to the country. The stock of Agricultural Seeds is large and well selected, and the vitality of each sort being fully tested, the genuineness of the seeds may be fully relied upon.

Merchants and Agricultural Societies ordering Seeds in bulk will be supplied at wholesale prices. Complete assortments of garden seeds neatly put up in small papers, with directions for sowing, and sold by the box containing 150 papers for \$5. Twenty packages of Flower Seeds, choice sorts, will be sent free by post to any part of the Province, to the address of any party remitting \$1, free of postage, or 25 packages, postage unpaid.

The Subscriber wishing to give parties who reside at a distance an opportunity to test the qualities of his seeds, will on the receipt of \$2, free of postage, send free to any Post Office in Canada, 25 full sized packages of VEGETABLE SEEDS, many of them containing an ounce of seed, and 12 papers of choice FLOWER SEEDS with descriptive catalogue and box included—the seeds to be of my own selection. None but the most useful and desirable varieties will be sent.

Descriptive catalogues of Garden, Field and Flower Seeds furnished gratis to applicants.

JAMES FLEMING,  
Seedsman to the Agricultural Association of Upper Canada,  
350 Yonge Street.

Toronto, April 22, 1861.

9—3t.

**SEEDS! SEEDS! SEEDS!**

**200 BUSHELS WHITE POLAND OATS;** weighs 42 lbs. to the bushel.

100 bushels Hungarian Grass.

100 bushels imported Swede Turnip Seed.

200 bushels of Early and Late Potatoes, fine sorts for seed, with a full and general stock of all kinds of Seed for the Farm and Garden.

Descriptive catalogues of Garden, Field and Flower Seeds furnished gratis to applicants.

JAMES FLEMING,  
Seedsman to the Agricultural Association of Upper Canada,  
350 Yonge Street.

Toronto, April 20, 1861.

**GARNET CHILI POTATO.**

The Subscriber has on hand upwards of a hundred bushels of this new and superior variety of potato to sell for seed.

ALEX. SHAW,  
Oak Hill, Toronto.

April 15th, 1861.



**SEEDS! SEEDS! SEEDS!**

TORONTO SEED STORE,

CORNER OF FRONT STREET AND WEST  
MARKET SQUARE.

THE Subscriber would beg to direct the attention of his friends, and the Public to his assortment of

FIELD, GARDEN, AND FLOWER SEEDS,

Comprising large quantities of *Turnips, Carrots, Mangel-wurzel, Cabbage, Onion, Parsnip,* and everything worthy of cultivation in this latitude. They are all of the best quality and procured from such sources as to warrant their genuineness.

THE SIXTH ANNUAL EDITION OF HIS PRICED  
CATALOGUE

Of seeds, contains full directions for the treatment of various Seeds and Crops, together with much valuable information regarding this subject, and may be had gratis on application.

It forms a neat little pamphlet of 45 pages, and a perusal of it will show purchasers the advantage of procuring their supply of Seeds from responsible Seedsmen, instead of from parties having no knowledge whatever of the business.

The satisfaction so generally expressed by those with whom he has had the pleasure of dealing heretofore leads him to hope that he will continue to receive a large share of the Public patronage.

Orders per post or otherwise will receive prompt attention, and are requested to be addressed to

J. A. S IMMERS  
Seedsman.

Toronto, April, 1861.

4-t

**FOR SALE.**

A PURE bred young short horn Bull; Sire an Dam imported in 1857, and both took First Prizes at the Provincial Show in Brantford the same year.

Address, R. R. Bown, Brantford.

N. B. Full blooded cow stock taken in exchange, if desired.

Brantford, April 8th, 1861.

4-t

**BOARD OF AGRICULTURE.**

THE Office of the Board of Agriculture is at the corner of Simcoe and King streets, Toronto, adjoining the Government House. Agriculturists and any others who may be so disposed are invited to call and examine the Library, &c., when convenient.

HUGH C. THOMSON,

Toronto, 1861.

Secretary.

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