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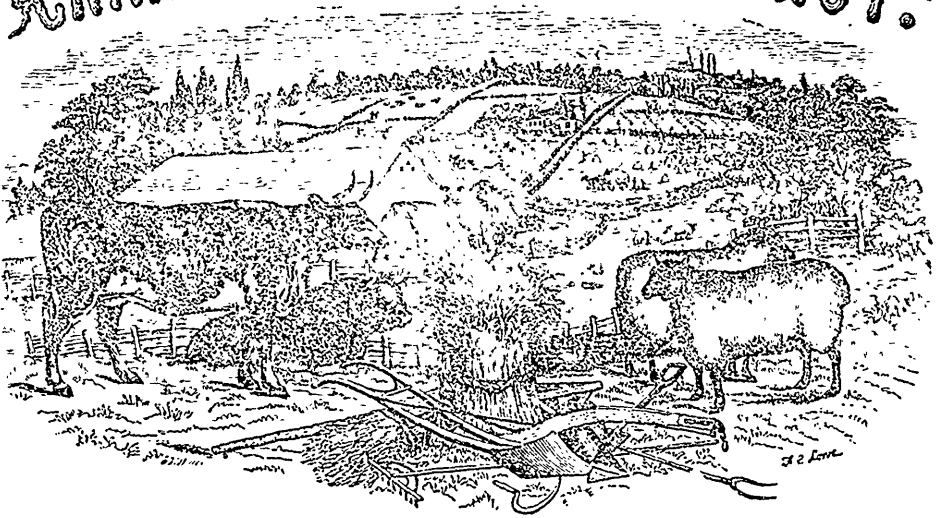
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CANADIAN AGRICULTURIST.



“The profit of the earth is for all; the King himself is served by the field.”—ECCLES. v. 9.

GEORGE BUCKLAND, }
WILLIAM McDUGALL, }

{ EDITORS AND
{ PROPRIETORS.

VOL. I.

TORONTO, JUNE 1, 1849.

No. 6.

The Canadian Agriculturist,

A MONTHLY JOURNAL OF AGRICULTURE, HORTICULTURE, MECHANICAL AND GENERAL SCIENCE. DOMESTIC ECONOMY & MISCELLANEOUS INTELLIGENCE: Published by the Proprietors, W. McDUGALL and GEO. BUCKLAND, on the first of each month, at their Office, near the South-west corner of King and Yonge Streets, Toronto.

Subscription ONE DOLLAR, *in advance*. Advertisements 4d. per line each insertion.

Societies, Clubs, or local Agents ordering twelve copies and upwards, will be supplied at 3s. 9d. per copy.

Money, enclosed in a letter, and addressed to the “Editors of the Agriculturist, Toronto,” will come perfectly safe. As we shall employ but few agents this year, those who wish to pay for the last, or subscribe for the present volume, need not wait to be called upon.

Payment *in advance* being the only system that will answer for a publication so cheap as ours, we shall send the remainder of the volume to none but those who order and pay for it.

Subscribers who desire to continue the work, will do well to send their orders without delay; for, as we do not mean to print a large edition, with the view of having a surplus, we cannot promise that at the end of two or three months we shall have any back numbers on hand.

TRAVELLING AGENTS.—Mr. T. M. Munn is our Travelling Agent for the Eastern section of the Province; Mr. Palmer for the Northern; and Mr. James Wilson for the Western: who are authorised to receive subscriptions for the last year's volume as well as for the present.

LOCAL AGENTS.—Any person may act as local agent. We hope that all those who have heretofore acted as such will continue their good offices, and that many others will give us their influence and assistance in the same way. Any person who will become a local agent may entitle himself to a copy by sending four subscriptions. Those sending *twelve* and upwards will be supplied at 3s. 9d. per copy.

TORONTO NURSERY.

FOR SALE, an extensive collection of FRUIT TREES, consisting of all the choicest sorts of Apples, Pears, Plums, Cherries, Peaches, Grape Vines, Raspberries, Gooseberries, Strawberries, Currants, Asparagus, and Rhubarb Root, &c.

Also, Ornamental Trees, Flowering Shrubs, Hardy Roses, Herbaceous Flowering Plants, &c., in great variety.

Descriptive Catalogues, containing directions for transplanting, furnished *gratis* to post-paid applicants.

GEORGE LESLIE.

March, 1849.

CASH! CASH!! CASH!!!

THE Subscriber will pay the highest Cash Prices for 1000 bushels clean Timothy Seed; 100 bushels clean Spring Tares; 100 bushels White Marrowfat Pea; and 25 bushels Flax Seed.

JAMES FLEMING,

Yonge Street,

Seedsman and Florist.

Toronto, Jan. 1, 1849.

Advertisements.

GENESEE
MUTUAL INSURANCE COMPANY,
CAPITAL, 800,000 DOLLARS.

THIS well-known Insurance Company, having extended its business into this Province during the last year, has appointed Mr. McDUGALL, one of the Editors of the "Agriculturist," Agent for Toronto and Vicinity.

The Company is established on the soundest and most approved principles; as the success which has attended its operations, since its establishment, thirteen years ago, fully proves. Very hazardous risks are not taken; and the Company will not insure in one risk more than £1,250, nor more than £1,500 upon property so situated as to be exposed to destruction by one fire. No insurance will be taken to a greater amount than two-thirds the value of the property. These, with other precautions strictly observed, have made this one of the *cheapest and safest* Companies to be found.

The high character which the Company has obtained for honourable dealing and promptitude in settling losses, renders it worthy the notice of all Canadian Insurers.

Agency for Toronto, &c., at the Office of the "Agriculturist," South-west Corner of King and Yonge Streets.

Toronto, April, 1849.

ADELAIDE ACADEMY,
FOR THE EDUCATION OF YOUNG LADIES,
Corner of Bay and Wellington Streets,
TORONTO.

THE next Session of Adelaide Academy will commence on Thursday, the 4th of January, with Lectures on Chemistry and Astronomy.

Pupils are received at any time during the year, except from the 1st of July to the 24th of August.

Competent and experienced teachers are engaged to give instruction in all the solid branches of an English Education, in Instrumental and Vocal Music, Drawing, Painting in Water Colours, Oil Painting, Miniature Painting, &c.

Lectures will be given to the classes in Natural Philosophy, Chemistry, Astronomy, Physiology, and Biblical History.

The Academy is divided into four departments, with experienced Teachers over each.

Board £0 10 0 per Week.
Tuition in English Studies..... 1 0 0 " Qr..
Board & Tuition in English Studies 26 0 0 " Ann.

Pupils attend the Church which their Parents or Guardians direct.

REFERENCE

Is politely permitted to—

The Honourable The Chief Justice,

The Honourable Robert Baldwin.

The Honourable J. H. Price.

Henry Ruttan, Esq., Sheriff N. D.

W. B. Jarvis, Esq., Sheriff H. D.

W. S. Conger, Esq., Sheriff C. D.

Rev. Dr. Richey, Rev. E. Wood, Superintendent of Missions; Rev. H. Esson, A.M., Professor in Knox's College; and to numerous Patrons throughout the country.

Cards, giving particulars, can be obtained at this office, or at the Academy.

J. HURLBURT, A. M., Principal.

Toronto, 14th December, 1849.

NEW CARRIAGE FACTORY.

WILLIAMS & HOLMES,

HAVE REMOVED their *City Carriage Repository* to 142, Yonge Street, where they have commenced a Manufactory in all its branches. Parties wishing to purchase for Private or Public Business, are requested to give them a call before purchasing elsewhere, as their facilities are such as to enable them to manufacture cheaper than any other Establishment in Toronto.

Toronto, January 1, 1849.

N.B.—The public are respectfully invited to an inspection of their Lumber and other Building Materials, as none but the very best will be used.

CHOICE FRUIT TREES.

Rosebank Nursery, near Amherstburg, C. W.

THE Proprietor has for sale a most extensive assortment of all the choicest kinds of Fruit Trees, consisting, in part, of 190 varieties of Apples, 130 of Pears, 70 of Peaches, 70 of Plums, 50 of Cherries, 10 of Apricots, 10 of Nectarines, 25 of Foreign Grapes, native Grapes, Quinces, Gooseberries, Currants, Raspberries, Strawberries, Almonds, Chesnuts, Filberts, Mulberries, &c. &c.

Also, a fine collection of Ornamental Trees and Shrubs, Roses, Tulips, Hyacinths, Pæonies (Tree and Herbaceous), &c. &c.

New descriptive priced Catalogues will be sent to all post-paid applicants. Specimen Trees of every variety cultivated have been planted out, which are mostly in a bearing state, and from which the scions have been cut, offering a guarantee of the correctness of the kinds, which few Nurseries possess.

Trees will be carefully packed so as to carry any distance with perfect safety, a small extra charge made for packing, and they can be forwarded with dispatch to any part of the Province by the Propeller "Earl Cathcart," which will ply regularly during the season between Amherstburg and Montreal, touching at Port Stanley, Toronto, Kingston, &c.

Orders should be sent early, to ensure their going by the first trip of the Propeller. Cash or proper references should be sent with the order.

JAMES DOUGAL, Proprietor.

Rosebank, near Amherstburg,

March 23, 1849.

4-2ins.

GARDEN AND AGRICULTURAL SEEDS.

THE Subscriber begs to inform his friends, and the public in general, that his stock of fresh Garden and Agricultural Seeds for the spring sowing is now complete. The Subscriber's long and practical acquaintance with his business, enables him to select only such kinds of seeds as are most suitable for this climate. The vitality of each sort is fully tested before offered to the public; new varieties and such as are raised in greater perfection in Europe, are annually imported from sources that can be relied on.

Country merchants, and others, wishing seeds to sell again, can be supplied on the most moderate terms.

Cabbage, Cauliflower, Brocoli, Celery, and Tomato plants in their season, carefully packed and forwarded according to order.

JAMES FLEMING,

Seedsmen and Florist, Yonge Street.

Toronto, March 1, 1849.

26 1-m.

CANADIAN AGRICULTURIST.

VOL. I.

TORONTO, JUNE 1, 1849.

No. 6.

PROVINCIAL AGRICULTURAL
ASSOCIATION.

We beg to call the attention of our readers to the claims and wants of this important and valuable institution. In a few months another annual exhibition will take place, and it is highly necessary that timely preparations should be made, and every possible assistance rendered, in order that our next show may prove creditable and honourable to the country. The result must in great measure depend upon the zeal and co-operation of the province at large, and we most sincerely hope that all who feel an interest in advancing the agricultural and other industrial pursuits of the country, will extend to this great and praiseworthy undertaking their cordial good wishes and liberal support. Happily for the Provincial Association, it labours under none of the objections of having a party character; its objects are, in the highest and best sense of the terms, *patriotic and national*; and in these days of political excitement, it must be felt both welcome and refreshing by all generous minds, that we have one society at least, in which men of all parties can meet on *common ground* for the promotion of *common interests*. We hope therefore that the call for support towards the next exhibition, to be held at Kingston, will be generally and liberally responded to, and that the inhabitants of Upper Canada will vie with one another in supporting an institution, the prosperity of which will afford both ourselves and others a very fair criterion for estimating our national progress and civilization. It will be seen from the subjoined resolutions, that Mr. Buckland, the Secretary of the Association, and Mr. Angus Cameron, of Garden Island, near Kingston, are deputed by the executive committee to solicit aid from the Agricultural Societies in the province, and we trust that the officers of such societies will give them an encouraging welcome.

With regard to the society's outstanding liabilities, some measures for discharging them will, we hope, be speedily adopted. Application has been made to Parliament for aid, but as yet no official

answer has been received, although Government, we understand, are quite disposed to render assistance. It will require at least from twelve to fifteen hundred pounds to carry out the Kingston exhibition on a scale at all commensurate with the magnitude of the society's objects. It will be seen from the resolutions inserted below, that the show will be held in the *third* instead of the first week of September, a change which the committee believe will be much to the advantage of the exhibition. The New York fair will take place at Syracuse the preceding week, when Professor Johnston, the celebrated agricultural chemist, from England, is expected to deliver the annual address. We must endeavour to get the learned Professor to favour us with his presence at our own meeting, and we anticipate the pleasure of seeing a large number of American friends. Kingston possesses many advantages for our purpose; it is easily and cheaply accessible, possesses extensive public buildings, has ample accommodation in its numerous hotels and boarding houses, with a guarantee for moderate charges; and we are happy to add, that the executive committee are in high spirits, in good working order, and looking confidently to the cordial support of the public. The list of premiums will be issued as early as possible, probably the beginning of June.

We have much pleasure in calling the earnest attention of our readers to the address of the President, Mr. Sheriff Ruttan, which will be found on a subsequent page; and of further observing, that the usual liberal premium of £25 from the Canada Company, for the best 25 bushels of wheat grown in the province, will be again given.

AGRICULTURAL ASSOCIATION OF UPPER CANADA.

The Committee met at the city of Kingston, on the 2nd day of May instant, John B. Marks, Esq. Vice-President, in the chair.

The President, H. Ruttan, Esq., laid before the Committee various papers relating to the arrangements and management of the show at Cobourg in 1848.

The minutes of the Committee appointed at

Kingston, were read; and the following resolutions were moved and carried.

1st.—*Resolved*, That the Executive Committee at Kingston, shall advertise, without delay, for tenders for the erection of the necessary buildings and enclosures for the show in 1849.

2nd.—*Resolved*, That places of refreshment be authorized within the enclosure for the show.

3rd.—*Resolved*, That five of the Executive Committee, including the Chairman, shall be a quorum.

4th.—*Resolved*, That said Committee shall meet each Wednesday, at 2 o'clock, p. m., at the office of the District Council at Kingston, for the present, and that the several sub-committees shall meet daily for a few weeks previous to the show in September next.

5th.—*Resolved*, That the show of this Association, for the present year, shall be held on the 3rd Tuesday in September next, being the most convenient period for the Farmers of Upper Canada, generally, to attend the same, seed time being then over, and fruits and horticultural, as well as agricultural products, being then matured for exhibition.

6th.—*Resolved*, That George Buckland, Esq., the Secretary of the Association, and Angus Cameron, Esq., be appointed Delegates to visit the several Districts of Upper Canada, for the purpose of advocating the general interests of the Association, and also of collecting funds for the purposes of the said Association.

7th.—*Resolved*, That Dr. Barker be appointed printer to the Committee of the Association at Kingston, for 1849.

8th.—*Resolved*, that the Hon. John Macdonald, of Gananoque; Aaron Dougall, Esq., of the Prince Edward District; and James Williamson, Esq., of the city of Kingston, be added to the Executive Committee at Kingston, for 1849.

JOHN B. MARKS,
Vice-President Agricultural Association of
U. C., and Chairman Ex. Com.
G. A. CUMMING,
Secretary Ex. Com.

Kingston, 3rd May, 1849.

THE POTATO DISEASE.

(Continued from page 114.)

In resuming our notice of the great mass of facts which have been published in detail in the *Gardener's Chronicle*, relative to the potato crop of last year, in the British islands, we have now to call the attention of our readers to what appears to be the most advantageous season for planting.

Autumn planting, that is from October to January, has been but partially practised, but the results are very favourable. Of 64 English returns, 53 are in its favour and only 11 against.

In Cornwall and Devonshire, where the disease was most destructive, those planted in October almost wholly escaped; and as the planting was deferred the disease appears to have increased, particularly on heavy rich land. In Scotland and

Ireland, the few cases of autumn planting that were tried proved successful. *January and February* have proved highly advantageous: out of 112 trials in the south and west of England, 131 cases appear in which the crop escaped, or was but little injured. *March and April* planting appears much more successful in Scotland than in England, which may be explained by the higher latitude and later summers of the former country. In *May and June*, the proportion of bad cases seems rapidly to increase, not only in England, but likewise in Scotland and Ireland. Taking the United Kingdom, and omitting only the more northern portions of Scotland, where the season is naturally late, it appears that in the large number of well-ascertained cases of planting in May and June, only one in three escaped an almost total loss.

The following table shows the result of the calculations, to a few of which we have space merely to allude to:

	England, Wales, and Ireland.		Scotland.	
	Bad.	Good.	Bad.	Good.
Autumn	11	56	0	4
January and February	11	131	—	—
March	88	136	3	40
April	147	103	13	91
May and June	155	44	10	23

"Showing conclusively that, for the principal part of the kingdom, the autumn, with January and February, are the best months for planting; that March is unsafe, April dangerous, and May and June ruinous. In Scotland, March is taken as the best month, after the autumn, the rate of loss being about 7½ per cent. in March, 14 per cent. in April; for the country, the May crops, known only in the most northerly districts, may be disregarded."

The following table shows the cases of entire escape, with the whole number of cases reported upon:

	Wholly Escaped.	
	England, Wales, and Ireland.	Scotland.
Autumn	22 in 67	2 in 4
January and February	34 in 142	—
March	9 in 222	20 in 43
April	8 in 250	36 in 104
May and June	4 in 200	8 in 33

"These facts establish the proposition, that the earlier potato planting is performed the better,

and the later the worse." Although the planting of potatoes in autumn is impracticable in Canada, on account of the extreme severity of the winter, yet the earlier planting can be done in the spring, so as to avoid the risks of frost, the more likely is the crop to be free from disease.

The returns likewise point out some undoubted and highly important general facts in relation to the effects of soil on potatoes; our limits, however, constrain us to great brevity. Soils newly broken up and drained, without any dressing of marl or lime, usually called, in Scotland and the north of England *mosses*, in Ireland *bogs*, and in the south of England *peat*, appear very generally, when early planted, to have escaped the disease; at least in its worst forms. 679 cases of English returns, shew only five cases of much disease; out of 182 Scotch, we have none; 92 Irish, only two; and out of 32 Welsh, there was none. The conclusion arrived at is "that pure well-drained peat moss suffers very little from disease."

From heavy and wet lands the returns show, as might be anticipated, a very large proportion of diseased cases; only one instance of escape in every five! Whence the conclusion has been arrived at, "that potatoes in very rich, wet, or heavy land, are exposed to disease in a most dangerous degree (as 272 to 9); unless the land is very dry, or the climate cold, or the planting performed in the autumn, or very early spring. In other words, not more than one crop in 30 can hope to escape in such land."

With respect to *light land*, upon turning over the great number of returns that have been made during the past four years, it appears that the proportion of severe disease is about a seventh. After taking into consideration all the circumstances which would be likely to affect the result, from a large number of returns, it may be concluded "that in England the chances are 313 to 24 against the appearance of much disease in light lands unless planting is late, or manuring excessive, or there is a heavy or wet subsoil;—in other words, not more than 1 crop in 13 suffers much in light land, if moderately manured, planted early, and not resting on a wet subsoil." We may return to this subject in a future number.

GREAT PLOUGHING MATCH.

It will be recollected by most of our readers that some time ago the township of Whitby gave a challenge to plough with any township in Upper Canada, for a purse of £100, each party to raise a moiety of that sum; £50 to be kept as a reserved

fund, and the winner to be open for twelve months to accept a challenge from any other township.

Scarboro' promptly accepted the challenge, and on Friday, the 11th of May, this celebrated trial of skill in the important art of ploughmanship took place on the farm of Mr. Asa Post, in the township of Pickering. The day was beautifully fine, and vast numbers were attracted to this interesting scene from all parts of the surrounding country, several coming from considerable distances. It was estimated that not less than four thousand persons were present, and the interest manifested in the proceedings of the day was very great. Early in the morning, in all the neighbouring villages, every thing denoted that a great holiday had commenced, bands of music were playing, teams decorated for the occasion, and the leading roads lined with expectant spectators wending their way towards the scene of operation.

The site was judiciously chosen; a large field of strong sod, having a soil of what is usually termed heavy loam, and free from stumps and stones, was the ground on which this interesting trial was to be decided. The requisite number of spaces having been previously measured and staked off (each space consisting, we should suppose, of upwards of half an acre), the competitors started about 10 o'clock. Each township had 20 ploughs, and it was soon evident that the competition would be a keen one, and the work as a whole highly creditable to those engaged in it. As the work proceeded, an impression seemed to gain ground among practical men that Scarboro' would win. This feeling chiefly arose, no doubt, from the uniformly excellent work which the ploughmen of that township were making, although not a single instance occurred of what could be justly called *inferior* ploughing on the part of Whitby. In fact, the Scarboro' teams were superior, the ploughs better, the men had evidently practised more on a uniform system or style of ploughing, laying up the furrow precisely at the angle which makes the work more captivating to the eye, and in short complying with more of those conditions than did their competitors, which modern authorities have pronounced the correct principles of ploughing. In saying this, we would by no means be understood as implying any thing serious to the disadvantage of Whitby, whose work upon the whole was highly creditable. The reader will have anticipated the result, from the tenor of these observations. The judges, without any reference to the umpires, decided in favour of Scarboro'.

We have omitted to say that, of the forty ploughs,

all were made of iron, with only one exception—on the principle of the Scotch swing plough, known as Gray's celebrated pattern. Several, we understand, that were used by the Scarborough men, were imported. The depth of the ploughing, we believe, was not to fall short of five inches; the average would probably be six. We think it of great importance in all endeavours to improve the ploughing of the country, that *depth* should be specially regarded; since upon many soils, particularly those that have been exhausted by over-cropping and their surface merely scratched over, a deeper amount of active soil is essential to their restoration, and to an improved husbandry.

In the afternoon, the ploughmen, judges, contributors to the purse, and others, comprising 400 or 500 persons, sat down to dinner, in a temporary building erected by Mr. Palmer for the occasion. E. W. Thomson, Esq., President of the Home District Agricultural Society, presided. The toasts usually given on such occasions called forth some useful observations from several speakers. Mr. Peter Perry, who we understand was the principal originator of this trial of skill, made some excellent and good humoured observations in reference to the result of the contest. The proceedings were conducted and terminated in a manner highly to the praise of all parties concerned. Although Whitby, as Mr. Perry observed, had come off "second best," yet the public will bear in mind that had it not been for the enterprising spirit of that township, it is more than probable that the country would not have enjoyed the means which this great contest has afforded of advancing the most fundamental department of that art on which our prosperity is mainly dependant.

It was determined by the joint committee, that as the winner would be open to a challenge from any township in the province, the distance which the ploughmen of such township should be called on to travel should not exceed what might be accomplished in one day, or 25 miles; the challengers must travel the remainder of the distance. We do not expect that Scarborough will be long allowed undisputed possession of the field. Subjoined is a list of the names of the ploughmen and judges:

The names of the Scarborough men were—Wm. Addison, English; William Hood, Scotch; Joshua Kennedy, Canadian; John Crawford, Scotch; William Weir, Scotch; James Patten, Scotch; Geo. Evans, English; Conrad Bartram, Scotch; John Torrance, Scotch; James Weir, Scotch; R. Addison, English; James McCowan, Scotch; John Wakefield, English; T. Crowe, Canadian; John Weir, Scotch; Arch. Thompson, Canadian;

— Patterson, Canadian; J. Crowe, Canadian; R. Gilchrist, Scotch; and James Muir, Scotch. The names of the Whitby men were—George Martin, English; Tobias Hodgson, English; John Thompson, Canadian; Chas. Patton, Canadian; Alexander Anderson, Canadian; James Forest, Canadian; Josh. Crawfurth, English; John Medcalf, English; Stephen Mares, English; William Parden, Canadian; William Collison, English; Jas. Ketchison, Scotch; James Hamilton, Scotch; Jas. Saunders, Scotch; Henry Rundell, English; W. Sinclair, Scotch; Wilkison Warner, English; Robert Usher, English; Robert Armiston, Scotch; and George Graham, Scotch.

The Judges for the occasion were—R. Hunter, Reach; Thomas Jonas, Darlington; W. Scott, Darlington; David Smellie, Vaughan; J. Louis, Markham; and John Gibson, Markham.

The Umpires were—Robert McNair, Walter Dalzell and Robert Beith.

EDITOR'S BRIEF NOTES.

After attending a meeting of the executive committee of the Provincial Association, held in Kingston, May 2, we were invited to address a meeting of farmers, to be convened on Wolf Island the following day. Accordingly about forty persons assembled in a School House in the afternoon, when we took the opportunity of stating the importance of agriculture—its true principles, the rational interest which it is calculated to excite when intelligently pursued—the desirableness of farmers forming local associations for the encouragement of reading and the discussion of agricultural subjects, theoretical and practical; together with the claims of the Provincial Association on the sympathy and support of all true friends to the improvement and well being of their country. We then intimated a desire to answer any questions touching these matters, which led to an interesting conversation of quite a practical character. Several gentlemen, among whom we may mention the Rev. J. A. Allan, and Angus Cameron, Esq., spoke somewhat in detail of their observation or experience in reference to the cultivation and products of the soil. The necessity and advantages of draining, was a matter unanimously agreed upon, and drains made three feet deep, were considered quite beyond any injurious effects from frost. We observed in a field of Mr. Cameron, on Garden Island, after a heavy night's rain, the portion which had been drained quite sound the next morning, while the undrained part was covered, in many places, with water; the soil a heavy clay resting on limestone rock. It was the prevailing opinion that next to draining, in improving the agriculture of the Island, was a liberal application of lime, which, by a number of farmers joining together, might be obtained in any quantity for 3d. a bushel; applying from 100 to 150 bushels to the acre. Although the whole of these Islands, with a considerable area of country around Kingston, repose on a limestone rock, which in some places comes to the surface, yet there are many localities in which the surface soil contains only a trace of lime. Mr. Allen was

of opinion that farming should be better and more profitably conducted by the farmer giving to his business an unflinching perseverance, and undivided attention. Other matters, such as lumbering, &c., had no doubt retarded the progress of agriculture. He also thought that meadows or pastures resting on clay and limestone, as in that district, might be productive for a great number of years by occasional top dressing. Mr. Cameron spoke on the importance of economising and properly applying manure—particularly not to allow the liquid portion to run to waste, as was almost universally done. We hope this meeting will lead to inquiry and co-operation, and thus be made productive of some practical good.

In returning by land to Toronto, we found farming operations much retarded by the wetness of the weather, through all the districts we had to pass. In Prince Edward a large breadth was unsown, and considerable ploughing to do. A kind of wheat called the *Black Sea*, is largely cultivated as a late spring variety, and much remained to be sown. Many speak highly of it,—but its principal recommendations are its suitableness for late sowing, and its comparative freedom from rust. Fall wheat was looking tolerably well, not having been severely winter killed; the appearance of this crop improves as one travels west-ward. The season must be considered unusually backward, but a genial summer may more than compensate for the disadvantages of a late spring.

NEW YORK STATE AGRICULTURAL INSTITUTION.

We learn, with much pleasure, from a report of the Committee on Agriculture, obligingly sent us by B. P. Johnson, Esq., of Albany, that the State of New York is soon likely to have an Educational institution and experimental farm, commensurate with its high agricultural character and interests. The following resolution has recently passed the Legislature :

"That a board of eight commissioners, (one from each judicial district,) be appointed by the Governor, whose duty it shall be to meet at the city of Albany to mature a plan for the Establishment of an Agricultural and Experimental Farm, and prepare a statement of the probable expense of such an institute, and a detailed account of the course of studies and plan of operations recommended, to be delivered to the Governor on or before the first day of September next, to be by him submitted to the Legislature at its next session."

WASHING, SHEARING, AND PREPARING WOOL FOR MARKET.

We copy the following article, which we have no doubt will be of service to many of our readers, from a new agricultural periodical, "*The Wool Grower*," published monthly, at Buffalo, N. Y., and edited by T. C. Peters. As its title denotes, sheep husbandry and the management of wool, will receive special attention in its pages, but not

to the exclusion of the other departments of agriculture, or even of gardening. We wish the enterprising editor every success:

WASHING.—This is usually done at the north, about the first of June. The climate of the Southern States would admit of its being done earlier. The rule should be, to wait until the water has acquired sufficient warmth for bathing, and until cold rains and storms, and cold nights, are no longer to be expected.

Sheep are usually washed by our best flock-masters, in vats. A small stream is dammed up, and the water taken from it in an aqueduct (formed by nailing boards together,) and carried until sufficient fall is obtained to have it pour down a couple of feet or more, into the vat. The body of water, to do the work fast and well, should be considerable—say 24 inches wide, and five or six deep—and the swifter the current the better. The vat should be, say 3½ feet deep, and large enough for four sheep to swim in it. A yard is built near the vat, and a platform from the gate of the yard, extends to and encircles the vat on three sides. This keeps the washer from standing in the water, and makes it much easier to lift the sheep in and out. The yard should be large enough to hold the whole flock, if it does not exceed 200; and the bottom of it, as well as of a smaller yard, unless well sodded over, should be covered with coarse gravel, to avoid becoming muddy. If the same establishment is used by a number of flock-masters, graveling will be always necessary. As soon as the flock are confined in yard, the lambs are all immediately caught out from among them, and set over the fence into a yard. This is to prevent their being trampled down, as it often happens, by the old sheep, or straying off, if let loose. A boy stands by the gate next to the vat, to open and shut it, (or the gate is drawn shut with a chain and weight) and two men, catching the sheep, as directed under the head of tagging, commence placing them in the water for the preparatory process of 'wetting.' As soon as the water strikes through the wool, which occupies but an instant, the sheep is lifted out and let loose. The vat should, of course, be in an enclosed field, to prevent their escape. The whole flock should thus be passed over, and again driven round, where they should stand, say an hour, before washing commences. There is a large per centage of potash in the wool oil, which acts upon the dirt, independently of the favorable effect which would result from thus soaking it for some time, with water alone. If washed soon after a good shower, previous wetting might be dispensed with; and it is not *absolutely necessary*, perhaps in any case. If the water is warm enough to keep the sheep in it for the requisite period, they may be got clean by washing, without any previous wetting, though the snowy whiteness of the fleece, which tells so on the purchaser, is not so often nor so perfectly attained in the latter way.—Little time is saved by omitting 'wetting,' as it takes proportionably longer to wash, and it is not so well for the sheep to be kept such a length of time in the water at once.

When the washing commences, two and sometimes four sheep are plunged into the vat. When four are put in, two soak while two are washed. But this should not be done, unless the water is very warm, and the washers are uncommonly quick and expert. On the whole, it is rather an objectionable practice, for few animals suffer so much from the effects of a chill, as sheep. If they have been previously wetted, it is wholly unnecessary. When the sheep are in the water, the two washers commence kneading the wool with their hands, about the breech, belly, &c., (the dirtier parts,) and they then continue to turn the sheep, so that the descending current of water can strike into all parts of the fleece. As soon as the sheep are clean, which may be

known by the water running entirely clear, each washer seizes his own by the fore parts, plunges it deep in the vat, and taking advantage of the rebound, lifts it out, setting it gently down on its breech, on the platform. He then, if the sheep is old or weak, (and it is well in all cases,) presses out some of the water from the wool, and after submerging the sheep to a process, presently to be adverted to, lets it go. There should be no mud about the vat, the earth not covered with sod being graveled. Sheep should be kept on clean pastures, from washing to shearing—not where they can come in contact with the ground, but at 1, 2, 3, &c.—and they should not be driven over dusty roads.

The washers should be *strong and careful men*, and protected as they are, *from anything but the water running over the sides of the vat*, they can labor several hours without inconvenience, and without drinking whiskey until they cease to know whether a sheep is well washed or will treat it, as was the bad old fashion. Two hundred sheep will employ two expert men not over half a day, and I have known this rate much exceeded.

It is a great object, not only as a matter of propriety and honesty, but even as a matter of profit, to get the wool clean, and of a snowy whiteness. It will always sell for more than enough extra, in this condition, to offset against the increased labor and the diminution in weight.

SHEARING—Is always done in this country on the threshing-floors of our barns, sometimes on low platforms, but more commonly on the floor itself. The 'bay' is divided by a temporary fence, one part being used for the yarding of the sheep, and the other for doing up the wool, &c. The inclosure should communicate by a door, with another and larger yard outside of the barn. Both of these should be well littered down with straw, and fresh straw thrown on occasionally, to keep the sheep clean while shearing. No chaff, or other substances which will stick in the wool, should be used for this purpose. When the dew has dried off from the sheep, on the morning chosen for shearing, a portion of the flock sufficient to last the shearers half a day, is driven into the outside yard, and a convenient number into the bay. An assistant catches the sheep, lifts them off from the floor, as already directed, and delivers them at the door, through the 'breastwork,' to each shearer. The shearer, before taking the sheep, picks off any loose straws sticking to its wool, and if dung adheres to any of the feet, brushes it off with a little besom formed of twigs, hung up near the door, for that purpose. The shearer then takes the sheep to his stand, and commences shearing.

The floor or tables used for shearing, should be planed or worn perfectly smooth, so that they will not hold dirt or catch the wool. They all should be thoroughly cleaned, and, if necessary, washed, preparatory to shearing. It is the catcher's business to keep the floor constantly swept, dung removed, &c. Having a new stand or place swept for the shearer who has finished his sheep, he catches him another, and then clears up the stand previously occupied. He first lifts the fleece, gathers it up so that it shall not be torn or drawn asunder, and turning his arms so as to invert it, (i. e. bring the roots of the wool downward,) deposits it on the *falling-table*. He then picks up the 'fribs' (small, loose locks) left on the floor, which are deposited in a basket or on a corner of the table. Lastly, he sweeps the spot clean, to be again occupied by the shearer. An active fellow will tend four shearers, and do up the fleeces.—But he should not be hurried too much, or he cannot give sufficient time to doing up. A small boy or two, are handy to pick up fribs, sweep, &c.

If there are any sheep in the pen, dirty from purging or other causes, they should first be caught out, to prevent them from dirtying the others.

It is difficult, if not impossible, to give intelligible practical instructions, which would guide an entire novice in skilfully shearing a sheep. Practice is requisite. The following directions from the American Shepherd,* are correct, and are as plain perhaps, as they can be made:

"The shearer may place the sheep on that part of the floor assigned to him, resting on its rump, and himself in a posture with one (his right) knee on a cushion, and the back of the animal resting against his left thigh.—He grasps the shears about half-way from the point to the bow, resting his thumb along the blade, which affords him better command of the points. He may then commence cutting the wool at the brisket, and proceeding downward, all upon the sides of the belly, to the extremity of the ribs, the external sides of both thighs to the edges of the flanks; then back to the brisket, and thence upward, shearing the wool from the breast, front, and both sides of the neck—but not yet the back of it—and also the poll or fore part, and top of the head. Now the 'jacket is opened' of the sheep, and its position and that of the shearer, is changed, by being turned flat upon its side, one knee of the shearer resting on the cushion, and the other gently pressing the fore quarter of the animal, to prevent any struggling. He then resumes cutting upon the flank and rump, and thence onward to the head. Thus one side is complete. The sheep is then turned on to the other side, in doing which great care is requisite to prevent the fleece from being torn, and the shearer acts as upon the other, which finishes. He must then take his sheep near to the door, through which it is to pass out, and neatly trim the legs, and leave not a solitary lock anywhere, as a harbour for ticks. It is absolutely necessary for him to remove from his stand, to trim, otherwise the useless stuff from the legs becomes intermingled with the fleece-wool. In the use of the shears, let the blades be laid as flat to the skin as possible, not lower the points too much, nor cut more than from one to two inches at a clip, frequently not so much, depending on the part and compactness of the wool."

In addition to the above, I would remark that the wool should be cut off as close as conveniently practicable, and even. It may be cut too close, so that the sheep can scarcely avoid 'sun-scald,' but this is very unusual. If the wool is left ridgy and uneven, it betrays that want of workmanship which is so distasteful to every good farmer.† Great care should be taken, not to cut the wool twice in two, as inexperienced shearers are apt to do. It is a great damage to the wool. It is done by cutting too far from the point of the shears, and suffering the points to get too elevated. Every time the shears are pushed forward, the wool before cut off by the points, say a quarter or three-eighths of an inch from the hide, is again severed. To keep the fleece entire, so important to its good appearance when done up, (and therefore to its saleableness,) it is very essential that the sheep be held easily for itself, so that it will not struggle violently. To hold it still by main strength, no man can do, and shear it well. The posture of the shearer should be such, that the sheep is actually confined to its position, so that it is unable to start up suddenly and tear its fleece, but it should not be confined there by severe pressure or force, or it will be constantly kicking and struggling. Heavy-handed, careless men, therefore always complain of getting the most troublesome sheep. The neck, for example, may be confined to the floor, by placing it between the toe and the knee of the leg, on

* Pages 179, 180.

† I hold that a man is not half a farmer, who has not a dash of the aesthetic mixed up with his utilitarianism. Profit should not often be sacrificed to appearance, but where they are strictly compatible, he who disregards the latter, betrays a sordid and uncultivated mind.

which the shearer kneels, but the lazy or brutal shearer who lets his leg rest directly on the neck, soon provokes that struggle which the animal is obliged to make to free itself from severe pain, and even, perhaps, to draw its breath!

Good shearers will shear on the average, twenty-five merinos per day, and a new beginner should not attempt to exceed from one-third to one-half that number. It is the last process in the world which should be hurried, as the shearer will soon leave more than enough wool on his sheep to pay for his day's wages.

It has been mentioned that but enough sheep should be yarded at once, for half a day's shearing. The reason for this is, that they shear much more easily, and there is less liability of cutting the skin, when they are distended with food, than when their bellies become flabby and collapsed for the want of it. This precaution, however, is often necessarily omitted in showery weather. It is very convenient to have the outside pen which communicates with the 'bay,' covered. On my farm, it is one of the regular sheep-houses. If it is showery over night, or showers come up on the day of shearing, a couple of hundred sheep may be run in and kept dry. And they can be let out to feed occasionally during the day, on short grass. If let out in long, wet grass, their bellies will become wetted. Wool ought not to be sheared, and *must* not be done up, with any water in it.

SACKING WOOL.—When the wool is sold, or when it must be sent away to find a market, it is put up in bales nine feet long, formed of 40-inch 'burlaps.' The mouth of the sack is sowed with twine, round a strong hoop, (riveted together with iron, and kept for the purpose,) and the body of it is let down through a circular aperture in the floor of the wool-room.* The hoop rests on the edge of the aperture, and the sack swings clear of the floor beneath. A man enters the sack, and another passes the fleeces down to him. After covering the bottom with a layer, he places a fleece in the center and forces down others around it, and so on to the top, which is then sowed up. Each fleece should be placed regularly with the hands, and then stamped down as compactly as possible, so that the bale when completed, shall be hard and well filled in every part. The bulk of a given weight of wool will be greatly affected by the care with which this process is performed.

Those who do not expect buyers to come and look at their wool, sack it immediately after shearing. A temporary scaffolding is erected near the wool, as deposited by the tyer, and one man tosses up fleeces to a second, who catches them and passes them down to the man in the sack. A light frame, to suspend the sack, and *part way up it*, a standing-place for the catcher, would be a convenient appendage to the establishment of a wool-room. With a set of stairs up to his midway standing-place, an active fellow would keep the trader supplied, without any assistance.

DRINK FOR A COW AFTER CALVING.

RECIPE

For a draught given to a cow that was so weak as not to be able to stand, after having had two calves this spring.

Tea made from one handful of mint, put into three pints of boiling water.

Two glasses of brandy, and one piece of butter the size of an egg.

Mixed, and given warm from a bottle.

Proved to be good, as the cow is perfectly recovered.

May, 1846.

Communicated.

* It is to secure this convenience, that the wool-room is best placed on the second floor.

PROVINCIAL ASSOCIATION.

President's Address to the Agricultural Societies, Farmers, and other friends of Agriculture, throughout Upper Canada.

GENTLEMEN,—It is my duty, as President for the present year, to address you upon the subject of the state and prospects of the Agricultural Association of Upper Canada. You are aware that the Provincial Exhibitions have been held at Toronto, Hamilton, and Cobourg. The next one is appointed to be held at Kingston, during the third week in September next, provided the necessary funds can be obtained. Before I ask you again, however, to step forward with your accustomed liberality, it is right that you should have a statement of the financial matters of last year.

The sum received from the several District, County and Township Societies, and from individual subscriptions, was £715 19s. 4d., and from all other sources £405 11s. 5½d., making in all £1055 10s. 9½. The sum total of our expenditure was £981 8s. 6½; leaving a surplus of £74 2s. 3d., which was paid over to the Treasurer of the Association at Toronto. To carry out the exhibition this year, it is estimated that at least twelve hundred pounds will be required from all sources. Two gentlemen have been appointed by the executive committee at Kingston, to call upon the several Agricultural Societies throughout the Province, as well as upon individuals; and it is for you, Gentlemen, to consider whether that call shall be liberally responded to, or otherwise. It is for you to reflect upon the consequences which must result to the great interest involved, as well to you as to the province at large, from the annihilation of the association—which must be the result of a lack of funds to meet our engagements. Hitherto, by your liberality, all the liabilities of the Association have been promptly met, except those contracted at the Exhibition in Hamilton, and which, it is hoped, will soon be discharged; leaving the Institution free from incumbrance.

I notice the newspaper report that the Legislature has granted us £250 for this year's operations, for the purpose of expressing my fears that there is no good foundation for believing that such grant will be made during this Session. (See Editor's remarks, p. 168.)

In the consideration which you will be called upon to give to the subject, it must be borne in mind, that you receive five thousand pounds from the public funds annually; and that it has been urged by some influential parties in the Legislature, that one thousand pounds of this money should be taken out of the present grant, and given for the support of the Provincial Association alone. In this view of the matter, I, for one, cannot nor shall I, concur, as long as the various Agricultural Societies continue the support which they have hitherto afforded. This arrangement would, of course, enforce the burthen upon all *equally*, but, on the other hand, it might produce an estrangement between the general and local societies, which of all other things should be avoided. I could, therefore, regard it as an alternative only to the total extinction of the association. It is much more seemly that the members as a body, should be the distributors of the funds necessary for the support of what is emphatically *their own association*. The Earl of Elgin will be invited, and if the public business will permit, we shall be honoured with his company.

Our exhibition takes place one week after that of the State of New York, which is to be held at Syracuse, at which place Professor Johnson, one of the most eminent agriculturists in Great Britain, is expected, and I cannot doubt if such be the case, that he will honour us with a visit. I think it probable, too, that the committee will publish a separate premium list for the competition of

foreigners*. This will, of course, attract a great number of visitors, and a vast number of Manufacturers from the State of New York; and, taking it altogether, one of the most interesting meetings which Canada has ever seen may be expected at Kingston on the third week in September. From the short experience which we have already had—at the very beginning of our organization I may say—at the benefits derived from our Provincial Exhibitions—it is hardly necessary for me to urge its claim for support by arguments however cogent. No man who really reflects, and can see in what the true interests of the country consists, will, for one moment, hesitate to declare, the advancement of agriculture to be the very foundation upon which rests our whole prosperity. Nor is it farmers alone whose interests are affected—the professional man, the merchant, the manufacturer, the tradesman, and the common laborer—all are equally concerned in its promotion, and all will become prosperous, or otherwise, exactly in proportion to the fluctuation attending the progress of Agriculture.

I have the honour to be,
Gentlemen,
Your obedient servant,
H. RUTTAN.

Cobourg, 8th May, 1849.

POTATOE DISEASE—HOW REMEDIED.

The researches of intelligent and scientific men have been attended apparently with no success in their indefatigable pursuit for the causes of the potatoe rot. It is no part of our intention to examine the question at this time, but simply to make two or three of the most obvious and practical suggestions.

That the recent prevalent and fatal disease is the result of long-continued, artificial cultivation, cannot admit of doubt. That it has been, and still is, induced or augmented by the use of putrescent or barnyard manures, is in the highest degree probable. When the potatoe, like any other vegetable, is in a healthy condition, and sustaining a vigorous growth, there is no danger of disease, from the presence of putrescent manures. But when the seed lies dormant in the earth before vegetation has commenced, and especially when the freshly-cut, moist, absorbent vessels are lying in immediate contact with the putrid, decomposing manure, there may, and under many circumstances, must be injury to the fourth-coming plant; and again, when, from any cause, the progress of vegetation is arrested in the summer, or when growth has ceased in the autumn, the presence of these decomposing vegetable and animal matters may prejudicially affect these fleshy, sensitive tubers. The combined effects of this cause through successive ages of cultivation, have doubtless produced the present tendency to disease. Some atmospheric or other causes, which, under other circumstances would have been perfectly harmless, have kindled contagion in this susceptible mass, and sent destruction over every region where the plant is cultivated. Had it been in a healthy, vigorous condition, the cause which now produces decay might have fallen innocuous upon our fields; or like the cold blast, which fastens a rapidly-wasting disease upon the consumptive man, it would serve only to freshen and invigorate a sound constitution. We believe there is a weakness or want of stamina in the whole potatoe race, and that there is no empiricism, no quick medicaments, which, acting like a vomit or cathartic on the human frame, will purge the vegetable system of what has become a hereditary tendency to disease.

* I must not be understood to mean that foreigners are to compete with us; competition will be altogether amongst themselves.

The cure for this must be gradual. Gentle tonics must be administered to the enfeebled plant, till it regains its former hardness and strength. These, we think, must be found principally in fresh, rich turf, or sod, (old meadows or pastures,) and in the exclusive use of saline manures. Keep from the potatoe field every particle of putrescent—organic manure—whatever has once been a portion of vegetable or animal, and which is now passing with more or less rapidity to decay, and which may possibly excite a corresponding sympathy from the sickly plant, and induce that, too, to join it in its rapid career of dissolution. Instead of these, use conservative manures, antiseptics, a part of whose nature it is to arrest decay or putrefaction. Salt, ashes from either coal or wood, lime, plaster, potash, bone dust, (which, if deprived of its animal matter by calcination, is nothing but a mineral salt,) old bricks and mortar, burnt clay, charcoal from peat or wood, marl or green sand may be used, either singly or in judicious combination, as the wants of the soil may require.

Let our farmers use good, uncut seed, properly harvested and preserved. (of which more hereafter,) in wide drills, on land ploughed deep and used for this purpose as seldom as possible; and make a proper application of some or all of the above-named manures, and especially of fresh lime, and we are morally certain of a mitigation of the potatoe rot, and probably, if the plan were universally pursued, of its final extinction. We hope that careful experiments will be made the coming season, by intelligent, observing farmers, and that they will hereafter communicate the results to the agricultural public. Perhaps some enterprising farmer may find it not only for the public interest but his own, to devote his fields to the rearing of the potatoe exclusively for seed; and that those who prefer to secure a large crop by the use of fermenting manures, may sell or consume their entire crop, and thus avoid perpetuating decay, while they could secure a comparatively healthy seed for re-planting, from these carefully cultivated fields.—*American Agriculturist.*

THE COW—HER DISEASES AND MANAGEMENT.

Milk Fever.—This is one of the most dangerous diseases to which the cow is heir to, and unless timely relieved, very soon proves fatal. It is caused by whatever obstructs perspiration, and accumulates the blood internally; hence, it may be produced by the application of cold air, by lying on the cold ground, or by giving cold water immediately after calving; and these causes will naturally produce this effect, from the open state of the pores at this time, and from the external parts being so wide and relaxed after that operation. Cows in high condition are more subject to this complaint than others, especially if they have been kept up for some weeks before calving.

The symptoms begin to show themselves the first, second, or third day after calving, but most frequently the first day, and that often as early as two hours after the delivery. They may be known by the cow shifting about from place to place; she frequently lifts up her legs and then sets them down again; discovers a wild appearance in her eyes, and sometimes blares, as if wanting her calf. At this time, she is very ready, on a person going up to her, to give him a poke. As the disease progresses, there ensues a quick motion in the flank, and if confined in a stall, she begins to stagger from side to side, with open mouth, from which issues a clear water, and her tongue, at this time, is thrust out a considerable length. After staggering some little time, she falls down, but recovers herself again, and continues to do so until she is no longer able to get up, and seems entirely to lose the use of her limbs. She then throws herself on her side, with her head inclined to her fore ribs. The

body, at this period, sometimes begin to swell; and when the malady is still further advanced, the extremities, and the roots of the horns and ears feel cold, the latter being covered with a clammy sweat. What passes through the animal is black and dry; she frequently strikes with her fore and hind legs; her eyes appear dull and heavy; and her breath emits a faint and sickly smell. Her restlessness gradually increases; she is covered with cold sweat; her extremities are seized with a shivering; the pulse becomes irregular, and death terminates the scene.

If the cow be in very high condition, she should first be bled, to the quantity of two to three quarts, if she can bear it, and the following mixture given as soon after as possible, at one dose, in three quarts of gruel in which two ounces of soap have previously been dissolved:—

Epsom salts, 1½ lbs.; althæa ointment, 3 oz.; saltpetre, ¼ oz.; powdered fenugreek, 1½ oz.; powdered mustard seed, 1½ oz.

As soon as this medicine is given, the cow should be "raked," (the removal of the dung from the rectum,) and the following glyster administered in two quarts of water gruel:—

Common soap, 1 oz.; common salt, a handful; sweet oil, ½ pint.

The soap being first dissolved in the gruel, mix the whole together, and inject, with a common glyster pipe and bag, into the rectum. As soon as the drink and glyster are given, the animal, if she lies on her side, must be turned on her belly, and well bolstered up with straw, to prevent her from getting into her former situation; for, by laying in that position, the swelling of the body will increase, nor will the medicine operate so soon as when resting on her belly; neither in this posture should she lie too long, but be turned over occasionally, to prevent her limbs getting cramped. This change of position will also assist in expelling the wind, as well as in promoting the operation of the medicine. It will likewise be useful to rub the limbs and body two or three times a day.

Whatever else is given the animal in this disease, should be administered with caution; for she swallows with some difficulty, and is in danger of being choked; in consequence of which, there should be a proper interval between each hornful of medicine. In six or eight hours after taking the above, the following dose may be repeated every six hours until a change for the better takes place, to be given in a quart of ale or strong beer, with a little allspice:—

Gum myrrh, ¼ oz.; powdered valerian, ¼ oz.; assafœtida, 3 drachms; saffron, 3 drachms; camphor, ½ drachm; opium, ½ drachm; mustard seed, ¼ oz.; saltpetre, ¼ oz.

When the disease is turned, and the cow begins to eat and drink a little, which is always a sure sign of her recovery, and generally occurs twenty-four hours after the attack, (if she survives at all,) and sometimes sooner, the following medicine may be given, at one dose, in a pint of mild ale, or in a strong decoction of camomile tea, to be repeated once or twice a-day, if necessary, till she recovers:—

Ga. aphor, ¾ drachm; saffron, 3 drachms; saltpetre, 3 drachms; gentian, ¼ oz.; valerian, ¼ oz.; Jesuits' bark, ¼ oz.

After two or three doses have been administered, if the animal mends very fast in her appetite and strength, one every other day may be sufficient. Should great debility ensue after the fever has disappeared, which is sometimes the case, an ounce of isinglass, hoiled in skim milk, may be given once or twice a-day, which will also be found extremely useful in assisting to strengthen the relaxed system.

If, however, after forty-eight hours, the cow should still be incapable of getting up, although her appetite may be good, and she appears lively, the following

"charge" should be laid on her loins, as the weakness exists more in those parts than in any other; for she can generally raise herself on her fore legs, while her hinder parts seem useless:—

Take black and Burgundy pitch, ½ lb. each; oxycroceum and Paracelsus plasters, 2 oz. each; bole Armentan and dragon's blood, 1 oz. each.

To be melted over a slow fire. This charge should be spread while hot, but not so hot as to scald, all over the loins and rump. Some saddler's stuffing or wool should be stuck on it, to keep it in its place. As soon as this is completed, the cow must be got up, and put into a sling, made of sacking and ropes, so that she can feel the floor with her legs, which are to be well rubbed two or three times a-day. In this situation, she must remain until she can stand of herself, and get up without the aid of the sling, which will generally be the case in two or three days.

Should the cow remain costive, from the continuance of the fever, which is sometimes the case, for several days, doses of one half of the preceding purgative may be repeated at proper intervals, until a passage is procured. Moderate bleeding and purging, before calving, with suitable food, will generally prevent this disease. But when this has been done, and the complaint comes on, the subsequent quantity of blood to be drawn, and the doses of medicine given, must be correspondingly diminished.

During the continuance of the fever, the cow requires little or no food; but if any is given her, it should consist of warm water or water gruel, a hornful of which may be occasionally administered, if she will not drink it of her own accord; and whenever she seems inclined to eat, bran, Indian meal, and malt mashes are most proper, with now and then a little sweet clover or other hay, laid before her in small quantities at a time, which should be gradually increased till she can eat her usual allowance, and her stomach is capable of bearing it. But over-loading the stomach should at all times be avoided, as disagreeable consequences are liable to ensue therefrom.—*American Agriculturist.*

MOSES ON MEADOWS.

Mosses on meadows, like vermin on cattle, are a consequence rather than a cause of evil. They indicate a deficiency of stamina, health, or condition in the field or animal, rather than induce it themselves. But where either exist, they show something radically deficient, which must first be remedied before any useful results can follow. A farmer might as well leave his money with sharpers, or his manure heap under a spout, as his meadows in moss, or his cattle covered with vermin. All are spendthrifts together; and if left to themselves, will, like Pharaoh's lean kine, soon consume his evidences of previous plenty and show no equivalents in return. But how are we to get rid of mosses in meadows? Let us first see how they get there. The surest way to get rich, is first to know how you became poor.

Mosses are generally the result of a feeble growth of the grasses on a moist surface. The moisture of the land is not of itself objectionable, but decidedly the reverse; but when the profitable occupants of the soil fail or become thin and meagre, the profitless are ever ready to come in and supply their places. This is the case with the mosses; and it is not till the cultivated plants have declined, that these have gathered strength. To remove the latter, the former should be put in the very best condition. Scarifying, harrowing, closely feeding, and treading them thoroughly by the sharp hoofs of sheep, and cattle, are all useful in extirpating the mosses from meadows. Sowing strong quick lime over them, when recently mown, or after short cropping by

animals, is attended with decided advantage. Ashes will sometimes produce a similar effect. Guano, when mixed with mould and sown broadcast, is exceedingly useful; and so, too, are compost manures of all kinds. These help to destroy the mosses, by invigorating the grasses. Properly draining, and especially *thorough, under draining* the lands, is one of the most efficient modes of removing mosses and worthless aquatic plants. By carrying off all surplus, and particularly stagnant waters, the atmosphere and heat penetrate the soil and induce a vigorous, healthy growth of the cultivated plants, and thereby withdraw so much of the space and food which otherwise would be monopolized by the intruders.

When these and some other, of the most obvious means of renovating meadows fail, there is no alternative, but to break up the sod and subject the field to another course of cultivation. It is not absolutely necessary that this undergo a series of rotations, although for many reasons this is better; yet a rotation may be secured exclusively with the forage plants, the clovers, and numerous varieties of the grasses. The meadow may, if it be preferred, be thoroughly manured with unfermented dung, then turned over flat, and after applying a top dressing of compost, may be harrowed lengthwise of the furrows, and sown with grass seed liberally; and if all has been properly managed, the mosses will not, for years again, infest your meadows.—*American Agriculturist.*

LIQUID MANURE.

To the Editors of the Agriculturist.

GENTLEMEN,—Having frequently noticed in meadows that have been pastured in spring small tufts of grass growing higher, denser, and more luxuriant than the rest, I have been led to examine them, thinking they might be caused by the dung of cattle; however, upon examination, not finding any, I sagely concluded this might have been occasioned by the urine. Whereupon the following hint was suggested to my mind, viz.: that as most farmers have generally some hollow, in or near their barn yards, into which the urine of the cattle and other liquid manure runs, they would do well to form a tank in which to collect it. And by placing a strong tight box on the hinder part of a roller extending its whole length, and of sufficient breadth and depth as will make a good load, the box to be pierced with holes in the side near the bottom, and fitted with a sliding board so as to stop the holes while the box is filling; they may avail themselves of a valuable manure. The water may be taken from the tank to the field in a puncheon, placed in a cart, to have a stop cock near the bottom, with a little spout to convey the water into the box.

Wishing your paper the success it merits,

I am, Gentlemen,

Your humble Servant,

AN EARTH-WORM.

Vaughan, May, 1849.

P.S.—If you will give me a few hints concerning the best mode of rearing and managing colts, you will do me (and perhaps the rest of your readers,) a favour.

VIRTUES OF HEMP.—By its cordage, ships are guided, bells are rung, beds are corded, and rogues kept in awe.—*Cowles.*

HINTS ON THE MANAGEMENT OF HORSES.—The horse is the noblest of our domesticated quadrupeds. He is also one of the most useful in augmenting the power and diminishing the labour of mankind. He touches the extremes of beauty and deformity, and is associated with every degree of pride and degradation, of utility and injury to the human race. He may be refined by breeding, or debased by inhumanity and neglect. He is applied to the economical purposes of the farmer or citizen, or made the shuttlecock of gamblers and the fancy, by being thrown between the winning posts of the race course within the shortest possible time; or he becomes the terrible engine of destruction as he sweeps over the plain in a terrific charge of cavalry.

With us, however, in this portion of America, the horse is generally either the useful drudge and co-laborer of our citizens, or he is made to contribute to the ease, the pleasure, and the luxury of those who can afford it. Reasonable common-sense purposes among an intelligent common-sense people have produced such results as were to have been anticipated. The northeastern states can safely challenge the world to produce an equal proportion of horses every way adapted to the objects sought, as may now be found among them. This great excellence of our horses, has been mainly achieved within the last fifty years, by judiciously crossing the best made and stoutest bloods upon a substantial, but originally not over meritorious stock of brood mares. We have, besides, imported some of the best of other well-established breeds. Such are the Norman, the English cart horse, and Cleveland bay. We have occasionally brought choice animals from different quarters of the world; and where they have been found possessing superior merit, they have been made to contribute their quota in raising the character of American horses. We have within the last few days seen a Barb stallion, recently sent to this country, by our late consul at Morocco, standing nearly 16 hands high, with compact form, well-knit sinews, flat, clean, wiry, but strong legs, a shoulder approximating so closely to the hip as to be almost coupled by a double hand's breadth, yet with a steep Norman rump; and though probably incapable of ever getting a race of winners on the course, yet possessing qualities of intrinsic value for the horse of all work. But it is not our purpose to dwell upon the merits of our horses, but to suggest some of the most obvious hints for their management.

One great cause of injury to horses is, overworking at too early an age, before the frame is expanded and muscles and cords have become fully developed and perfected. A horse does not reach a full maturity till eight, nor a man till eighteen to twenty-four; and while the boy is generally exonerated from hard, constant labour till he reaches his majority, how often do we see the colt of three or four, delving daily at a load that would tax the powers of the thoroughly-developed horse. Whoever thus overtaxes the youth of the animal, may be sure that he is paying dearly for it in his maturer age. He may waste one end of life, but he cannot both; and for every year thus inhumanly filched from one extremity of horse existence, he is exhausting two if not three, and often times four of what should be his prime. But this folly is getting out of vogue, and is practised only by such as combine the double traits of idiocy and inhumanity.

Another cause of frequent injury to horses, is from improper breaking or training, by which the animal is left ignorant of the best and easiest method of doing his work. A horse should be well taught his paces; to walk fast, which is his easiest and least expensive gait; to trot square and light, yet firmly; to gallop easily, if destined for the saddle, and to back well, if used for the wheel. Most of the character and ability for a desirable gait is inbred, and is controlled by the form; yet a

great deal depends upon the skill and habit of the animal. We see this in every department of human labor, sometimes carried to an almost incredible extent, as shown by the porters in the Mediterranean and East Indies, who will habitually carry burdens of 300 to 400 lbs., and sometimes it is alleged as much as 600 to 700. The well-broken New-England oxen, will, with apparent ease, back a loaded cart up a steep hill, which many indifferently trained would hardly draw in the same position.

Long-continued labor is injurious to the horse, though it may be indulged in, occasionally, with impunity. A horse should not be kept dragging from morning till night, with an incessant jog, however slow that may be. He should be put to his work, early or late as you please, and when there, let him move briskly, with an interval of rest now and then, to relieve the muscles and take breath, till his work is accomplished preparatory to lunch; or if his day's work is for four or five hours only, he may do it all with more comfort and advantage to himself without, than with food. A tolerably quick step and activity while out, is better for the animal than delving all day at a snail's pace.

When put up for the night, the horse should be thoroughly rubbed down, the dirt brushed from his legs, and his hoofs cleaned out. Many are in the habit of washing the legs with cold water while the animal is warm, and afterwards allowing him to stand exposed to the cold air. Nothing could be more injurious. If the weather or stable be warm, and the water not too cold, this may be done with impunity, or may be done at any time, if the limbs exposed to the water are constantly rubbed till dry. Let grooms use common sense in this, and a small amount of it will convince them of what is proper. Whatever would injure a man, will injure a horse under similar circumstances, though in a less degree. It is certainly very grateful to the tired beast to have his limbs gently rubbed after a hard day's work; but if this cannot be done properly with water, then remove the dirt with the brush, the curry-comb, or by the hand. The hoofs should also be carefully cleaned; and if he has been driven hard over a pavement or M'Adam road, they should be well stuffed for the night with fresh cowdung and clay. This will give a requisite degree of pliability and elasticity to the hoof, and remove any tendency to soreness, feverishness, or foot cracks.

Frequent injury is done to horses by allowing them to stand, after exercising, in a cold air, or exposed to a draught. Consider how the man would fare in his shirt sleeves, in the open air of January, after having induced a profuse perspiration by exercise. Just so will it be with the horse. A cold, cough, catarrh, and what not, is very likely to follow this wanton exposure. Always have an ample thick blanket to throw over the horse when thus exposed; nor should he, especially, ever be lashed into a sweat in cold weather, unless brought directly into a stable to cool off. It is better to rub him thoroughly till dry; but where this cannot be done, and the weather is cool, blanket or horse him till all moisture is removed. Never wash the animal, nor drive him through the water, unless under such circumstances of weather, or subsequent care, as would secure yourself against injury.—*American Agriculturist.*

APPLICATION OF PLASTER AND ASHES TO MEADOWS.—If a meadow be manured only with plaster of Paris, the crops of grass will be at first greatly increased, but will afterwards diminish; for the silicate of potash, which the soil contained, is soon exhausted by the rapid growth of the grass, and its further increase is checked. But if the meadow be strewed from time to time with wood ashes, which contain potash, the grass will thrive as luxuriantly as before.

SPECIAL MANURES FOR RUTA-BAGA TURNIPS.—The result of the application of artificial manures in increasing the average produce of ground, cannot but be interesting to the agricultural community, even though these experiments should not have been conducted on American soil; and as every successful result leads to the extended use of special manures, and in most cases, to more economical farming, I submit the following instance of what has been accomplished in raising turnips by their means.

Having been applied to in the spring of 1844 by the steward of Lord Charlemont, to analyze a sample of soil from the estate lying two miles from Dublin, and to point out how the soil might be improved as to grow Swedish (ruta-baga.) turnips for a prize crop, I found, after examination, that the soil was in good condition, having been manured the summer previous, but that it was to a small extent destitute of potash salts and phosphate of lime, to the degree that a heavy crop would require to find readily in the soil. On this account the following manure was recommended:

- 56 lbs. pearl ashes,
- 28 lbs. nitrate of soda,
- 14 lbs. coarse Epsom salts,
- 56 lbs. bone dust.

To be mixed in with ditch scourings, road sweepings, some burnt earth, and other refuse off the farm, so as to make the compost sufficiently bulky; the whole to be laid on a statute acre.

The object in using nitrate of soda was two-fold; first, it supplied the small quantity of soda found in turnip ash (10 lbs. in every 20 tons), and then, the form in which it is added, containing, as it does, nitrogen, (nitric acid,) rendered it peculiarly serviceable in pushing on the early growth of the turnip. The bone dust and pearl ash were supplied because the crop requires them; and the Epsom salts, because it was desired to put in wheat immediately after in the soil.

The result of this manure more than equalled expectation; their size was superior to any exhibited, and they received the first prize from the Royal Agricultural Society of Ireland, as well on that account as for the total yield amounting to 56 tons the English acre.

The above-named manure cost about \$6 per acre; and whether we consider it in the way of economy, or of an addition having a wonderful effect in stimulating vegetation, it recommends itself strongly to notice. The wheat crop following was one-third greater yield than usual, or more than a portion of the ground unmanured did yield. As this compost was applied to a soil in rather a good state, with the object of forcing a great growth, there is no reason why the same special manure might not be applied to all soils intended for Swedes, and where condition is not exhausted by neglect of manure.

THOMAS ANTISELL.

Laboratory of the Amer. Agricultural Association, March 7th, 1849.
American Agriculturist.

KARKEEK ON CATTLE BREEDING, &c.—At a late meeting of the Probos Farmers' Club, Mr. Karkeek, after some statistics on the quantity of cattle bred in the kingdom, proceeded to argue that it was not so much the quantity or quality of food which caused an animal to attain a heavy weight in a short period, as the peculiar disposition, derived from inherited and transmissible tendencies, to acquire flesh and fat, and come early to maturity. He reprobated the system of breeding from cross-bred animals, and recommended in all cases where a cross was attempted, that *pure blood* be had on one side. "Breeding in the line" he considered the safest way; that is, by first selecting the best of

that particular breed, both males and females, which it is intended to propagate from, and maintaining the same (changing occasionally from one family to the other) in the greatest purity. He considered that the size and general appearance of a bull was not of so much importance as the general size of the family to which he belonged; and also, as it respected cows, that more perfect animals were produced by breeding from those of a small size, than when they exceeded the ordinary size of the race to which they belonged. In the management of the pregnant cow, he recommended that all petted cows, and high-bred ones particularly, when in a high condition, should have a gentle purgative administered some three or four days previously, and repeated, with moderate bleeding, immediately after calving. *This prevented dropping after calving.* *Red water*, he considered, was frequently caused by turning young stock that have been warmly housed during the winter, into the fields just as the spring sets in. From the hot-house system they have undergone, they are prematurely preparing to put on their summer coats, which were invariably formed at the expense of the constitution; and the exposure of their almost naked backs to cold and wet, at that period, produces frequently constitutional disturbances of the digestive organs; and *red water*, which is primarily a disease of those organs, and not of the kidneys, is the result. *Hoove*, he considered, also an affection engendered by crowding young cattle together during the winter, and brought into action by exposure to a few cold stormy nights shortly after being turned out. Diseased lungs were also commonly produced by the same cause. He considered it dangerous to breed from a consumptive cow, as it is commonly communicated to the offspring. The heifer of a consumptive cow may rear her first calf, but very rarely a second one. The lecturer then described some of the pestilential low typhoid diseases, such as murrain, pleuro-pneumonia, &c. &c., and said he frequently traced their source to the crowded state of cattle houses, and the exposure of the inmates to dirt, filth, and want of proper ventilation, as well as exposure to damp and cold. He strongly enforced that all stock intended to be depastured the following summer should never be tied up in close ill-ventilated cattle-houses during the winter, but kept in small yards having sheds attached, sufficiently large to accommodate four or five steers, or two or three heifers in calf. Those yards, which are called hammels in the south of Scotland, should have a southern aspect, and the floor of the shed should be raised about two feet above the floor of the yard, and well littered to keep the young stock dry and warm. Those yards would be found convenient for many purposes, such as, summer soiling, where it is practised, &c., and he believed that few tenants would refuse paying 5 per cent. on the outlay to his landlord for the accommodation. Respecting *filling cattle*, he spoke of the new method lately introduced on several estates in this district, by feeding cattle in boxes, as on the estate of Danbuz, of Killiow, Mr. W. Hodges, Callestock Veor, and the Messrs. Davy, Tywarinagh farm. He described the method of feeding, as adopted by Messrs. Davy, very minutely. The cost of each bullock was about 1s. 5½ l. per day on the average. Thus—

	d.
2lbs. of linseed, 4ls. per qr.	2½
6lbs. of barley meal, or rye, at 3d.	4½
84 lbs. of turnips, at 10s. per ton	4½
14lbs. of hay, at 3s. per cwt.	4½
Attendance and fuel	1½

1s. 5½ l.

with the linseed mucilage in a boiling state. The cattle were fed six times a day—three times with turnips, and three times with the linseed compound; and on this system they were enabled to fatten oxen, averaging 10 cwt., of the very best quality meat, in sixteen weeks. Thus the farmer is enabled to feed three animals instead of one on the old plan, and thereby make a quicker return of his capital, which was the life of trade. The lecturer said that there was good policy in using chaff, of some kind or other, as a vehicle for the linseed mucilage into the stomachs of cattle. If the stomachs of cattle were not moderately filled by a meal, notwithstanding it be a rich and nutritious diet, the muscles, whose exercise tend to produce a healthy digestion, are not called into action by the food being kept in constant motion in the stomach, and indigestion, with all its various train of evils, was the consequence. After this, the lecturer proceeded to point out many diseases in cattle produced by mismanagement in the feeding department, such as *distension of the rumen*, called hoven; also diseases of the third stomach—the *manyplus*—such as *fundle bound*. Speaking of the third stomach, he said there were very few diseases by which cattle were afflicted, in which it is not involved. It was frequently diseased from being overloaded with hard, indigestible food—such as straw-chaff, fibrous turnips; and in most cases of death, which occur from this cause, portions of indigested food have been found in a hard, baked state, between the leaves of the manyplus. Respecting cooking of food for cattle, he shewed, both by the peculiar digestive apparatus of the ox, as well as by the experience of farmers, that steaming of roots, hay and straw, was unnecessary; and he strongly recommended the bruising of grain of every kind. This part of the lecture was confirmed by several experiments, lately conducted, on the feeding properties of grain of different descriptions, given in a whole or bruised state. In regard to rearing cattle, Mr. James thought they subjected themselves to great loss in the early days of rearing calves, which were generally taken from the cows when four, six, or eight days old, and then are put entirely on skim-milk. If they were allowed to remain on the cows eight days, and then had raw milk for the next eight weeks, it would make a very considerable difference in their appearance.—Mr. Kendall said that during the last fourteen or fifteen years he had bought and fed about five hundred bullocks, and had kept them as recommended by Mr. Karkeek, running in rough yards during winter, and let them go in the fields in summer. His object was never to fatten them during the winter, but in summer; and during the last fourteen years he had not lost one out of 500 animals, though he had been obliged to kill two or three. Still, if he had to fatten cattle during winter, he should keep them in the house rather than in the yards. Box-feeding, he believed, was preferable to tying up. He had known cattle that were kept in go back very much when turned out in May, but his bullocks being kept differently were not so affected by the weather; bullocks kept in the house, he thought, should not be turned out in the summer.—Mr. Karkeek considered, that cattle once tied up should remain so till sold to the butcher; and there was no doubt that cattle would fatten better if tied up in the house, or in boxes, than if kept on the hammelling system, because cold, wet, and damp produced hunger. He recommended hammelling for cattle intended to be pastured in the following season, but cattle intended to be fattened should be tied up or put in boxes. In reply to Mr. Downing, Mr. Karkeek said, that turning the cattle out occasionally in winter, when the weather would permit, which was the common practice in this county, was preferable to keeping them always tied up by the head,—but the hammelling system was better.—Mr. Kendall was of the same opinion.—Mr.

The chopped hay or straw was first mixed with the meal in a shallow wooden cistern, and was incorporated

W. Trethewey said bullocks should be tied in to eat their turnips, otherwise the master bullock would deprive the others of their portion. The Chairman said he had had a little experience in box-feeding, and there could be no doubt that bullocks fattened a great deal faster in boxes than when tied by the head.

MODEL FARM OF NEW JERSEY.—As the Farm of Professor Mapes is regarded as a pattern, the following account of it, which he has given in the Newark Daily Advertiser, will be read with interest and profit. It shows the advantage of producing a large amount of manure, which may be accomplished by almost every farmer, and mostly with the resources of his own farm.

I would state that my success may be mainly attributed to the use of the subsoil plough and a proper system of manuring.

The land is a very clayey loam, underlaid by clay ten inches thick, on a substratum and decomposed sandstone, and until the clay was cut through by the subsoil plough, the surface was too wet to be productive.

It may not be uninteresting to your correspondent to know the different methods adopted for the manufacture of this manure. The chloride of lime and carbonate of soda is made by slaking three bushels of shell lime, hot from the kiln, with one bushel of common salt dissolved in water. Common salt being composed of chlorine and soda, the lime combines with the chlorine, forming chloride of lime, which, in turn, receives carbonic acid from the atmosphere, and becomes carbonate of soda. This mass should be turned over every other day for ten days, at the end of which time it is ready for use. Four bushels of this mixture, thoroughly diffused through one cord of muck, will decompose it perfectly in ninety days in winter, and in a proportionately less time in summer.

When this muck cannot readily be procured, any other organic matter will answer the same purpose: pond scrapings, river mud, decayed leaves, or even head lands, with one twentieth its bulk of stable manure or weeds, will answer well.

My stables are arranged thus: Under the oxen, cows, &c., the earth is removed to the depth of eighteen inches, making a space capable of holding a half cord of muck for each animal. This muck is covered at night with salt hay for bedding, and the liquid manure voided by the cattle is absorbed by the muck, and rapidly decomposes it. This decomposition is assisted by the warmth of the animal while sleeping upon the bedding. The solid manure is removed from the bedding each morning, and after being mixed with twenty times its bulk of muck, is placed under cover. The muck, containing the fluid portions of the manure, is removed every four days, and is also placed under cover: after ten days the manure heap is turned over, and wetted with a weak solution of nitrate of soda, after which it is permitted to remain until sufficiently decomposed for use—thirty days.

All the weeds of the farm are daily thrown into the hog-pen, and the hogs are induced to root among them, to obtain which they keep the weeds in continuous motion until decomposed. About once in ten days, the pen is emptied; and, after salting the weeds to prevent the possibility of their again germinating, they are mixed with twenty times their bulk of muck, and four bushels to the cord of the salt and lime mixture, and placed under cover, where the mass readily heats, and, after twenty days, is ready for use.

These manures, with the occasional use of special manures for special crops, selected with reference to their chemical components as compared with the requirements of the plant desired to be raised, constitute the manures used.

The amount of manure I am enabled to make by the above methods, and the assistance of six oxen, three cows, three horses, and twenty hogs, is about fifty half cords per week.

The subsoil plough is no less important than a sufficiency of manure, and without its assistance no great results can be obtained.

The capacity of soil to perfect vegetables, is precisely in proportion to the quantity of its particles presented to the action of the atmosphere for oxydation; and not one of the most inconsiderable uses of manure is to leave space by its decay for the admission of the atmosphere.

To bring about these conditions, deep ploughing is necessary; and to avoid bringing subsoil of a sterile quality to the surface, disintegrating to a great depth, the subsoil plough must be used.

My surface plough may be used to turn a furrow of any depth between four, and twenty inches, the depth of action being regulated by the guide-wheel. We always use this plough at one inch greater depth than the thickness of surface soil; thus, if the surface soil be fourteen inches deep, the plough is set fifteen inches. One inch of the subsoil is thus brought to the surface at each ploughing, and by the action of the sun and atmosphere, is gradually converted into loam.

The subsoil plough follows in the bottom of the furrow left by the surface plough, and is usually set at not less than seventeen inches: this plough is so constructed as to throw up nothing, but merely to disintegrate the soil at this great depth, replacing it where taken from without mixing it with surface soil. The advantages beyond the admission of atmosphere, are, that in dry weather the roots can pass down below the sun's more immediate action, and obtain moisture; and in wet weather the excess of moisture can pass down through the subsoil cut. If the land is thus kept free from excess of moisture, it can never become cold or sour. After one thorough subsoil ploughing, the land can be worked for much less expense, and is ready for use at an earlier date in the spring.

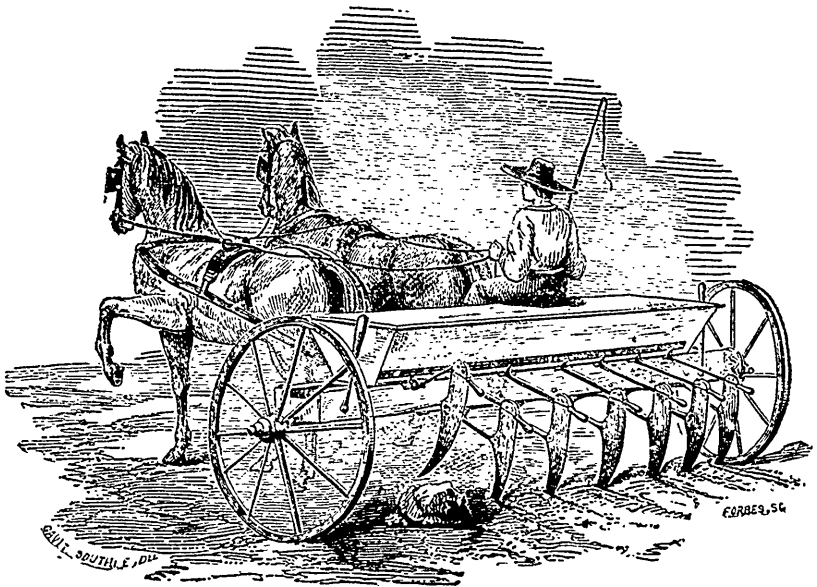
My seeds being all planted by a drill-barrow, and the rows of plants consequently equidistant from each other, they can be cultivated and weeded by a horse cultivator, instead of using the slow and expensive hand hoc.

Should your correspondent think proper to visit me, I shall be happy to answer any other question he may wish to propose.

Yours respectfully,
JAMES J. MAPES.

ROOKS.—I have myself little doubt but that there may be a good deal of truth on both sides of the question—(i. e. the utility or inutility of rooks) and the conclusion to which I have arrived is two-fold. 1st, the rook is neither to be preserved nor exterminated, but his numbers kept within proper limits; 2nd, there are circumstances regulated by the nature of the country and its cultivation in the neighbourhood of a rookery, which render such a thing either a nuisance or an advantage. A gentleman, a friend of mine, Thos. Butler, Esq., of Jordanstown, in the county Dublin, informs me that he has shot rooks, and on opening them, for the purpose of pursuing this interesting and important inquiry, has invariably found nothing in the craw but masses of grubs, maggots, and the wireworm.—Richardson.

FATTENING PORK ON OATMEAL.—A prime Lancashire porker has been slaughtered at Garstrang, which weighed, when cut up, 671 lbs., and was valued at £15 7s. 6d. It was fed on oatmeal, and is stated to well repay the keeper.



PALMER'S WHEAT DRILL.

The old, expensive, and complicated English Drill, has been greatly simplified and improved by our enterprising neighbours. It would be a great advantage to Canadian husbandry if this implement were more generally used. The above, which is a recent improvement, is said to combine in a simple and substantial form the merits of the numerous English and American Drills. The inventor challenges the world to produce its equal! This is taking a pretty wide sweep, at all events. The following is his description of its construction and operation:—

“The frame-work consists of a simple axle, four by six inches, and a pole, on the former of which is placed a box or hopper. One simple distributor driven by a cam wheel and friction rollers, conveys the grain from the hopper into the several drills, through hollow braces or levers; and the quantity in each drill cannot vary a spoonful in sowing five bushels. Each drill is independent of the others, and either can pass over a stone or other obstruction eighteen inches high, without interfering with the operation of the other. It will drill perfectly, a strip of land of any width, from four inches to the entire width of the machine, and will work on land of any shape, without waisting the grain. All the teeth or drills can be raised or remain in a position eighteen or twenty inches from the ground, rendering it perfectly safe to drive over the roughest places. By the most simple movement, the distribution of seed can be stopped in an instant, or continued with the same ease. All the injury the drill can sustain by coming in contact with roots or fast stones, is the breaking of a small wooden peg, which is easily

replaced. The machine is so contrived, that by a very simple movement, the interior work is exposed to view, and at all times, the grain, while passing into the drills, is in full view of the operator, so that he can detect at a glance, any stoppage of the grain, and at once remedy it.”

DAIRY BUSINESS.—Our northern friends must look sharply to their cows, their pastures, meadows, root, corn and other forage crops; for Virginia, North Carolina, Georgia, and Tennessee are already in the field as competitors in the dairy business. There is not a State in which both cheese and butter cannot be made. Like all other arts, that of rearing good milkers, keeping them well and cheaply, and at the same time manufacturing choice butter and cheese for market, demands experience, care and study. The operation is mainly performed in those seasons of the year, when all animal substances, like milk, whey, buttermilk, and curd, are extremely liable to chemical changes which injure the products of the dairyman. Only a small portion of the butter and cheese made in the United States is really first rate. And why not? The milk is good when drawn from the udder, but it is badly handled ever after. Less attention is paid to keeping milk pails, pans, churns, cheese tubs or vats, perfectly sweet and clean than is required to secure the best results. Butter when taken from the churn is not properly worked over; nor salted with pure salt; nor protected from the influence of atmospheric air, as it should be. The germ of that peculiar chance, known by the common name of “lowy,” is early planted in a mess of butter, although undeveloped for weeks or months.

Butter and cheese which are put up wrong, if kept any time, will never come out right. The changes which they undergo present a subject for close and curious study. As in curing meat, good salt, pure air, and the entire exclusion of oxygen from butter in kegs, and cheese in a well oiled, impervious rind, are the leading matters to be attended to. In cheese-making, the heating of the milk, the condition of the rennet, the

quantity used, and the quantity of salt, the degree of pressure on the curd, the time for it to be in press, the turning of cheese, surrounding with cloth, &c., &c., are all details of great importance. To incorporate into the cheese all the casein (curd) and butter which the milk contained, and preserve both sweet and delicious with aroma peculiar to each, are the objects to be obtained. Keeping milk too long, bad skins, using too much rennet, too much scalding, impure salt, excessive pressing, neglect in turning and oiling, and an offensive atmosphere in the dairy room, are among the most common causes which injure cheese.

Butter is damaged by permitting cream or milk to stand too long before churning; by the defective working out of the buttermilk; bad salt; and too long exposure to the atmosphere before it is packed down in crocks or tubs. Keep the air from your butter as much as practicable.

Plant carrots and corn in drills for your cows; and see that they are milked regularly and clean. A little labour will often produce a good crop of pumpkins. The main point is to raise a full supply of good food, and take care to husband all their manure as well as other products.—*Genesee Farmer*.

SOWING GRASS SEED.

The hay crop in Maine being the most valuable and important of all our crops, whatever immediately relates to its production must be of interest to every farmer.—And to proper seeding down to grass depends much of the success and profit of the crop. When the soil is brought into good condition for grass, it is very important that a good 'catch' be obtained of some grasses which are in themselves valuable for hay and adapted to the soil and situation, and one too, that will hold out until the land requires to be again manured. A failure in this matter makes an important difference in the profits of the farm.

With many farmers, herd's grass and clover are the only grasses sown, and these are generally sown together. It is very probable that in many places, other varieties would answer a better purpose. On some farms it would perhaps be well to give all the best varieties which are adapted to our situation and climate a trial. Those which are best suited with the soil of each field will be likely to gain possession of it. And when there is a large variety of seed in the soil and on the farm, we think more fodder will be produced than with a less number of kinds. When the soil becomes so reduced that it will not sustain those of more luxuriant growth, it may sustain others which are better able to thrive on a poorer soil; and under such circumstances it is better to have the latter than not to have them. Let us not only have herd's grass and clover, but also red top, orchard grass, white clover, Rhode Island grass, blue joint, fowl meadow, and even other varieties, as they may be found to be of value.

There has been some difference of opinion as to the proper time for sowing grass seed. We have succeeded very well with herd's grass when sown in August or September, while the clover sown with it did not survive the winter or spring. If clover and herd's grass are to be sown together, we should prefer to sow them in the spring.

When grass seed is sowed with wheat, rye or barley, we have generally succeeded in getting a good 'catch,' while we have never been so successful with oats. We have supposed that the oats might shade and choke the young grass more than other grain. Even where the oats are taken off quite early and the grass had come up well, it has not seemed to do so well afterwards as we had reason to expect. A farmer in Dresden remarked to us that he had uniformly succeeded better with his grass when sown with oats, than with any other crop.

He attributed the general complaint against oats in this respect, to their being generally mowed so close. In this way much of the young grass is cut down, and what is left is very much exposed. He was not anxious to save all the straw, and purposely left stubble enough to protect the grass, while he was careful to let the scythe pass over it in mowing.

At the present time, the price of grass seed is unusually high, and farmers who have to buy their seed will be likely to err in sowing too little. We think that many have failed to obtain good crops of grass by not sowing seed enough. When we seed down to grass we usually expect to gather at least two or three crops from that seed, and if the withholding of a few pounds or a few quarts of seed will materially diminish the annual product for several years, as we think it may, it is certainly not good economy to withhold it.

We are of the opinion that fourteen pounds of clover and a peck of herd's grass seed to the acre is better than any less quantity. By sowing seed enough, the weeds and foul stuff may be kept down the more effectually.—The hay too is finer and better, and the grass will not so soon run out. For hay a greater quantity of seed is required per acre than would be required if the plants were cultivated for their seed. Sir John Sinclair says, "it is a great error in laying down land to grass, to sow an insufficient quantity of seeds. In general twelve or fourteen pounds of clover is the usual average allowance. But that quantity, it is contended, ought greatly to be increased, and in many cases doubled." Says Payson Williams, Esq., "the quantity of grass seed used by me is never less than twelve pounds of clover and one peck of herd's grass to the acre."

In 1843 Isaac Bowles, Esq., of Winthrop, raised on one acre and a quarter of land two crops of hay, which amounted in the aggregate to six tons eighteen cwt. seven pounds. In the spring of 1842 he sowed on this ground with his wheat THIRTY pounds of red and white clover, and one peck of herd's grass seed.—*Maine Farmer*.

FRESH V. DECAYED MANURE.—M. Koerte, professor at the Royal Academy of Agriculture at Mæglin, in Prussia, made some years ago a series of experiments to ascertain whether it is more economical to use fresh or decayed manure, regard being had to the relative proportion of each. I subjoin the principal results of his experiments. 1. Manure exposed to the influence of the atmosphere, in heaps or layers, continually loses its fertilizing principles, and its bulk diminishes in a corresponding proportion. A hundred loads of fresh dung are reduced at the end of 81 days to 73.3 of its first bulk, or loss of 26.7; 254 days to 63.4 of its first bulk, or loss of 35.7; 384 days to 62.5 of its first bulk, or loss of 37.5; 493 days to 47.2 of its first bulk, or loss of 52.8. 2. The loss was much more considerable in a certain time, at the commencement of its decay, than at after periods of this change, as Gazzeri had previously ascertained. 3. Less loss is sustained when manure is spread in layers on the land, and well pressed, than when in small heaps; so that it is advantageous to spread it in layers on the land, and roll it, when it cannot be immediately ploughed into the soil. 4. Although it is impossible to state exactly the loss of bulk of manure when allowed to lie for a long time in the heap, we shall not be far wrong in stating that in common circumstances it is at least one fourth of the whole; so that 100 cart-loads are reduced to 75. M. Koerte concludes from his investigations, both on a small and large scale, that it is more advantageous to carry the manure at once, in its fresh state, to the land (and this more particularly the case with sheep dung), than to wait until it has decayed; and this rule should be invariably followed, taking at the same time into consideration the nature of the land.—*Pharmaceutical Times*.

CARE OF NEW MILCH COWS.

Inflamed Udders.—During this and the next month, cows will be calving, and should receive the kindest care and attention. A very common trouble with cows, especially young cows, is inflammation of the udder, which, either from the effect of cold or from not being milked soon enough, and therefore stretched or distended too much, becomes "caked," as it is called, and inflamed. Cold water, freely applied two or three times per day, we have found to be an excellent remedy. Soft soap has been recommended as being very excellent to soften and reduce the inflammation.

Retention of the After-birth.—Another trouble which we often hear of is, "that the cow has not cleaned well." Sometimes from want of health, especially in very lean cattle, there is not sufficient action in the proper organs to throw off this substance, and sometimes there is an adhesion, and it is retained.

The best mode to prevent this trouble is by timely attention to the cow, by feeding her well previous to her calving, so as to increase the health and tone of the system. After the birth of the calf, warm drinks should be given, and the following simple method of managing the cow, we have found serviceable, for the knowledge of which we are indebted to one of our neighbours, who has practiced it for several years with good success.

Bind a thick blanket or buffalo skin on the back and loins of the cow, so as to increase and keep up the warmth of the body, and especially that part of it.—*Maine Farmer.*

Ploughing.—This is an important operation, and much of the success of the farmer depends upon its proper performance. Great improvements have been made in the plough within a few years, so that ploughing may now be done in a better manner and with much greater ease to both ploughman and team than formerly. We do not suppose that ploughing answers the purpose of manuring in the least; on the contrary, the fertilizing matter in the soil will be exhausted more rapidly by frequent ploughing. By ploughing and thoroughly pulverizing the soil, its elements are brought into a state to be more readily imparted to the growing crops. If ploughing adds nothing to the soil, it certainly answers an important purpose in bringing the ingredients already in it into a condition to be useful.

Land may be and often is injured by injudicious and unseasonable ploughing. Especially is this the case when the soil is too wet. We ought not to plough when the soil is too wet to crumble or break. Where the land is exposed and liable to wash, it ought not to be ploughed in the fall. In some situations a loss is sustained by the finest and best particles being blown away during the winter, when the ground is not covered with snow.

The proper depth of ploughing depends very much upon the nature and condition of the soil. If there is but little vegetable or animal matter in the soil, we would not bury that little very deep with the plough. We would not therefore plough light and poor soils deep unless we have a large quantity of manure to apply. In many situations the sub-soil plough may be used to advantage, even if the soil is poor. The deeper the soil is loosened in this way, the better. We do not see that this can do any injury, while it often greatly improves the soil and materially increases the crops.—*Maine Farmer.*

THE EUROPEAN MOUNTAIN ASH.—The brilliant appearance of the European Mountain Ash, (*pyrus aucuparia*), when in autumn it is densely clad with its

rich crimson fruit, is a circumstance sufficient to give it strong claims to the care of the arboriculturist, independently of the beauty of its foliage. But a tree, which, from this latter property, has long been a favourite with us, and which though it is common in Europe, we regret to say, is yet but half so well known as it should be, is the Silver-leaved Abelo, (*Populus Alba*.) its growth is very rapid, and it is, therefore, well adapted for planting where time is an object of consideration. The flowers are insignificant, but its leaves are highly interesting. The under side of each of these is rendered perfectly white by a dense cottony pubescence, and in a gentle breeze, from their being supported on slender petioles, they are in constant motion. At a moderate distance, to a spectator standing on the windward side, they give it frequently the appearance of being covered with a profusion of white flowers. It has a beautiful effect from the house when seen at some distance in the foreground of a handsome group of trees of a darker green. Added to this, it holds its foliage unscathed by the frost, until the very latest period in autumn.—*Prairie Farmer.*

RULES IN RAISING POULTRY.

1. All young chickens, ducks, and turkeys, should be kept under cover, out of the weather, during rainy seasons.

2. Twice or thrice a week, pepper, shallots, shives, or garlic should be mixed up with their food.

3. A small lump of assafoetida should be placed in the pan in which their water is given them to drink.

4. Whenever they manifest disease, by the drooping of the wings or any other outward sign of ill health, a little assafoetida, broken into small lumps, should be mixed with their food.

5. Chickens which are kept from the dunghill while young, seldom have the gapes; therefore it should be the object of those who have the charge of them, so to confine the hens as to preclude their young from the range of barn or stable yards.

6. Should any of the chickens have the gapes, mix up small portions of assafoetida, rhubarb, and pepper, in fresh butter, and give each chicken as much of the mixture as will lie upon one half the bowl of a small teaspoon.

7. For the *pip*, the following treatment is judicious: Take off the indurated covering on the point of the tongue, and give, twice a day, for two or three days, a piece of garlic the size of a pea. If garlic cannot be obtained, onion, shallot, or shives will answer; and if neither of these be convenient, two grains of black pepper, to be given in fresh butter, will answer.

8. For the *snuffles*, the same remedies as for the gapes will be found highly curative; but in addition to them, it will be necessary to melt a little assafoetida in fresh butter, and rub the chicken about the nostrils, taking care to clean them out.

9. Grown-up ducks are sometimes taken off rapidly by convulsions. In such cases, four drops of rhubarb and four grains cayenne pepper, mixed in fresh butter, should be administered. Last year we lost several by this disease, and this year the same symptoms manifested themselves among them; but we arrested the malady, without losing a single duck, by a dose of the above medicine to such as were ill. One of the ducks was at the time paralyzed, but was thus saved.—*Selected.*

A GOOD WIFE.—When a daughter remarks—"Mother, I would not hire help, for I can assist you to do all the work of the kitchen," set it down that she will make somebody a good wife.—*Uncle Sam.*

Horticulture.

To the Editors of the Agriculturist.

ORNAMENTAL TREES.

GENTLEMEN.—The urgent calls of business prevented the enjoyment of the necessary leisure to make any communication in your last number. The omission was certainly of little consequence. But as you very flatteringly introduced my last remarks on transplanting fruit-trees, &c., to the notice of your readers, I am induced again to send you a few cursory observations, in the hope that they will at least be somewhat interesting, if not of much utility.

Horticulture, as distinguished from agriculture, is the cultivation of a limited spot, by manual labour chiefly, for culinary purposes. It is an art of great antiquity, having been the destined occupation of the original progenitor of the human race. In old countries, possessed of superabundant wealth, gardening is divided into numerous branches; for private use and enjoyment around the mansion; for public recreation in parks and promenades, in the vicinity of towns; for public instruction in botanic and experimental gardens; for public example in national or royal gardens; as a commercial pursuit, in market, orchard, seed, physic, florists', and nursery gardens.

In Canada, and other newly settled countries, gardening, as an art, is necessarily much more circumscribed in its range. A kitchen garden, for the production of a few vegetables useful in domestic economy, and in some cases a small orchard of fruit-trees, are all that is deemed necessary. These are also frequently managed in the most superficial manner. There are now, however, numerous exceptions to this, the general rule. A taste for the ornamental begins to develop itself, which will speedily yield pleasing results. It is becoming apparent to many that a dwelling-house or mansion, however elegant and substantial, lacks a great attraction when destitute of a surrounding lawn, tastefully and systematically planted with trees and shrubs. I would humbly but earnestly wish to stimulate an increasing interest in this matter. It cannot fail to prove a source of unspeakable pleasure to the owner of the soil, and to his family. It is a work of genuine patriotism, as evidencing the wealth and increasing greatness of the country. It exhibits strong proof of superior intellect and a refined taste. In a word, the man who plants some beautiful trees around his dwelling, raises a monument for himself that will endure, fresh and green, long after his mortal part shall have commingled with its kindred dust.

The transplanting season has expired for the present; still it will be of service, for future reference, to enumerate and briefly describe a few of the more popular hardy ornamental trees. Such as are here described are *deciduous*, that is, drop their leaves in autumn. In a subsequent number, I will, if acceptable, say a few words on evergreens. Hardy flowering shrubs will also claim a special notice. First in rank amongst ornamental trees stands the

Horse Chesnut (*Æsculus hippocastanum*), a lofty, regularly shaped, and magnificent tree; in spring, is covered with long spikes of white and pink flowers, of agreeable fragrance. It is admirably adapted for avenues, and also exceedingly picturesque as a single tree.

Linden or Lime Tree (*Tilia Europea*).—One of the most beautiful, graceful and fragrant trees; rises to a great height; has a rich foliage, and branches somewhat drooping or recurved. It is yet rare and scarce in this part of the world, but in Italy it has been esteemed for a shade tree from the remotest ages.

Large Double-flowering Cherry (*Cerasus communis pleno*).—Like cherry-trees generally, this is of elegant foliage and graceful form. When loaded, as it regularly is, with perfectly double white flowers, like roses, it attracts universal admiration.

The cherry is fertile in producing ornamental varieties. The Dwarf Double Flowering is of low growth, and produces handsome double flowers of a bluish colour. The Dwarf Weeping Cherry forms a dense, compact, globular head, with slender, pendulous, or weeping branches. The Large Weeping is quite new, grows to a large size, has strong, pendant branches, and bears a sweet, red fruit.

Chinese Abele, or Silver-leaved Poplar (*Populus auripila*).—A rapid grower, speedily attaining great bulk of timber and extent of branches; is esteemed mainly for its foliage, the upper side of the leaves being a dark glossy green, and underneath a downy white. When agitated by the wind, and glittering in the sun's rays, it is surpassingly beautiful.

European Mountain Ash (*Pyrus Aucuparia*).—Grows to a moderate size; has a clean, straight, erect stem, and a compact, round head; flowers abundantly in spring, but is attractive principally from the numerous clusters of small scarlet berries with which it is arrayed, when little else of the beautiful can be seen around.

The American Mountain Ash resembles the preceding, but is of more irregular habit, and has a coarser foliage and larger berries. For the sake of variety, it deserves a place in the pleasure-ground.

European Larch (*Larix Europea*).—Attains a great size, of a conical or pyramidal form, tapering in the most regular manner from the base to the top; has recently come into general and well merited repute.

English Hawthorn (*Mespilus Oxyacantha*).—Though of most importance as a hedge plant, when properly trained in the nursery for that purpose, may be beneficially introduced as a small sized tree. Natives of the British Isles need not be told that the flowers are of snowy whiteness and exquisite odour.

Two new varieties have recently been introduced—the scarlet flowering and double white. For some time to come the supply of these will be very limited, but they are worthy of being propagated in great numbers, as when better known, they will become universal favourites.

Locust.—There are three varieties of this tree in general repute. The Yellow Locust (*Robinia pseudo-Acacia*), when young, is a handsome tree,

with foliage remarkably elegant. The same remark applies to the Honey Locust, or thorned Acacia. The Gum Locust (*Robinia Viscosa*) has the merit of producing the prettiest flowers. From the delicate light green of their leaves, the locusts offer a pleasing contrast to other trees, whose verdure generally is of a darker hue.

Large Double-flowering Almond (*Amygdalus Canmaris flora pleno*).—Resembles the peach, but is of stronger growth, and attains greater size. The blossoms are of a rosy red colour, and when in bloom every branch appears a wreath of roses.

Various other descriptions might be enumerated, did space permit. The Balsam Poplar, or Cotton Tree, with its stately form and broad, glossy, fragrant leaves, and the Weeping Willow, of rapid growth and graceful, drooping branches, should not be overlooked in any assortment. The Weeping Willow, to ensure its thrifty growth, requires a dry situation, and when transplanted ought to be largely cut back in the head and branches. This list may hereafter be continued, but in the meantime I presume this will occupy all your available space.

To conclude, during the past season, many thousand fruit-trees have been transplanted. In this section of the country, the work has been carried on with praiseworthy spirit. It is to be hoped this spirit will suffer no diminution. To those who have been at the pains to procure good trees, and have them planted, we would say, take care of them. If loosened at the roots, and suffering from being blown about by the wind, have them firmly tied to a stake. If the roots were defective when planted, let them be well headed back, to reduce the number of leaves. Young shoots that are starting in a direction likely to spoil the form of the tree, should be rubbed off while yet tender, remembering the true, though trite adage, that "as the twig is bent, the tree's inclined." Other little matters necessary to be done in a newly planted orchard, will suggest themselves to those who occasionally look over the young trees, which it is advisable should be done at least once in two weeks.

The insects most destructive to fruit-trees, and the best methods of destroying them, will be noticed in your next number.

I am, gentlemen,

Yours truly,

GEORGE LESLIE.

Toronto Nursery, May, 1849.

NORTH AMERICAN POMOLOGICAL CONVENTION.—At the meeting of the Pomological Convention, held at Buffalo, September, 1848, the following resolutions were adopted:—

"Resolved, That hereafter an annual assemblage or convention, shall be held under the name of the 'North American Pomological Convention.'

"Resolved, That this convention shall be held in the coming year of 1849, in the town or city in which the New York State Agricultural Fair may be held—to convene its session the first day succeeding the closing of the Fair, and that the Recording Secretary of the New York State Agricultural Society, shall be entrusted with the charge, and respectfully solicited to give due notice of the time of meeting, by means of agricultural

journals, and cards of invitation to gentlemen pomologists and horticultural societies throughout the Union and the Canadas, that they may send delegates or attend and bring or send specimens of fruits for exhibition."

The annual show and fair of the New York State Agricultural Society having been fixed for the 11th, 12th, and 13th of September next, at the city of Syracuse, I do, in compliance with the request contained in the above resolution, hereby give notice of the meeting of the North American Pomological Convention, at the city of Syracuse, on Friday, the 14th of September next, the day succeeding the show of the New York State Agricultural Society; and on behalf of the said convention, extend a cordial invitation to yourself to attend, and the society with which you are connected to send delegates to the convention, and to forward specimens of fruits for exhibition.

Any fruits that may be sent can be directed to the care of P. N. Rust, Syracuse.

B. P. JOHNSON.

Sec. N. Y. State Ag. Soc.

Albany, April 6th, 1849.

The Committee chosen by the above-named convention, at its meeting in Buffalo last September, to devise such plans as they might deem best calculated to carry out successfully the objects designed by the members thereof, having concluded, as part of their plan, to appoint other committees for each state, territory, and the Canadas, whose duty it shall be to collect information as to the value of the various varieties of fruits now under cultivation, the value of new seedling varieties, and such other matter appertaining to the subject, as may be of importance, in their opinion, to the fruit-growing interests of the country, or to the community at large, and report the results of their inquiries and observations to the convention on its assemblage in Syracuse on the 14th day of September next.

The following gentlemen compose the committee for the state of New York, viz.:—Herman Wendell, M. D., of Albany County, Chairman; David Thomas, Aurora, Cayuga Co.; Alexander H. Stevens, M. D., Flushing, Queen's Co.; J. W. Knevels, Fishkill, Dutchess Co.; John R. Rhineland, M. D., Huntington, Suffolk Co.; N. Goodsell, Greece, Monroe Co.; D. Jay Browne, City and County of New York; J. W. Bayley, Plattsburgh, Clinton Co.; W. R. Coppock, Buffalo, Erie Co.

Growers of either old or new varieties of fruit are requested to communicate information of importance in relation thereto, which they may be in possession of, to any of the above-named gentlemen; and originators of new varieties of merit are requested to send specimens to the member of the committee who may reside nearest their vicinity.

As the object for which the above committee has been appointed is one of great importance to the community at large, editors of newspapers throughout the state, and also editors of horticultural or agricultural journals are requested to give the above an insertion in their editorial columns.

HERMAN WENDELL, M. D.,

Chairman of Committee.

Albany, March 1, 1849.

CURIOUS DEVICE IN GRAFTING.—The gardeners of Italy sell plants of jasmynes, roses, honeysuckles, &c., all growing together from a stock of orange, myrtle, or pomegranate, on which, they say, they are grafted. But this is a mere deception; the fact being, that the stock has its centre bored out, so as to be made into a hollow cylinder, through which the stems of jasmynes and other flexible plants are easily made to pass, their roots intermingling with those of the stock. After

Mechanics and General Science.

SCIENTIFIC NOTICES.

NO III.

ON DRY FOGS.

A very curious phenomenon which has attracted attention from the earliest ages, is that which is properly known by the above name of Dry Fog, but which in many places is called sun-smoke, moor-smoke, heath-smoke, and by the Germans, Hoeherauch and Haarrauch. Although it cannot, properly speaking, be classified with any of those phenomena that have formed the subjects of our preceding papers, inasmuch as the substance contained in the air, and which gives rise to such peculiar appearances, does not readily or visibly fall to the ground, yet it is a subject of such great interest—more especially in this country, from its apparent connection with the Indian summer—that it may not be altogether out of place in a series of articles purporting to treat of the phenomena of the atmosphere.

The dry fog is not a phenomenon of very frequent occurrence. It may be seen slightly in some parts of the world, more especially in Germany, several times in every year; but it is only rarely that it acquires such intensity as to produce the extraordinary and widely spread appearances that attracted so much attention in 1783.

Kantz, from whose work the greater part of this notice is taken, mentions a number of recorded instances of peculiar appearances, which are so similar that there can be no doubt they were all produced by the same cause. The first-recorded instance is that which occurred in the year 526, in the reign of the Emperor Justinian, while the last was that of 1834.

The phenomenon, as it usually occurs, and as it is frequently observed in a greater or less degree in the north-western parts of Germany, may be thus described:—When the heavens are quite clear, the usual blue colour is not so bright, but has a more whitish, or even dirty appearance. The blue disappears a few degrees above the horizon, and there we perceive a sharply defined ring quite round the horizon, of a dirty reddish brown colour. The summer clouds, which are—at least, in their upper portions—generally white, have more of a reddish tinge, while the sun itself has the same, more especially when near the horizon, when it is, deep blood-red. The light of the sun moreover is so much diminished that we can look at it with the naked eye, even when high in the heavens. Distant terrestrial objects appear dim and as if covered with a bluish veil.

Sometimes these appearances become exceedingly striking, as during the year 1783, the fog was so intense in some places, that objects at a distance of a quarter of a mile could either not be seen at all, or if visible were quite indistinct. The sun was red, and its light feeble, so much so, that at the periods of sunrise and sunset it could not be seen. It appeared first in Copenhagen, on the 29th of May, and gradually spread over the whole of Europe; so that between the 10th and 18th of June, it was

observed in most parts of France, Germany, Italy, and the Netherlands. A few days later, it appeared in Norway, on the Alps, in Moscow, in Siberia, and even in Syria; the Adriatic was covered with it, while it extended about 50 miles into the Atlantic. The same appearances were observed in England; and it was found that neither wind nor rain was able to dissipate the fog, although it appeared to become somewhat less dense after a severe storm.

Towards the end of June it began to get thinner, but soon returned again worse than ever, and remained till the end of July. It then disappeared, but returned occasionally in some places to a greater or less extent. In some places it remained, with interruptions, up to the beginning of October. Its disappearance in different places was not attended by similar occurrences. In some, it seemed to vanish of itself; in others, after a fall of rain more or less violent, so that its removal cannot be referred to the same cause.

The fogs of 1783, and that of 1834, might be supposed to be similar to the ordinary ones that we so constantly see; but when the state of the atmosphere is examined, as regards moisture, it is found to be excessively dry, and consequently these fogs must be of a very different nature, and have therefore received the appellation of "dry fogs."

The phenomenon has been, like all those of difficult explanation, referred to electricity, more especially as the storms that occurred during the prevalence of the fog, in the two years above mentioned, were exceedingly violent; but as both those summers were exceedingly dry, and consequently the clouds very high, and in case of a flash of lightning passing from the clouds to the earth, there must necessarily be a much greater quantity of electricity to produce the effect, when the clouds are high, than when they are low, it does not seem as if there were any ground for giving an electrical character to the phenomenon, especially as we know of no effect produced by electricity of a nature at all similar.

A peculiar smell, said to resemble that of sulphur, was observed in many parts of Holland (1783), and an attempt was made to show that it depended on the presence of sulphurous acid in the atmosphere, as coloured goods exposed to the sun were either bleached, or at least had their colours altered. From various circumstances, however, which our space will not allow us to mention, it appears that this bleaching was produced by other causes.

Vegetation was stated to have suffered materially from the prevalence of the dry fog; but as the summer, except for occasional thunder-showers, was excessively dry and parching, it does not seem as if the fog were instrumental in producing any such ill effects.

Many similar appearances have been observed, but with less intensity. Thus, in 1820, in Holland; in 1821, in England; and in 1824, in Hildburghausen, where it had the smell of coal smoke, and lay so thick over the town that the police searched every house for the suspected fire. In 1834, in May, it was exceedingly strong in parts of Germa-

ny; and in the north-western parts of Germany and Holland, it may be seen more or less several times in each year.

The phenomenon in these localities is ascribed to the periodical burnings which the moors undergo in order to fit them for producing crops. About the beginning of May they are set on fire, and so arranged that they shall smoulder as far as possible, without bursting into flame. By this process an immense volume of smoke is produced, as it has been calculated that the weight of substances burnt and carried up into the air must be at least equal to 1800 millions of pounds. When this immense quantity of smoke is driven away by the wind, it produces the phenomenon of the dry fog.

We might imagine that it would be impossible for smoke to be carried so far, without settling to the ground; but if we look down from a mountain on to a town or village situated in a valley, we shall find that in the morning the air is quite clear, and objects can be seen with perfect distinctness; as soon as the fires begin to be lighted, a thin cloud of smoke intercepts our view, which increases during the day, and instead of sinking to the ground at length attains a very considerable depth, so as often to fill the whole valley. The phenomenon is however more perceptible when the air is dry than when moist; because the fine particles of charcoal which form the smoke absorb water, if any quantity be present in the air, and thus becoming heavier, they more readily sink to the ground.

That the dry fogs in Holland and Westphalia are caused by the burning of the moors, is fully proved by the coincidence in the periods, and by the fact that the fog is only seen in those places to which the smoke can be brought by the prevailing winds.

The dry fog of 1834, which was so remarkable, was most probably caused by the fearful fires which occurred during the summer, both in moors and forests. A large moor in Bavaria was burnt eight feet deep, and the fire extended under the ditches; immense conflagrations also took place in the forests of the Harz, in Prussia, Russia, Silesia, and Sweden. The summer was exceeding dry (it is celebrated for its wine), which accounts for the long continuance of the smoke, and the rapidity with which it spread itself over so great an extent of country.

With regard to the phenomenon of 1783, we have another cause producing so gigantic an effect, viz., the volcanic eruptions that occurred in Iceland and which may be reckoned as among the most considerable that have been recorded. Earthquakes were observed from the 1st of June; and about the 11th, a quantity of smoke rose from the ground in the northern part of the island, and three immense columns of fire were produced, which were visible for more than a hundred miles. The air was so loaded with sand and sulphurous vapours, that it was dark at mid-day. Immense quantities of red-hot lava were poured forth, and filled up the former beds of rivers. The quantity of lava thus emitted was calculated to be sufficient to form a mountain six times as large as Mont Blanc. Shortly afterwards, a subterranean fire took place in the interior of the island, accompanied by shocks of earthquakes. From these causes

so much smoke was evolved, that the sun appeared quite red, and the light was completely obscured near the mountains.

We cannot consider the smoke as directly produced by the volcanoes, inasmuch as we find that the dark column which rises from the crater of an active volcano consists of the vapours of water mixed with sand and ashes, which soon sink to the ground; but when we consider the immense extent of surface covered and inflamed by the lava (seventeen villages were destroyed), and considering that the earth itself seemed to be on fire in the interior of the island, we can easily account for the immense volumes of smoke. The summer of 1783 was also a remarkably dry one, and hence there may have been added to the above cause as many moor and forest fires as usually occur in such seasons.

In conclusion, we may safely assert that the peculiar phenomena known under the name of dry fogs, are caused by the presence of a quantity of smoke in the atmosphere; and that wherever very extensive fires take place, especially of moors or woods, which produce large quantities of smoke, we may expect to observe similar appearances in a greater or less degree. Whether the Indian summer, so well known on this continent, depends on similar causes, is a question on which we shall make a few remarks in our next article.

II. C.

THE WEEDS OF AGRICULTURE.

In furnishing your correspondent, J. C., according to his request, with the botanical names of the commonest weeds of this country, I shall take the opportunity of adding a few general remarks upon these enemies of the farmer.

The prevailing weeds vary in different localities, according to the nature of the soil, situation, climate, &c. Those which are most abundant in one neighbourhood, may be rare plants or perhaps even unknown in another. Hence, in the subjoined list, many may be omitted which in other parts of the province are exceedingly common, and others inserted which to the farmers of the eastern and western districts may be but little known. Thus, in some parts of the Prince Edward District, the poisonous *Datura Stramonium*, Thorn-apple, or Jamestown weed, is a common and well-known weed, but in this neighbourhood it is seldom seen, except in gardens. Many weeds, as the plant just mentioned, have been introduced from other countries, and have become naturalized where the soil and other circumstances are favourable to their growth. Some of them spread slowly, and are perhaps still confined to the vicinities in which they were first grown; while others increase rapidly, and have extended their range over the greater part of the province.

Weeds have been variously classed by writers on agriculture. The most useful arrangement for the farmer is that in which they are divided into two classes, according to the time required to complete the period of their vegetation, because it points out to a certain extent the means to be adopted for their destruction. The first class comprehends the annual and biennial plants. The annual lives

but one year; it flowers, ripens its seeds, and perishes. The biennial lives two years; it produces herbage during the first year of its life, and flowers and seeds in the second. The second class contains the perennials, or plants whose lives extend over a longer period than two years; perennial herbs grow again from their roots, produce new flowering stems annually, and propagate their species by seed. The first class may be destroyed by cutting them down or pulling them up, immediately before or at the time of flowering, thus preventing the propagation of the species as well as killing the individual. The larger plants of this class are generally eradicated with less difficulty than the smaller species, which are not easily destroyed, since their seeds are so numerous that if only a few plants escape destruction they will produce seed enough to ensure a full crop of them the following year. Again, some annuals and biennials are not easily destroyed on account of the imperishable nature of their seeds, which will lie in the ground for years without having their vegetative properties at all impaired, but upon being brought by the plough or otherwise within the influence of the air, will germinate as well as if they had been the produce of the preceding year. Of the second class, some may be destroyed by the means employed for the eradication of the first class; all may be kept under by these means, since they will be prevented from reproducing their species by seed. But a great number of this class, in addition to propagating the species by seed, reproduce themselves individually by suckers, runners, or root-stocks (creeping roots), and constitute the most troublesome of all weeds, especially the last kind, which have "creeping roots," the smallest portion of which remaining in the ground will usually grow and produce a plant. Consequently, weeds of this description require that their roots should be entirely destroyed. This is not a matter of easy accomplishment; but it is absolutely necessary, in order to their complete eradication. Frequent and assiduous tillage of the soil, with the cultivation of root crops and clover, constitutes the most efficient means of destroying them.

ANNUAL AND BIENNIAL WEEDS.

- Sinapis arvensis* Wild Mustard, Charlock.
- Arcetium Lappa* Burdock.
- Galium aparine* Cleavers, Goose-grass,
- Euphorbia heticosopia* Sun Spurge.
- Euphorbia hypericifolia* Oval-leaved Spurge.
- Polygonum Persicaria* Spotted Polygonum.
- Polygonum hydr-piper* Smart-weed, Water-pepper.
- Polygonum convolvulus* { Black Bind-weed, Climbing
Buck-wheat.
- Bromus scaberrimus* Rye Brome-grass, Chess.
- Senecio jacobaeifolius* { Fire-weed, Hawk-weed Ground-
sel.
- Bidens frondosa* Burr Marygold.
- Cynoglossum Myrsinitis* Beggar's Lice, Houndstongue.
- Cynoglossum officinale* Burrs, Houndstongue.
- Anthemis cotula* May-weed.
- Thlaspi bursa pastoris* Shepherd's Purse.
- Cheopodium album* { Lamb's quarters, Goose-foot,
Hog-weed.
- Amaranthus hybridus* Amaranth.
- Feracacum thapsus* Mullen.
- Xanthium strumarium* Cockle-burr.
- Gnaphalium uliginosum* Cud-weed.
- Panicum* (several species) Panic-grass.
- Setaria glauca* (and other species) { Bottle-grass (Bristly Foxtail,
Wild Millet)
- Lobelia inflata* Indian Tobacco.

PERENNIAL WEEDS.

- Galium boreale* (and other species) Northern Bedstraw.

- Polygonum aviculare* Knot-grass.
- Ranunculus acris* Crowfoot, Buttercups.
- Chrysanthemum leucanthemum* Ox-eye Daisy.
- Cnicus arvensis* Canada Thistle.
- Rumex crispus* Curled Dock.
- Rumex obtusifolius* Broad-leaved Dock.
- Rumex acetosella* Field or Sheep Sorrel.
- Urtica Canadensis* Canadian Nettle.
- Solidago* (numerous species) Golden Rod.
- Aster* (numerous species) Aster, Starwort.
- Potentilla* (several species) Cinquefoil.
- Podophyllum peltatum* May Apple.
- Hypoxis perfoliatum* Common St. John's Wort.
- Gnaphalium Margaritaceum* Everlasting.
- Achillea Millefolium* Yarrow.
- Leonodon taraxacum* Dandelion.
- Allium Canadense* Wild Meadow Garlic.
- Allium tricoccum* Wild Leek.
- Triticum repens* Couch-grass.

Of the weeds mentioned in the above lists, some are found chiefly in arable lands, others in pastures and meadows, while a few are abundant in both; hence the division into arable and pasture weeds has been made by some writers. The arable weeds have been subdivided into such as are injurious to the sample of grain; into this subdivision what are termed relative weeds enter, such for instance as oats in a crop of barley, rye in a field of wheat, &c. &c.; and into those which are injurious by incumbering the soil, depriving the growing crop of a large proportion of nourishment, and intercepting light and air: into this subdivision many grasses, of great value in their proper places, enter as relative weeds, together with other grasses of no worth under any circumstances. Among the pasture weeds some are occasionally pernicious, on account of their poisonous effects upon cattle that may chance to feed upon them, although such accidents are rare, as in general cattle instinctively avoid plants of this character. Yet the disorder called the slavers, so prevalent among horses at pasture during a certain period of the summer, is perhaps to be attributed to their feeding upon some acid weed. Another class of pasture weeds are particularly hurtful in sheep-walks, owing to their fruits being armed with small hooks, by means of which they adhere most tenaciously to the fleece, and materially impair its value where they are very abundant: of this kind are cleavers, burdock, burr marygold, hounds tongue, and cockle-burr. Some few plants are detrimental in pastures where cows are grazed, by imparting a peculiar flavour to the milk and butter, as garlic, &c., but such are almost exclusively confined to lands very recently reclaimed from the forest.

The botanical name of the iron-wood tree is *Ostrya Virginica*. It belongs to the Natural Order, Cupulifera, or Oak family. Linnaean class 21, Monœcia; Order 8, Polyandria.
Toronto, May, 1849. N.

THE COLD OF ELEVATED REGIONS OF THE EARTH'S SURFACE.

"Before the mountains were brought forth, or ever thou hadst formed the earth and the world, even from everlasting to everlasting, thou art God."—*Psalms*, Ac. 2.

This artificial globe now presents a complete epitome of the surface of the earth, its atmosphere, and all the astronomical and meteorological varieties of its climate. We have its zones of temperature; its cold and heat, dependent upon elevation and aspect; its winds and storms; its clouds and sunshines; the vapours collecting around the summits of miniature mountains snow-

eapped; the rains descending on forest tracks, and hilly districts, and thence irrigating its plains and valleys, accompanying with a perpetual deluge the point of direct sunlight through the tropics, tempering the vertical heat, and ministering, there, to the boundless energies of vegetation.

The atmosphere has this quality, that, when pure and free from vapour it is wonderfully pervious to the rays of light and heat.* Very little indeed of the heat is, in a perfectly clear sky, absorbed in its transit through it. Thus readily allowing the radiation of rays to the earth's surface from the sun, the air lends itself with equal facility to the radiation of heat in the opposite direction from the earth's surface into space. That heat which the air actually receives appears principally to be derived from it, contact with the earth, and propagated by conduction from one part in it to the other. If it be asked, Why does not this heated air immediately depart from the surface of the earth, and ascend and heat its higher regions, and continually accumulate heat there, rendering them yet warmer than the lower air, which is notoriously contrary to the fact?—the answer at once meets us in the elasticity of the atmosphere; and the refraction in its decreasing density at higher elevations, by which, as in the case of the artificial globe, it is made to contain, as in a vase, a stratum of warm air, in close contact with the earth's surface, and to confine the heat around it.

The air of the higher regions, when freed from clouds, absorbs little or none of the heat radiated through it, either from the sun, or back from the earth, or from the subjacent atmosphere. Moreover, the air, heated by contact with the earth, and ascending to these higher regions, loses its heat rapidly as it ascends by radiation and contact, and ascends but to that limited height assigned to it by the diminishing density of the surrounding air. All that remains to warm the higher regions of the air is the heat propagated to it by the contact of parts, as it is through solid bodies; and each stratum in succession, as it receives this heat, radiates a portion of it off into space, propagating only the remainder to the next stratum. Thus each successive stratum above us receives a diminished amount of heat, and the air grows colder and colder.† Here there is that marvellous provision for the assembling of a variety of climates nearly upon the same spot of the earth's surface, by which it comes to pass, that within the compass of a few miles may sometimes be seen congregated every characteristic form of vegetation, from the giant plants of the tropics to the lichens of the Arctic zone. In the valleys of the Andes, for instance, are growing palm-trees, and the banana, and the coffee-tree, and the sugar-cane, and the cow-tree, whose trunk being pierced yields a vegetable milk—the majestic forests, the juicy fruits, the gorgeous flowers of the tropics. You ascend them 4,000 or 5,000 feet, and you find yourself in the temperate zone; fields of European grain wave around you, and there are forests of oak and pine. Climb those lofty mountains yet higher, and beyond the

limits of 11,000 feet you are in a region where grow none but the Arctic lichens.

In like manner, on the sides of the Alps, the form of vegetation may be traced from the temperate zone to the region of perpetual snow, in the succession of forests of chestnuts, beeches, oaks, and pines, gradually becoming stunted and more scattered, until they disappear on the borders of the line of perpetual congelation.

By reason of the diminished temperature of mountain track, and the fertilizing influence of clouds, and dew, and rain, which the atmosphere accumulates upon them, they become, in sultry regions of the earth, the refuge of vegetation. It is with this allusion, that God, speaking by the mouth of Ezekiel, as the shepherd of his people, says, in the language of prophecy, "I will feed them in good pasture, and upon the high mountains of Israel shall their fold be: there shall they lie in a good fold, and in a fat pasture shall they feed upon the mountains of Israel" (Ezek. xxxiv. 14).

SUSPENSION BRIDGES AT THE WEST.—Mr. Ellet's success in throwing a wire suspension bridge over the Niagara river has given quite an impetus to the bridge-building spirit in the West. We learn from our western exchanges that Mr. Ellet has already contracted to construct a wire suspension bridge across the Licking river between Newport and Covington, Kentucky.—Bills have passed the Illinois and Missouri Legislatures incorporating a Company to construct a wire suspension bridge over the Mississippi from the Illinois shore to the Missouri shore at St. Louis. The flooring of this bridge, as fixed by the act of incorporation, is to be 112 feet above low water mark. Beside these, a suspension bridge is to be thrown across the Ohio at Wheeling, and another at Cincinnati. Mr. Ellet, it is said, has shown conclusively, that a bridge having a span of one thousand four hundred feet, can be constructed at Cincinnati, susceptible of bearing any weight that can be got on to the bridge. Such are some of the feats of modern science.

WETTING BRICKS.—Few people, except builders, are aware of the advantages of wetting bricks before laying them. A wall twelve inches thick, built up of good mortar, with brick well soaked, is stronger, in every respect, than one sixteen inches thick, built dry. The reason of this is, that if the bricks are saturated with water, they will not abstract from the mortar the moisture which is necessary to its crystallization, and, on the contrary, they will unite chemically with the mortar, and become as solid as a rock. On the other hand, if the bricks are put up dry, they immediately take all the moisture from the mortar, leave it too dry to harden; and the consequence is, that when a building of this description is taken down, or tumbles down of its own accord, the mortar falls from it like so much sand.—*New York Sun.*

MAKING AND USING GLUE.—The hotter glue is, the more force it will exert in keeping the two parts glued together; therefore, in all large or long joints, the glue should be applied immediately after boiling. Glue loses much of its strength by being often melted.

IS AMMONIA POISONOUS?—Unquestionably, if used in any considerable quantity, and doubtless also injurious if applied frequently in even small quantities. Dr. Christison says:—"Several cases of poisoning with ammonia or its carbonate have occurred in the human subject. Plenck has noticed shortly a case which proved fatal in four minutes, and which was caused by a little bottleful of ammonia having been poured into the mouth of a man who had been bitten by a mad dog. The symptoms are not mentioned, but it is probable, from the rapidity of the poisoning, that

* Bouguer has calculated that of 10,000 rays falling upon the atmosphere perpendicularly, 8,123 reach the earth's surface. There is, however, reason to believe that this is much below the true estimate.

† Guy Lussac ascended in a balloon to a height of 7,631 yards above the level of the sea, and found the temperature diminished by 72° of Fahrenheit's thermometer, or at the rate of about 165 yards for each degree. The depression of temperature at the same elevation is, however, different in different latitudes. Thus the height at which a perpetual frost commences its reign, and at which snow is found all the year round on the tops of mountains, is different in different latitudes. Throughout a zone of the earth, extending 20° on either side of the equator, it may be considered to vary from 16,000 to 17,000 feet, having the less elevation immediately beneath the equator, and the greatest at 20° from it. From this greatest elevation it appears to sink almost uniformly as the latitude increases, until under a latitude of 80° it touches the earth's surface.

a nervous affection must have been induced. More generally, however, the effects are simply irritant; and the seat of the irritation will vary with the mode in which the poison is given. If it is swallowed, the stomach and intestines will suffer; if it is imprudently inhaled in too great quantity, inflammation of the lining membrane of the nostrils and air-passages will ensue. Huxham has related a very interesting example of the former affection, as it occurred in a young man, who had acquired a strange habit of chewing the solid carbonate of the shoops. He was seized with great hæmorrhage from the nose, gums and intestines; his teeth dropped out; wasting and hectic fever ensued; and, although he was at length prevailed on to abandon his pernicious habit, he died of extreme exhaustion, after lingering several months.

IMPORTANT DISCOVERY IN VOLTAIC ELECTRICITY.—Mr. Alfred Smece, the Surgeon to the bank of England, and inventor of the battery which bears his name, has announced important discoveries in animal electricity. By a test which he terms electro-voltaic, he has satisfied himself that the terminations of the sensor nerves are positive poles of a voltaic circuit, while the muscular substance is the negative pole. The sensor nerves are the telegraphs which carry the sensation to the brain, and the motor nerves carry back the volition to the muscles. The brain he infers to consist of five distinct voltaic circles, which, upon theoretical grounds he believed to be sufficient to account for all mental phenomena. Mr. Smece has succeeded in making artificial electric fish, and an artificial muscular substance. The bare announcement of such a discovery must put the whole medical world upon the alert, and in their hands for the present we leave it. Should Mr. Smece's views be confirmed by other investigators, he will establish an imperishable name in the records of physiological science.

WHITEWASH.—Take one bushel of unslacked lime, and slack it with cold water; when slacked add to it twenty pounds of Spanish whiting, seventeen pounds of salt, and twelve pounds of sugar. Strain this mixture with an iron sieve, and it will be fit for use after reducing with cold water. This is intended for the outside of buildings, or where it is exposed to the weather. Two coats should be laid on wood and three on bricks. A whitewash brush may be used for laying it on, and each coat must be dried before the next is applied. This may be made any color you please. For straw color, instead of the whiting, use yellow ochre; for lemon color, use ochre and chrome yellow; for lead or slate color, use lampblack; for blue, indigo; for green, chrome green.

USE OF LIME IN VAULTS.—There can be nothing more wasteful to the fertilizing properties of night soil, than throwing quick lime into the privies. It expels the offensive odors, it is true, but these are precisely what are most efficient and desirable as manures. It is a practice only to be tolerated by those who never make any use of the contents of their vaults. The strongly alkaline properties of the lime combine with the carbonic and other acids, already in combination with the ammonia, thus driving off the invaluable fertilizing materials of the latter. Fine charcoal, charred peat, plaster of Paris, sulphuric acid, and common copperas, (sulphate of iron,) are the best additions for vaults, where the contents are to be used as fertilizers, as they absorb the gases, ammonia, &c., and retain all for manure. If these are wanting add dry mould, or peat, tanbark, or saw dust, though these are much more

bulky than the former, in the ratio of their absorbent powers. These may be added from time to time, and when sufficiently accumulated, withdrawn for use.

When the earth contiguous to privies is exposed to saturation, by which the contents may be diluted, and thus drain off, the vaults should have perfectly tight boxes, which can be easily drawn out from behind as fast as filled. The addition of wood ashes is to be placed in the same category with lime, though these are less objectionable. The alkalis of the ashes operate in the same way as the stronger and more active alkali of the lime, though in a less intense degree. But the cinders of the ashes are absorbents of the gases, and, to the extent that they exist are directly beneficial in this combination.—*American Agriculturist.*

THE STOVE.

And here I may premise that I have condemned the open fire place for dust and cold feet, I may denounce the stove for dust, dirt and hot heads. But the condemnation of this mode of heating dwelling houses has now become nearly universal, and were it not for the want of a substitute in the matter of economy, would long ago have been exploded altogether. I shall therefore condense my remarks upon it as much as possible.

The moment you place fire or heat in the centre of a cold room, having no open flue in it, that moment every particle of air within that room is put in motion. This motion is upward from the centre of heat, and rotary, similar to the water in a boiler or cauldron placed over a fire; rising from the centre to the top, thence outward and down the sides of the boiler, until it again reaches the spot it started from, and so on. The hotter your stove gets, the more rapid will be the state of ebullition. Every step taken upon the carpet, especially when near the centre of such a room, a quantity of impalpable dust is sent to the ceiling, until the whole room fairly becomes hazy. As proof of all this, you have only to examine the tops of your book-cases, window cornices or shelves of any kind,—covered with dust; and, in the best kept room, you may write your name every five minutes in the day upon the furniture, especially if it be placed near the walls of the room. It is because of this motion of the air that we avoid taking a wall pew in church, there being in winter a constant current of cold air directly downward, and for the same reason this seat is preferred in summer.

The local currents of cold air in a stove heated apartment are very slight. During the time the room is heating up in the morning, the expansion of the air by rarefaction is considerably more than sufficient to supply the necessary combustion air, and consequently, instead of a draught inward it is during this period outward; but after the room has obtained its maximum of heat, even then the ingress of cold air is little more than sufficient for this purpose. A room will be heated much more rapidly when the stove is placed in a central position in the room, where all parts of the hot metal shall be freely swept by the current of air, than if it be placed near one of the walls, where but one or two of the plates are made to do the work of the whole. The feet in a stove room are kept warmer than in one having an open fire place, but the head is about thirty degrees warmer! so that the difference of temperature between the head and feet in the two cases is far greater, and therefore more injurious in a stove room than in one heated by a fire place. All these evils however, fall into utter insignificance when compared with that of respiration!—*Ruttan on Ventilation.*

KEEP BEES.—Bees cost nothing for their food, neither for their pasture in summer nor for their provisions in winter.

Domestic and Miscellaneous.

FLOWER-TEACHINGS.

BY MRS. S. C. B. THOMPSON.

'Tis not lost time to steal from graver things.
 Awhile away, and muse among the flowers!
 Is there not wrought, in every tiny leaf,
 Undying truth for the reflective mind?
 Are they not eloquent tho' void of speech—
 Suggestive to the soul of higher things,
 More lofty uses, and more noble ends
 Than earth's best and highest? Methinks they are.
 The heart is led to Him who bade them spring
 From nothingness to glorious life—who gave
 To each its own sweet time to bud and bloom—
 Its own kind mission to fulfil on earth—
 Its time to fade and die.

There is a voice

That speaketh to the inner ear sweet words
 Of cheering hope, and lowly trust that He
 Who bade them spring from earth, and clothed each leaf
 With grace and beauty rare—hath the same power
 To raise us from the dust to live again.

Heart-comforters are ye, bright flowers, and much
 I love ye for your gentle ministry,
 And for the ample harvest of sweet thoughts
 My soul hath garnered in for after use.
 When sad from Life's o'erburdening ills, my heart
 Doth strength and courage gain from flowers that dare
 The angry storm, and still, with smiling brow,
 Look up through tears to Heaven; thus would I learn
 To look through clouds or sorrow up to God,
 And gain from fading leaf and drooping flower
 The wisdom of a better love than marks
 The schools of men—that wisdom which, heart-learn'd,
 Dims not the eye and leaves upon the brow
 No marks of age. Ah, would that we were prompt
 To learn the lessons they are prone to teach.

Fair Haven, Conn.

—Am. Met. Mag.

CARPETS.

But, say the ladies, how can we do without a carpet?
 and then, too, they are so warm and comfortable!

Of course the ladies must be gratified; far be it from me to desire to deprive them of a single indulgence. but I must be permitted to demur to the charge that there is vulgarity in the absence of carpets. They are fashionable, I admit, but that is their sole recommendation. I have not the least doubt in my own mind, that to the health of persons using them, they are the most destructive thing possible, and that the sins of those who persist in their use, will be visited upon their children to the third and fourth generations. Our ancestors were vulgar in their notions, in their language, dress and manner of living, according to our ideas, in the middle of the nineteenth century, but where are the robustness, vigor, health and energy of character which distinguished those of the sixteenth century? This period of early dinners, wainscotted houses and polished floors? Now I insist upon it, that a polished floor, or a floor covered with a well kept oil cloth, albeit the former may be somewhat more expensive, so far from being vulgar, would in my humble opinion be the very reverse. If a general or common use of an article of furniture be the test of vulgarity, then I submit that a carpet comes pre-eminently within the category. (for scarcely a house can be found which cannot boast of its carpet,) and ought, according

to such reasoning, to be repudiated on that account alone!

Now as to the assertion that a carpet adds warmth to a room, I must again be at issue with the ladies. It does not, and here are my reasons for the assertion. In the first place, since carpets have been in use by every body, builders never even pretend to season their flooring; before even the plastering of the house becomes dry, the rooms are covered with carpets. The consequence of this is that in less than a twelve month, the floors become open as sieves. If they are washed two or three times a year this process is obliged to be done with the least possible quantity of water, lest the ceiling of the lower rooms be spoiled, so that the timber becomes perfectly dry and shrunken, and your carpet is almost the only defence left against the constant draught of cold air always circulating between the joists.

I cannot perhaps more satisfactorily rebut the assertion that a carpet adds warmth to a room, than by relating, as shortly as possible, an alteration which occurred some years ago, and to which I was a witness. in a stage coach, between Toronto and this place, and between two gentlemen, disputing as to which side of the Buffalo robe, which they shared between them, was the warmest next the person. The one contended stoutly in favour of the fur side, and by various arguments, but chiefly by the sense of touch or feeling, converted nearly all the passengers to his way of thinking; and after some time, with perhaps less deference than exactly became a person so much the junior of the gentleman who shared the robe with him, and who had wrapped it around with the flesh side next him, deliberately twisted his half of the "Buffalo" with the fur side inward.—This posture of affairs, of course,—the feet of both being left exposed, in a cold and boisterous December day, could not last. The elder gentleman, after a little, turned toward his companion, and after administering a severe but gentlemanly rebuke for the liberty the young man had taken, asked him whether, if the fur side of the robe next the person were the warmest, he did not think the animal who furnished it would have so worn it! The gentleman rightly judging that the animal knew best how to wear his own hide! This ridiculous, though perfectly philosophical argument, after some further conversation among the passengers generally, not only restored the covering to the old gentleman's feet, but immediately created a revolution amongst all the robes in the vehicle, and a hearty laugh at the youngster's expense.

Now if the carpet could be placed underneath and against the floor, I admit that a good deal of cold might be excluded; but upon the top of the floor, like the fur side of the "Buffalo," the ingress of the cold air by capillary attraction of the carpet, would be much facilitated instead of being prevented.—*Ruttan on Ventilation.*

THE BAGNALL FAMILY.—The late Mr. John Bagnall, sen., was originally a persevering, industrious working collier—dependent for the support of himself and family upon the earnings obtained from such a source. Endowed by nature with good qualifications, and possessing a marked determination of character, he was soon enabled to resign his post of "operative miner" for one of a more important nature—viz., that of mineral surveyor; in which capacity he highly distinguished himself. By the exercise of steady perseverance, foresight, and economy, he was enabled shortly after this, in conjunction with a brother who still survives him, to enter into business. A colliery was taken on royalty, which then offered itself—the management of which devolved more immediately upon himself. Here it was more especially that he felt the value of his practical mining knowledge. The management was conducted upon

principles of the utmost economy; and the result was, accordingly, beneficial in proportion. Surrounded, as might be expected, with a varied class of individuals, whose conduct was marked, probably, with unenviable excesses, and with part of whom he would occasionally be brought in contact, it might be supposed that temptations on their part were neither few nor feeble. His firmness and decision enabled him to meet such with bold repulses; his mode of procedure, was, therefore, unaltered. He had an object in view, for the accomplishment of which he was steadily progressing. He was ever found at his post in punctual discharge of business demands. As a recompense of diligence and attention, associated with good natural talents, his judgment became matured; his mind, which was always sober and thoughtful, became enlarged; and his opinion in cases of "mining difficulty" was eagerly sought, and highly esteemed. We here see his mind raised to such a position in the world as to command respect of his superiors—a position, moreover, rendered more valuable by his upward movements from the greatest obscurity. In the progress of time he had accumulated a sufficient capital to induce him to extend his operations; accordingly, he embarked in the iron trade; here, too, he acted with his usual degree of caution. His doings in this department were at first small and feeble; he, however, gradually improved his position, till, with the assistance of his sons (some of whom had now grown up, and begun to take an active part in business), he was enabled to make very considerable additions—so much so that, at the period of his death, very few manufacturers, and similar in extent, occupied a better position. It cannot be wondered that his sons, having such a valuable tutor, should make equal progress with their late father. They were now well established, and highly systematic in all their operations. Each appears to have caught the father's particular qualification for industry, and they continued to labour as they had done in their father's day, apparently taking for their motto, "onward." Few individuals, I presume, in the present day have given a closer attention to their business, or exhibited more industrious habits, than the present firm of "John Bagnall and Sons;" and what is the result of all this? From the humble occupation of their father, as a working collier, events have so progressed, that now we may justly place them in the first rank of iron manufacturers. Their establishment, taken as a whole, is exceedingly large. Their mineral property has increased to an astonishing extent—so much so that, in the immediate vicinity of such operations, you can scarcely step without treading upon their property, and they are still augmenting it. The tide of prosperity is with them ever flowing. So effectually have they conducted their operations, that no commercial depression, however severe it may be, can affect them. An idea of their great wealth may be gathered from the fact, that, years ago, a certain banker pronounced the firm to be worth from 500,000*l.* to 600,000*l.* Since that opinion was given, we have had a good trade of some continuance—so that, if we take a moderate average of their annual profits, we may now consider them to be worth, probably little less than 1,000,000*l.* sterling.—*Correspondent of the Mining Journal.*

DOMESTIC FISH PONDS.—We are surprised our country friends do not pay more attention to the subject of fish ponds. Many of them have, on some part of their estates, either natural ponds, or small streams running through narrow valleys, which may be dammed at a trifling expense, and occupy but a comparatively small surface of land, and which, in many cases, is entirely worthless. These ponds should be fed with living streams or springs. The former are preferable, as they bring to the pond supplies of seeds, vegetables, roots,

mud, &c., on which many of the finny tribes subsist. Aquatic plants, insects of various kinds, and infusoria are also soon generated in the pond, and supply them with an adequate amount of food. Wherever this is deficient for the inmates, artificial food may be added, as bread, decayed grains, vegetables, meat, and the like. They may be soon taught to come at call, as by the tinkling of a bell, the blast of a horn, the beat of drum, or some musical instruments, and they will thus gather round their food as soon as thrown in. Many species of fish subsist entirely by suction, as the shad, the sucker, &c.; and it is policy to have separated ponds for such of these as may be wanted for use. Others, and by far the larger part, are predatory, and subsist almost entirely on other fish, as the pike, pickerel, &c., and these require a stock of smaller fry to supply them adequately with food.

Some experiments have been made with the shad and other salt-water fish, in acclimatizing them in fresh water, and with entire success. A friend, who has several fish ponds on his estate on the Hudson, says they have bred with him the second year they were placed there. He occasionally supplied them with salt, when they would come about the deposit, and seem to enjoy the brackish water, while the salt remained. When deprived of this, some of the original shad died; but whether owing to this or some other cause, it is not certain. The younger ones seem to thrive in water entirely fresh. He has also domesticated several kinds of fresh-water fish, some of which have been imported from the European waters, as the carp and tench, but most of them are the best varieties from our inland lakes. Some of them have become such pets, and so familiarly answer to his call, that he has a great repugnance in preparing them for his table, though his friends to whom he frequently sends them, have no such scruples, and pronounce them delicious. He tells a good story of harnessing a nine-foot sturgeon, transferred from the river of his domains. He has properly adjusted straps, so fitted as not to interfere with his fins, to which a ring and trace is attached with a light cork buoy, so as always to be within reach. When disposed for a sail, he gets into his canoe, and quietly affixes a tow line to the buoy; and as soon as the sturgeon feels a jerk, off he darts with railway speed, and whirls him round and round the pond till exhausted, when he rolls over on his back and halts. He is then disengaged from the canoe, and after recovering from his sweat, bounds into the air six or eight feet, and off he darts for the quiet depths of the pond. Some honest Dutchmen, in his neighbourhood, thinking this too good fun to be monopolized, tried the experiment with an untamed sturgeon in the Hudson; when after a short time, he plunged downwards, drawing under the boat, men and all, who came nearly being drowned. They cursed their neighbor and his craft, and have never been known to attempt the experiment since.—*American Agriculturist.*

RECIPES.

Best Cleansing Drink for a Cow after Calving.—Give her 1 lb. of Epsom salts and a tablespoonful of ground ginger, in a quart of good, warm ale.—*Dublin Paper.*

Facts in Cooking Meats.—From an average of the nicest experiments made on good meat, moderately fat, 4 lbs. of beef lose 1 lb. in boiling, 1 lb. 3 oz. in baking, and 1 lb. 5 oz. in roasting; while 4 lbs. of mutton lose 14 oz. in boiling, 1 lb. 4 oz. in baking, and 1 lb. 6 oz. in roasting.

Effects of the Game Law in Great Britain.—It is asserted by the "Suffolk Chronicle," that the destruction of the game preserves, alone, would produce greater crops in England than all the artificial manures in the world.

A Saturday's New Moon a Wet One.—Dr. Forster, of Bruges, has made a communication to the Royal Astronomical Society, in which he declares that by journals of the weather kept by his grandfather, father, and himself, ever since 1767, to the present time, whenever the new moon has fallen on a Saturday, the following twenty days have been wet and windy in nineteen cases out of twenty.

Roarers Disqualified for Breeding.—At a late meeting of the Royal Agricultural Society of England, Mr. Cator suggested that all stallions and mares known under the name of "roarers" should be disqualified for competing for prizes offered by the society for improving the breed of horses.

How to Kill Lice.—Tobacco water, or the ammoniaical liquor from the gas works, is recommended by the "Agricultural Gazette" for destroying lice.

Manures favourable to the Potatoe Crop.—Mr. J. Cuthill, florist, Cambervell, used 30 cwt. of salt and 39 bushels of soot per acre on light sandy land, planted in February. The crop entirely escaped.

Mr. C. Jeffrey, farmer, Antony, states that Mr. Peel, at Treuant Park, planted his potatoes in October, manured with salt, soot, and charcoal, and had an excellent crop, without one single diseased potatoe.

The Bishop of Carlisle reports from Cumberland that no disease appeared in October-planted potatoes, when the furrows at the time of planting were dusted with a mixture of soot, salt, charcoal, wood ashes, and gas tar.—*Gardener's Chronicle.*

Interesting Experiment in Feeding Cows.—In Switzerland they estimate that hay loses at least a third of its nutritive value by the process of fermentation. The following experiments were made upon cows:—Thirteen cows were put up, and each got daily 36 lbs. of newly-made hay, and gave, one with the other, 25 lbs. of milk; the same got afterwards, and during 15 days, 36 lbs. of old hay of the preceding year, from the same meadow. They gave, after the fifth day, 20 lbs. of milk; after 10 days, 14 lbs.; and the last two days only 12 lbs. The same cows were again put upon new hay, and gave, after the fifth day, 18 lbs.; after the tenth day, 22 lbs.; and after the fifteenth, gave again 25 lbs. This experiment shows clearly that the hay during the process of fermentation loses a great deal of its nutritive value, and if there were means of preventing the fermentation, it would be of great service.

THE BEST KNIFE CLEANER.—Charcoal, ground to powder, is said to be one of the best things ever discovered to clean knives.

How to GET RID OF CROWS.—A cotemporary says that some acute fellow "down east" has discovered a novel mode of getting rid of the crows. You must take some small shelled corn, and run a horse hair through the grain with a needle, and tie a knot in the hair close to the grain, and sow them in corn fields, and the crows will pick up this grain with the hair in it, and it will tickle them, and they will kill themselves a scratching. This is giving them the "Old Scratch" with a vengeance.

PROMPTNESS.—There is no calling in which promptness is more important than in that of the cultivator. A great deal depends on doing every thing in the proper season. In vain to him come the various seasons, bringing seed time and harvest, if he be not ready to sow and reap at the proper time. A short delay in planting may affect the crop materially. If the land be naturally rather wet, a delay of one day in sowing, after it is sufficiently dry, and a storm ensuing, may cause a further delay of one or two weeks, in a wet period, and this may cause a late crop, and a failure from rust or blight.

In raising a root crop, a few days of procrastination may extend the time of sowing to the hot, dry season,

and the consequence is often a failure of seeds, and the blame justly due to neglect, may fall upon the seedsman.

A few days too late in destroying weeds, and often the labour will be twice as much; and this delay on one piece of land may cause delay in weeding the whole farm or plantation, and the consequence is, a large increase of labour, and often a depreciation in the crop for want of attention in due season. A farmer informed us that he was once too late in weeding an acre of carrots, and the weeds were so numerous and rank, that he found it the most economical way to plough the land, turn under the weeds, and sow anew.

In harvesting hay or grain, a single hour of delay may cause a loss of more than can be earned in a week. One day too late in gathering transient fruits, and a storm succeeding, the consequence may be the loss of the whole crop.

One day too late in cutting up a field of late corn, and the frost may kill it in the milk, so that it will not be worth harvesting; but if cut up and shocked, the crop might be fair. One day too late in gathering winter fruit, and a frost may destroy a large part. By leaving fruit out one day too late after harvesting, it may be spoiled by cold weather. A little too late in gathering cabbages, potatoes, and other roots, and a hard frost will enclose them, and Winter spread his white mantle over the earth.

A thousand cases may be named in which the farmer suffers great loss by being too late. It is impossible for the cultivator to perform every operation at the very best point of time; but he should endeavour to do it, and make his arrangement so as not to have more work on hand than he can do at the proper season; and he should always consider that one day too late, may be the same as months too late, or for ever too late.—*New England Farmer.*

LABOUR IS HONOURABLE.—All labour is honourable. The Great First Cause works, Nature works, and every man who enjoys her fruits ought to hold it honourable to work. When shall the glorious time dawn that intelligence and true philanthropy shall annihilate the selfish distinction which pride has made between labour and idleness? May that auspicious day soon arrive when the worthless distinctions between mental and physical labour, which separate man from his fellow-man, shall cease to exist, and all the tenants of the earth meet as equal sovereigns of our common inheritance—the earth.—*Rodgers's Scientific Agriculture.*

STEWED CELERY.—The Horticulturist highly recommends stewed celery. Cut the blanched or white portion of the celery stalks in pieces about an inch in length, and put them in a saucepan over the fire, with milk and water, in equal proportions, barely sufficient to cover them; add a little salt, and let them stew gently, until perfectly tender. Then take out the celery, add a piece of butter to the liquid it was boiled in, thicken it slightly with flour, pour it over the celery and serve it up.

FOR THE HEADACHE.—Sage tea will often give relief. It is stimulating, causing a rapid circulation of blood in the veins, which relieves the brain from a flow to that organ; it also causes perspiration, when taken freely. With food, sage tea is an excellent substitute for tea or coffee, and by some persons it is preferred as more palatable, without any regard to its healthful effects.

The following is generally a remedy for the headache: Open the hair on the patient's head, apply a little fine salt; then apply the palm of the hand, and rub it hard and briskly for a short time; then perform the same

operation on another part, passing over the head, particularly that part which is the seat of pain. The cheeks will soon be flushed with heat, and the head relieved. Whether the effect is wholly owing to the friction, that invites the blood outwardly, and relieves the brain from pressure, or whether the salt has a cooling and contractive effect in driving the blood from the brain, we know not. Perhaps it has a favourable effect in both ways. If there be no efficacy in the chemical nature of the salt, sand or sawdust would answer the same purpose of producing irritation by friction.

Champoning the head, as performed by barbers to cleanse the hair and the head of dandruff, will generally cure the headache. They apply some cleansing liquid, —perhaps soap and water would answer,—and then rub hard and thoroughly, and continue the process twenty or thirty minutes; after which the head is dried by rubbing with a towel.

Showering with cold water is a good remedy. In severe cases, let a person ascend to the second or third story of the house, and pour cold water from a picher or coffee-pot steadily upon one point of the patient's head.

A teaspoonful of finely powdered charcoal, drank in half a tumbler of water, will, in less than fifteen minutes, give relief to the sick headache, when caused by a superabundance of acid on the stomach.

Editors' Notices, &c.

T. B., Gore District.—Will probably find something to his purpose in an article on the *Weeds of Agriculture* in our present number. If he will state specifically the information he requires, we will endeavour to supply it.

C. H. M., Carillon, received.—Our correspondent will perceive that one of his communications had been anticipated.—We shall be happy to hear from him again.

MANAGEMENT OF COLTS.—We will endeavour to furnish the information requested by our Vaughan correspondent at an early opportunity.

VENTILATION OF STABLES.—The cause of complaint of a Gore Farmer, is no doubt a want of sufficient air through the stable. The pungent smell arises from the decomposition of the solid and liquid excrements of the horses, giving rise to *ammonia*, in the form of gas or vapour, a substance of great utility as food for plants, but highly injurious to animals. The only remedy consists of thorough ventilation and cleanliness. All animals that breathe by lungs require a constant supply of pure air, but they should not be exposed to cold currents or sudden transitions of temperature when in a confined state. Many of the diseases of domesticated animals might be prevented by common attention to the ordinary laws which influence their health.

J. M.—We have not forgotten our promises, and hope shortly to be in a condition to comply fully with your wishes. Unfortunately the bulky reports and transactions of the three national Agricultural Societies at home cannot be received in Canada through the post office without an enormous expense. We expect in a few weeks to be in possession of a complete set of these important documents, and shall not fail to give our readers a condensed statement of the more interesting and useful portions of their contents.

ERRATA.—In No. 2 of "Scientific Notices," in our last number, page 132, first column, twenty-three lines from the bottom, for *golden*, read "pollen;" fourteen lines from the bottom, for *are* read "were;" eight lines

from the bottom for *have*, read "leave." Second column, thirteen lines from the top, for *their*, read "thes;" twenty-five lines from the top, for *peronica*, read "veronica." Page 133, first column, ten lines from the top, for *has* read "have;" nineteen lines from the bottom, for *daphnia*, read "Daphnia." Second column, nineteen lines from the top, for *mountainous*, read "mountainous."

PROVINCIAL ASSOCIATION.—We are happy to state that the fears expressed in his address, by the president, Mr. Ruttan, that no grant would be made by government to the Association for the present year, were not well founded. Government has with great liberality, considering the depressed state of the public finances, made a permanent grant of £250 per annum, and a special grant of £350 to relieve the Association from its present liabilities. This circumstance should not in the least relax the exertions of the friends of the Association to raise funds by subscription or otherwise. We shall need all we can get, and more too.

MARKETS.—The late arrivals from England show an upward tendency in prices. How long it will last is impossible to say. A great deal will depend upon the course of events on the continent. If war and commotion continue in the north of Europe—in those countries which have heretofore produced a large surplus of breadstuffs—the effect will no doubt be to send up prices in the English markets. The weather in England is said to be all the agriculturist can wish. So far therefore, there are indications of a good home supply at the coming harvest. We quote the following items:—

By the *Niagara*, New York, June 1—LIVERPOOL MARKETS, May 19:

Flour has advanced. Philadelphia and Baltimore was quoted at 23s. 6d.; Ohio, 24s.

Corn has improved, and the quotation for white is 32s.; yellow, 34s. a 36s.

Meal, 14s. a 15s. 9d.
American Wheat, 5s. 9d. a 5s. 10d.

Money continues plenty: Consols 91½. She brings £2,000 in specie.

By the *Europa*, New York, June 6th—LIVERPOOL MARKETS, May 26th—

Cotton, in consequence of large imports, was depressed. The market for breadstuffs both here and in London has been quiet, but on the whole steady, during the past week. The demand for Indian Corn has improved, and at some further advance, the current rates being from 33s. for white, up to 36s. per quarter for fine yellow; the latter is now generally held at 6d. per quarter higher. The demand for Flour is moderate but steady, at 23s. a 23s. 6d. for Western Canal, Philadelphia and Baltimore. Ohio has been sold at 25s. per brl.

The selling price for American Wheat is 7s. 2d. for white, and 6s. a 6s. 3d. for red. The weather is all that the agriculturist can wish, and the young crop of wheat and spring corn are of the most promising character.

DELAY.—We are again obliged to apologize for delay in the issue of the AGRICULTURIST. The matter was in the printer's hands in time, but from some disappointment in getting a press after the late fire, our printers have been unable to work off our edition in proper time. We trust that after the next number, at all events, we shall recover our true position.

Drinking water, in moderation, neither makes a man sick, nor in debt, nor his wife a widow.—*Spanish Proverb.*

A SHORT CHAPTER ON BREAD-MAKING.—At no period of our civil history has so much attention been directed to the best means of sustaining life, as at the present. The partial failure of the cereal and root crops in Europe, together with the rapid increase of their already crowded population, has led the chemist, the political economist, and the philanthropist to a clearer and more accurate investigation of the life-sustaining properties of the various articles commonly used as food.

The term "bread," in the broadest sense, can be applied to the main staple, in the support and nourishment of man; whether it be the "potatoes and point" of the Irishman; the ostrich, the pnanacho, or the wild bull of the Buenos Ayrean Guacho; the blubber of the Greenlander; the cassava, banana, or sugar-cane of the West India negro; the hump steak of the prairie hunter. The rice of the gluttonous Siamese, the contents of the ample wallet well filled with dates, of the Timbuctoo merchant, and the rich white bread of the American table,—all are to different individuals but so many different forms of "daily bread."

The French Chemists have, by the most patient series of analyses, fixed the utmost alimentary limits of almost every article used as diet. Wheat above all other things, stands pre-eminent as an article of food. With us, as a nation, it forms a most important part of life's comfort. The question before me now is, as to the best way of deriving the entire nutritious substance of wheat when presented in the form of baked bread. That we fail in gaining the object by the use of fermentatives, such as yeast, leaven, &c., can be easily shown. The intelligent reader need not be told that fermentation cannot take place in any substance that does not contain sugar in large quantities, and in the proportion that sugar predominates will be the activity of the fermentation. In other words, the activity of the fermentation depends upon the strength or ability of the yeast or leaven to change or convert into carbonic acid gas the saccharine contained in the wheat. Experiments in this respect enabled me to speak knowingly. The quantity of nutritious matter destroyed in getting what our wives call a "light raise," is as eight to one hundred; or, out of every one hundred pounds of flour, we destroy eight, while the balance is largely injured by the process.

Nor is the practice of raising bread by the use of saleratus any better; indeed, it is infinitely worse. Why are ninety-nine out of every one hundred of the American people afflicted with poor teeth? Solely from the use of saleratus, not "sweet" things, as many suppose. I am confident that the love of gain ought to lead us to abandon the use of the first ingredient, while the love of health, and, above all, a good set of teeth, should induce us to abstain from the use of the latter.

A sweeter and better kind of bread can be made by following the recipe given below. One trial, I am satisfied, will convince any one.

Three cups of flour;
Two teaspoonfuls of cream of tartar;
One teaspoonful of carbonate of soda, dissolved in hot water.

A little salt, and a small piece of butter or lard. Mix with sweet milk, roll out and bake them quickly. Add a little sugar, and it makes a very nice, healthy cake for children. The same proportions may be carried out to make a large batch of bread.

By placing the bread, when taken from the oven, in a current of sweet, fresh air, it soon recovers the oxygen that was expelled from it while it was in the oven. No bread should ever be eaten while it is hot. It is not fit for the stomach, and will certainly produce derangement,—such as flatulence, acidity, biliousness, &c. It is a want of economy to use warm bread. Many persons will eat three or four warm biscuits, while seldom

will they eat more than two when they are cold; and yet the two cold biscuits contain more nourishment than the four warm ones.—*Valley Farmer.*

DRESSING WOUNDS.—Nine times out of ten, a wound will heal quicker if done up in its own blood, than in any other way. As for a burn, whatever will entirely exclude the air the quickest, is the best. Cotton will do this; so will oiled silk, if stuck down at the edges by any kind of sticking salves. Put nothing on a burn to heal it. Nature will soon do that, when the air is excluded, and the pain will almost immediately cease.

APPLE CUSTARD.—To make the cheapest and best every day farmer's apple custard, take sweet apples that will cook, (such as every farmer ought to have through the summer, fall, winter, and spring, pare, cut, and stew them; when well done, stir till the pieces are all broken; when cool, thin with milk to a proper consistency, and bake with one crust, like pumpkin pie. Eggs may be prepared and added with the milk if handy, though it will do without. No sweetening is necessary. It may be seasoned with any kind of spice to suit the taste—the less the better.

TORONTO MARKET.

	May 30, 1849.			
	s.	d.	s.	d.
Flour, per brl. 196lbs. - - - -	16	3	to	21 3
Wheat, per bushel, 60lbs. - - - -	3	6	to	4 4
Barley, per bushel, 48lbs. - - - -	1	6	to	1 9
Rye, per bushel, 56lbs. - - - -	3	0	to	3 4
Oats, per bushel, 34lbs. - - - -	0	11	to	1 1
Oatmeal, per bbl. 196lbs. - - - -	16	3	to	20 0
Pease, per bushel, 60lbs. - - - -	1	6	to	2 0
Potatoes, per bushel - - - -	2	6	to	3 4
Beef, per lb. - - - -	0	2	to	0 3½
Beef, per 100lbs. - - - -	15	0	to	20 0
Veal, per lb. - - - -	0	2½	to	0 4
Pork, per lb. - - - -	0	2½	to	0 3½
Pork, per 100 lbs, - - - -	17	6	to	20 0
Bacon per 100 lbs, - - - -	25	0	to	35 0
Mutton, per lb, - - - -	0	2½	to	0 3½
Mutton, by the carcass - - - -	0	0	to	0 0
Lamb per quarter - - - -	2	0	to	3 0
Fresh Butter, per lb. - - - -	0	6½	to	0 7½
Firkin Butter, per lb. - - - -	0	6½	to	0 7½
Cheese, per lb. - - - -	0	3	to	0 5
Lard, per lb. - - - -	0	3½	to	0 0
Apples, per barrel, - - - -	7	6	to	12 6
Eggs, per dozen, - - - -	0	4	to	0 5
Fowls, do. - - - -	1	8	to	2 0
Straw, per ton, - - - -	25	0	to	30 0
Hay, per ton, - - - -	40	0	to	60 0
Fire Wood - - - -	10	0	to	12 6

SEEDS! SEEDS!! SEEDS!!!

GROWTH OF 1848.

JUST RECEIVED by the Subscribers, via New York, their usual supply of fresh ENGLISH GARDEN, FIELD, and FLOWER SEEDS, among which will be found the following varieties of

TURNIP SEED.

Purple-top Swede,	Yellow Aberdeen.
Skirring's do.	White Flat,
White Globe,	Green Round,
Early Stone,	Red do.

CHOICE FLOWER SEEDS.

100 Varieties—including Annuals, Biennials, and Perennials.

Country Merchants supplied with any particular kind of Seed they may require, put up in papers, upon moderate terms.

LYMAN, KNEESHAW, & Co.

Toronto, March 24, 1849.

**WM. M'DOUGALL,
ATTORNEY, SOLICITOR, &c.,**

*South West Corner of
KING AND YONGE STREETS,
TORONTO.*

*Deeds, Mortgages, and other Legal Instruments
promptly prepared.*

**PHENIX FOUNDRY,
No. 53, YONGE STREET, TORONTO.**

GEORGE B. SPENCER,
(LATE C. ELIOT.)

CONTINUES every Branch in the above Establishment, as heretofore; and, in addition, keeps constantly on hand a good assortment of Cooking, Parlor, Box, and Air-Tight Stoves, of the most approved patterns.

Also, a Second-hand Engine, with or without the Boiler, Twelve-horse Power, will be sold very cheap for Cash or short payment.

Toronto, Jan. 26, 1849. 1-tf

MAMMOTH HOUSE,

Removed to the Store next door South of Mr. Elgie's Tavern, Market Square.

THOMAS THOMPSON is happy to inform the Public, that, by the praiseworthy exertions of his friends, he has saved from the destructive *Conflagration of 7th April*, staple and fancy **DRY GOODS, GENERAL CLOTHING, HATS, CAPS, BOOTS, SHOES, &c.** &c., to the amount of upwards of \$15,000! partially damaged, which will be sold at a great sacrifice. The above Stock, with the early *Spring Arrivals* now opening out, will comprise a splendid assortment of *cheap and fashionable Goods*, the whole of which he is determined to have cleared out previous to his re-opening the new Mammoth House.

Toronto, 17th April, 1849.

SEVERN'S BOTTLED ALE.

THE Subscriber, having resumed his former Business in a convenient locality, with a large stock on hand, of a superior quality, and in prime condition, would hope to secure a continuance of the patronage and support hitherto conferred upon him.

J. D. BARNES,
6, Wellington Buildings.

Adjoining Mr. Sterling's, King-st.
Toronto, Jan., 1849.

JOHN M. ROSS,

A GENT for Hall's Patent Moulding and Pressing Machine; also, for the Genesee Agricultural Seed and Implement Warehouse, Rochester, N. Y.
City Wharf, Church Street, Toronto :
20th March, 1849.

PAPER HANGINGS!

A LARGE and CHOICE assortment of PAPER HANGINGS, of the *newest styles of patterns*, for Sale, wholesale and retail, by

BREWER, McPHAIL, & CO.,
46, King Street East.

Toronto, April, 1849. 5-lin.

BRONTE MILLS FOR SALE.

THE Property consists of sixteen feet privilege on the Twelve-Mile-Creek on the Lake Shore, in the Township of Trafalgar, and about seventy-five acres good cleared farm Lan 1; a large stone and frame Wooden Factory, 82 feet by 32 feet, and three stories high capable of being easily converted into a Flouring Mill a Grist Mill, with one run of Stones, Smut Machin and all requisites; Two Saw Mills, with Circular Saw Lumber Yard Railway; a Blacksmith's Shop and several Dwelling Houses. This property is now let a yearly tenant for £200 per year, and I would bring a lease £250. Price £2,500, of which only £100 would be required down; the residue might be paid by instalments as agreed upon.

ALSO,

A Privilege on the same Creek of 12 feet, next above the Mills, with about 75 or 80 acres of land, most cleared and in cultivation, and an excellent Mill Site with good Roads. Price £1000, of which £300 would be required in Cash; the remainder by instalment. The option of this part of the property is offered to the purchaser of the first, and, if not taken, it will be so separately.

ALSO,

Adjoining the above, a Farm of about 70 acres, in full cultivation, with a large unfinished Dwelling-House thereon, and an Orchard of four acres of grafted Fruit Trees. Price £700, of which only £200 would be required immediately; the rest in ten years. The whole of the above property will be sold together, if desired. For particulars apply (post paid) to S. B. Harrisson Judge H. D. C. Toronto.

Toronto, March 1, 1849.

STOVES! STOVES!! STOVES!!!

**J. R. ARMSTRONG,
CITY FOUNDRY,**

No. 116, Yonge Street, Toronto,

HAS constantly on hand Cooking, Box, Parlour and Coal Stoves, of various patterns and sizes, *very cheap, or cash.*

Also, a New Pattern Hot-air Cooking Stove, just received, taking three-feet wood, better adapted for this country than the Burr, or any other Stove now in use. It has taken the First Premium at every Fair in the United States, where it has been exhibited.

Ploughs, Sugar Kettles, Grist & Saw-Mill Castings, Steam Engines, Sleigh Shoes, Dog Irons, and a general assortment of Castings.

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DANIEL FARAGHER begs to inform his friends and customers that he has opened a *Shoe and Leather Store*, at No. 22½ Yonge Street, Toronto, where he will be prepared to furnish all kinds of work in his line at the most reasonable prices. Having Tannery of his own in active operation, he can supply the trade and others with as good an article of Leather and at rates as low, as can be obtained elsewhere.

DANIEL FARAGHER.

January, 1849. 1-tf.

MESSRS. DENISON & DEWSON, Attorneys &c., *New Market Buildings, Toronto.*

January 26, 1849. 2