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THE

Canadian Agriculturist,

OR

JOURNAL AND TRANSACTIONS OF THE BOARD OF AGRICULTURE

OF UPPER CANADA.

L. XIV. TORONTO, JULY 1, 1862. No. 13.

The Wheat Crop and its Enemies.

The wheat crop this year has not only had, common with the other products of the farm, contend with an unusually backward and dry on, which under any circumstances would er a rather light crop almost inevitable, but also yet to run the gauntlet of its numer- sect enemies. The wheat midge has been rved in various parts of the country in large bers, either in the larva or in the perfect fly , and unless some peculiar favoring circum- e should intervene, it is highly probable the injury from this cause will be very con- able.

few days ago, namely on the 20th of June, Charles Shaver, who resides on Dundas t, in Etobicoke township, near Islington ge, brought us in some specimens of the of the Wheat Midge, which he had found ense numbers on the surface of the ground lds where he had wheat last year, and which ow in fallow, Indian Corn, potatoes, or spring crop. His neighbours had found ve in similar situations and similar quan- but always only in fields which had been wheat last year. Having been informed about a week previously by a gentleman g near the same locality, that he had al- seen the matured fly in immense swarms ing over the wheat fields this season, and collecting at the time of having ever heard larvæ having been seen in such enormous numbers in the ground in the manner described by Mr. Shaver at this season of the year, we were at first inclined to suppose that the larvæ found by him and his neighbours must be the produce of eggs laid by the perfect fly this season, although it was a puzzling question how they could have got into the situations in which they were found.

On further consideration, however, and after consulting works written on the subject, we arrived at the conclusion that these larvæ were the same that had been left upon the wheat fields after harvest last year, and that they had remained there ever since, till awakened into activity by the warm rains which fell about the 18th or 19th, when they had worked their way to the surface. The Secretary of the Board of Agriculture was induced to address a note to one of the city newspapers embodying this view, and asking the attention of farmers to the subject. He has received several communications in reference to this letter, which make it quite evident that his view was the correct one. In fact there could be no doubt about it when the habits of the insect are studied. The circumstance of the perfect fly having been seen in great multitudes in one locality as early as about the 12th or 15th of the month, of the truth of which statement we are quite assured, and the same insect, but still progressed no further than the larva state, being seen a week afterwards in the ground, in such immense numbers, in another locality only a few miles distant, must we

think be accounted for by some local peculiarity of the soil or weather.

The insects found by Mr. Shaver doubtless remained quiescent in their earthy bed somewhat later than usual, in consequence of the long continued drought, and the comparatively cool weather, till, on the rain moistening the ground, they suddenly came up to the surface in such large numbers as to be conspicuously visible. Mr. Shaver first observed them while examining the progress of his field of Indian Corn.

Where the Secretary of the Board appears to have been in error, however, in his letter addressed to the newspapers, was in the time allowed for the insect to get into the winged state, after being seen on the ground in an active larva state. We had formed the impression that the larvæ in spring or early summer would be found in the pupa or chrysalis state, but they appear to come up to the surface as active maggots, and in a very few days afterwards, probably about a week, to be transformed into perfect winged, flies, when, or very soon afterwards they commence their operations upon the growing grains.

An esteemed correspondent from the neighbourhood of Cobourg, informs us that he has frequently in the beginning of summer, after a rainy day, found the larvæ of the wheat fly in countless numbers on the surface of his fields where there had been wheat the previous year, and that on placing some of them in a glass they would become flies in about a week. Mr. Shaver, a week after he had brought in the specimens already mentioned, writes that—"The larvæ have nearly all disappeared. There are a few still remaining, but very few. I collected a few the day after I saw you and put them in a glass, but the earth got so dry they could not live. There are a few still in the ground, very near the surface. With another shower of rain they would come through. For two or three days back there are numbers of the midge flying through the wheat, but is too soon to detect the amount of injury done."

We have given some attention to this subject, not because there are any new facts disclosed, but because observations made under peculiar circumstances of season, &c., brought them into prominent notice. It is important that farmers should become thoroughly conversant with the habits of an insect which is capable of doing such enormous damage to our most important field crop, for they will thereby be better enabled to guard against its ravages.

A writer in this journal two or three years ago suggested that where the wheat midge has infested a crop, the field should be deeply trenched ploughed in autumn, covering up the surface entirely out of sight, and that it should be left in that condition, without ploughing again, for an entire year, that thereby the larvae should be smothered and never able to reach the surface again. Were it possible to induce every farmer in a section of the country to adopt such a plan, perhaps the evil might be to a great extent removed. It is not probable that the insect would be able to rise to the surface through any great depth of soil. The suggestion may be worthy of consideration by those who are most deeply interested. Due attention, however, to well recognized remedies may secure partial exemption. Take care to destroy such of the larvae as come into the barn, and are blown out with the chaff on cleaning the wheat. Sow fall wheat early and of an early ripening kind, on well drained and well prepared soil, so that it may escape winter killing and come into ear early enough in spring to escape damage. For spring wheat choose an early ripening kind and sow late, so that it may come into ear after the fly has disappeared.

This year, another insect pest threatens to infest the wheat crop in this part of the country but fortunately, in this case, although the creature is from its numbers of sufficiently formidable appearance, we believe it is not likely to inflict any very serious injury. Mr. Shaver already mentioned in this article, has brought us in several ears of wheat in which are found a pretty large number of the grain *aphis*. A notice of this parasite was given in the *Agriculturist* of August 16th, last year. It appeared in the eastern part of Upper Canada last year in such large numbers in some cases as to give the ears of wheat a brownish appearance, but did not seem to injure the crop much. The *aphides* are found in the crevices between the different lobes of the wheat ear. They are from a dark brown to a grass green in color, and

very similar in appearance to the common plant louse, often found on some garden and greenhouse plants. They increase with incredible rapidity. We shall be glad to hear from any of our readers who may make any observations upon the movements or progress of this new wheat parasite.

Remedy for the Turnip Fly.

Mr. E. G. O'Brien of Shanty Bay, near Barrie, informs us that he has for several years used the following prescription to prevent the ravages of the turnip fly, and on each occasion the plant has escaped injury, an exemption which he imputes the effects of the preparation: Oil of turpentine, one teaspoonful to 1 lb of seed, stirred till the oil is absorbed, and the seed held between the eye and the light will have a shining, glistening appearance. The seed should then be immediately sown. Several of Mr. O'Brien's neighbors have used the same remedy and always with the same successful result, which they attribute to the odour or some other property of the oil. It is the oil, not the spirits of turpentine, which is used, and which may be got of any druggist. The writer of this paragraph has on several occasions used fish oil in a similar way, and always with favourable results, but whether the safety of the plant was due to the prescription, or to some other favoring circumstance, he could not feel very confident.

The Season and the Crops.

We have passed through the last three or four months, a period of extraordinary weather. The large quantity of snow that fell during winter went off with little or no rain. Spring opened with occasionally a very low temperature, and somewhat severe frost has now and then occurred up to the middle of June. May was the driest month experienced here for many years. A severe drought has consequently been spread over the greater portion of the Province, and adjoining States. Fortunately in some sections refreshing rains have fallen during the last fortnight, and we should hope that there are but few localities that have not in some degree been thereby benefited. In some districts the crops have suffered irretrievably, and cannot be expected to realize an average, while in others, owing to better soil and culture, and earlier showers, things wear a more promising appearance. The hay crop, generally, must inevitably be short, and the season has not been favourable to the sowing and germinating of turnips, carrots, mangels, &c.; extensive breadths of which have been put in; and however late this has been done, if the weather should from this time prove favorable, good returns may be expected. In this way the certain and great deficiency of hay may, to a great degree, be compensated. We have heard of some farmers sowing Indian Corn and Hungarian Grass with this view, and no doubt they will reap the benefits of it next winter in the better sustentation of their cattle. In a season of drought and cold like that we have been experiencing, the difference in the appearance of the crops on well and badly managed land is most striking. We observed the other day on a naturally good, but an extremely heavy soil, two adjoining fields in winter wheat. One had been thoroughly underdrained and duly cultivated; the other had not partaken of these ameliorating agencies, and the consequence is, that while the crop on the former looks far better than could be anticipated, considering the season, and promises, at present, to be highly remunerative, the latter must prove, however favorable the weather may yet be, *all but a total failure!*

The International Exhibition.

London, England, 28th May, 1862.

Editors of the Canadian Agriculturist.—I have been every day since I wrote last at the Exhibition, except on Saturday last, when I went to the Sydenham Crystal Palace to see a Flower show and hear a Concert, both of which were highly pleasing, and were attended by some 12 or 13,000 visitors. One of the interesting sights to be seen was the playing of the numerous fountains, which was very fine, but continued only for a short time. They are supplied by water brought in by artificial means, and the expense, I am told, is not less than £50 for each half-hour. The one great defect in this really fairy-like scene is the want of a reservoir at a sufficient elevation to supply the water, but the whole is so grand and interesting that the defect

may be overlooked. Although the Palace is visited by such large numbers, it is said not to pay the stockholders. This is certainly a pity, for it is a most attractive place of resort, and it would be a great misfortune if it should be allowed to go down for want of funds. The expense of keeping it up, and making the improvements that are continually going on must be enormous.

But to return to the Exhibition—The jurors have been employed in the examination of the products of Austria and Hungary, where there is evidence to be seen of a convincing kind in proof of the productiveness of those conntries. The wheats are many of them very fine, though as a whole, not equal to those from the Australian Colonies of Great Britain. The manufacture of flour is carried to the highest state of perfection. Indian corn, or maize, as it is called by the inhabitants, and in fact by every one here, is produced in great varieties, and of excellent quality. But the produce that seems to be the most abundant is beans, which are shown in endless varieties. What are called "chick beans" are a variety that, I am told, occupy as prominent a position in those countries, and are in as general use for human food, as oat-meal in Scotland. The manner in which the whole of the products are displayed is admirable, and reflects much credit on those who have had the control of them. No pains or expense seems to have been spared to make a neat and pleasing exhibition. Their wines are exhibited in great abundance and variety, and of vintages extending back for ninety years. I was yesterday invited to taste a wine 92 years old, and found it excellent. The wools of Austria and Hungary are of the very finest quality: and their manufactured woollen goods are, of course, of a corresponding description, and are exhibited in endless varieties and immense quantities, tens of thousands of pounds worth. The manufacturing processes of those countries are conducted with the greatest possible care and skill, and the products cannot be excelled. The prices marked on their goods, particularly the fine cloths, are such as I should think would tempt the merchants of many other countries, our own amongst the rest, to open a trade with them.

We are to-day to be employed in the examination of the products of Portugal. Their collection is very extensive.

I contemplate going to-morrow to the West of England Cattle Show. It is held at Wells, about 140 miles from here. From Wells I expect to go on to Exeter, about 80 miles further towards the Land's End The Show at Wells is expected to be very good. It is said generally to come very near the Royal Agricultural Society's Shows in interest and extent. I shall be able to give you some account of it in my next, I hope.

Your's &c.,

E. W. THOMSON.

The West of England Agricultural Show.—The International Exhibition.

LONDON, 4th June, 1862.

The weather, which has been during the most of May very wet, has set in with June very fine. Yesterday was delightful; and this morning is equally so. On Thursday, I went to Wells, a distance of some 120 miles, to see the West of England Cattle Show. The place is one of the most pleasant that could be selected. The grounds enclosed are on an inclined plane, sloping gently to the South, and from the highest part overlooking the finest panorama of scenery I ever saw. I went on Friday to Exeter, and returned thence to London.

On Thursday, while at the Show grounds, the day was very fine, but it came on to rain on that night, and Friday was a regular wet day, and must have produced the usual amount of discomfort at the Show. I was, however, on the cars, riding through an exceedingly interesting and beautiful part of England, as indeed is all the route from London to Exeter.

With the show, I was in some respects disappointed. The number of animals exhibited fell very far short of what I expected to see. There were a few very fine animals amongst the Short Horns, Devons, and Herefords. Horses were very poorly represented. Some good colts and filleys of the heavy cart horse breed, one or two Suffolk Punches, but I looked in vain for a thorough bred, or even a Cleveland Bay; there were a few ponies. The sheep and swine were good, the improved Berkshires being the prevailing breed of the latter, and very large and fine. In sheep there were some of the most beautiful Leicesters I ever saw, and which quite convinced me that very few, if any, of the sheep exhibited at our shows in Canada as Leicesters are pure bred. The Southdowns were perfect pictures. The Cotswolds are large, but fall far short of the others in point of symmetry. There were a few of the horned breeds, which, with their immense horns, and well developed carcases, were majestic looking fellows.

The show of poultry was good. A cock and two hens were generally shown together in a crop or pen. They were certainly very fine to look at, though I should doubt their being worth the prices at which they were marked for sale, ranging from five to one hundred guineas. They were, I am bound to say, the finest specimens of the various breeds I have ever beheld, but the prices seemed to me to be ridiculously out of proportion to the possible value of the article.

In the Implement Department, there was a good variety of all the labor-saving implements and machines, and all of the best material and workmanship. I counted 24 Steam Engines in operation, all of the portable kind, driving threshing machines, straw cutters, turnip cutters

fanning mills, and various other things. There is an important improvement in the threshing machines in the contrivance for shaking the straw. It does it effectually, and is much less cumbersome than the old plan. I hope that some of our mechanics will copy it. I will try and get an intelligible description of it.

I will now return to the Exhibition. We are not yet done with our inspection. We have got through the very extensive collections of France, Austria, and Hungary, all of which are exceedingly good. We have the products of one or two European countries yet to examine, and have to complete the examination of the products of Victoria, Australia, which have only just arrived, and are not yet ready for inspection. No country is able to produce such splendid samples of grain as Victoria, while the specimens of the products of her mines proclaim her wealth to be also immense in the useful and precious metals. The progress she has made within the last ten years is astonishingly great, and she is sparing no pains to make it manifest to the world by the very fine display of her products at the International Exhibition.

The Epsom races are going on this week, and seem to absorb the attention of the public very generally. As I write the road is full of people on their way there to witness or participate in the sports. I do not intend to go to the races, as they are not exactly in my line.

On Monday, it being the first one shilling day at the Exhibition, there were about 26,000 visitors. Yesterday the number increased to 35,000. There willl no doubt be a gradual increase, as cheap excursion trains are advertised on all the railroads. Crowds of people will be able by that means to gratify their curiosity, and derive much instruction and benefit from seeing this the greatest display of the products of human industry the world has ever witnessed. It is now universally admitted that the Exhibition of 1862 far surpasses that of 1851 in interest.

There is one portion of the Exhibition to which it would be in vain for me to attempt to do justice. This is the Western Annexe, where the very extensive collection of manufacturing machinery is in motion, doing every kind of work, and producing a din and clatter that are deafening, but which at the same time is in a greater degree than I can express interesting and instructive. The English Artizans have not by any means, got it all to themselves. France, Belgium, and the Zollverein have their extensive machinery at work, showing that they are not far behind their neighbors, and that they are willing to contribute to the utmost of their power in giving a further stimulus to the inventive genius of the age. Most glorious and benificent must be the result of the united efforts of the world in this great International Exhibition of Industry and Art; and by no means an unimportant advantage is the bringing together of the inhabitants of the various countries of the earth to form acquaintances which will give them better impressions of each other than they could acquire in any other way, or by much more expensive means.

Your's &c.,

E. W Thomson.

Botanical Society of Canada.

A NEW FIBRE PLANT SUITED TO THE CLIMATE OF CANADA.

(From the Kingston Whig.)

His Excellency, Viscount Monck, has communicated to the Botanical Society of Canada some valuable information respecting a fibre plant sent forth from the Rocky Mountains by Dr. Hart to Lord Lyons, which the Society's Secretary has determined to be an Asclepias, and which is now under experiment in the Botanical Garden at Kingston. Since the publication of the various details in the Society's "Annals," the following communication has been received from His Exxellency's Secretary:—

"The Governor General's Secretary is directed by his Excellency to transmit to the Secretary of the Botanical Society of Canada the inclosed copy of a letter from Dr. F. W. Hart, of St. Louis, respecting the mode of treatment pursued in the culture of the silk plant from the Rocky Mountains.

"Government House,
Quebec, 2nd June, 1862."

COPY.

St. Louis, No. 64 Fourth St., Mo,
May 22nd, 1862.

To His Excellency Viscount Monck:

Simultaneously with a letter from Lord Lyons, one from the Secretary of Your Excellency (16th May) was received.

In answer to your request, relative to the treatment of seeds of the Silk Weed:—The Silk Weed is adapted to rich, moist, bottom soil. I recommend the London district, Canada West, or any where along the country the Welland canal runs through, or on the banks of the St. Lawrence, Canada West. The ground for planting should be prepared as follows:—Plow up four furrows, thrown together, then harrow down the ridge to pulverize it. Plant the seed about 12 inches apart in the centre drill made by the centre teeth of the harrow, cover lightly with the harrow or hoe; when the plant is three weeks old hoe the weeds away from it, then, with a light one-horse Yankee plough, bar off on both sides of the ridge, and about 6 inches from the plant, coming back immediately with the plow, and throw a furrow back to the plant, thereby hilling it in on both sides. If the season is dry, throw two furrows to the plant; the oftener the middles are plowed out, the more the plant will grow; it will not bear dirt taken away

from it, but will stand hilling; the larger the plant grows, the more dangerous to plow so close as to cut the plant; the side roots supply the branches and bulbs. After the 14th of August the plant must be cultivated no more; must be left untouched.

The Pods are ripe when they change color from a pea-green to a dark green and yellow. On pressing a pod it will split, when ripe; they ought to be gathered before they split open. Squeeze a pod open, and, with the thumb and forefinger of one hand, seize the silk where it joins the bottom of the pod, and the thumb and forefinger of the other hand, making a circular sweep; all the seeds are detached at one sweep, leaving the richest mass of satiney silk; the seeds to be thrown in one sack, the satin or silk in another. I have been precise in my directions, entertaining the most explicit confidence that the silk can entirely supersede the cotton plant. Its fibre or staple is longer and firmer, and of a gloss no silk or satin can match. During ten years I have planted cotton in Yazoo, Mississippi valley. My brand was sought by the Liverpool and Manchester speculator, and brought the highest prices; and on that practical experience I ground my convictions with regard to the Silk Weed, and, as a Canadian, I feel a doubly interest toward its success for Her Majesty's Government. I shall be happy on all occasions to convey to your Excellency any further information that may be required, and inclose you a few more seeds, and remain your Excellency's

Most obedient servant,
(Signed), FREDERIC W. HART, M. D.

*** Who knows but this fibre plant, Silk Weed or Asclepias, may, from its hardiness, glossiness and fibrous texture, yet take the place of cotton, which could not grow in Canada, lying so far north as it does. But this plant, borne from the heights of the Rocky Mountains, may find a more congenial home in the less rigorous climate of Canada.

Cotton.

Editor of the Canadian Agriculturist.

SIR,

The "Leader" of this day's date contains an interesting notice, transcribed from the "Kingston Whig," of a plant sent from the Rocky Monntains by Dr. Hart to Lord Lyons, and which, it is suggested, may be grown in Canada, and prove a substitute for the *Gossypium herbaceum* or "cotton-plant."

The plant in question has been pronounced by the Secretary of the Botanical Society of Canada to be an *Asclepias;* and is denominated "a new fibre plant."

A few additional observations respecting this plant may not be uninteresting to your readers.

The *Asclepias*, so called after Æsculapius—the former name being Greek, the latter, Latin—belongs to the Milkweed family. The author of the article on Botany in the Edinburgh Encyclopœdia divides this family into 51 species, Johnson and Paxton into 36, and Gray into 22. the plant referred to is by no means a *new* plant, if it is, as I apprehend it to be, the *Asclepias Syriaca*, for it was known as a native of North America in the year 1629. The "Lower Canadians" are, I believe, well acquainted with it, and are accustomed to use the Spring shoots as an esculent, and to stuff their beds with the cotton concealed within its pods. This cotton is, as described in Dr. Hart's communication, of the softest possible texture, and has, in consequence, been called "Virginia Silk." In the Edinburgh Encyclopœdia but *two habitats* of the plant are named —*Virginia* and Astracan. Of the 36 species described by Paxton, 24 are natives of North America, and 26 are hardy.

There is one of these Milkweeds, *Asclepias tuberosa*, the Pleurisy-root, with whose beautiful bright-orange umbellate blossoms the inhabitants of Peterboro' are doubtless familiar, and others of the same family may be found in our neighborhood.

I imagine that there would be no difficulty in cultivating the Silkweed in Canada, by sowing the seeds in a very light soil and giving them pleanty of room; but whether its cultivation would eventuate in the beneficial result anticipated by Dr. Hart is another question, and one more difficult of solution. The experiment may be at all events worth a trial. Sugar, if I mistake not, has been manufactured from its blossoms.

I am, Sir,
Your obedient servant.

V. CLEMENTI.

Peterboro', June 23, 1862.

[If the plant referred to in the foregoing communications is the common milk weed, so well known as a troublesome weed in many parts of Canada, as we are inclined to suppose it to be, from Dr. Hart's description, any expectations of its proving valuable for manufacturing purposes will, in our opinion, certainly be found fallacious. The silk, though beautiful to look at, has no more strength or tenacity of fibre than thistle down, and we doubt its being of much more value for any useful purpose.—Ed.]

One plant of the wild carrot (*Daucus carota*) having 600 flowers and two seeds to each flower gives 1,200 seeds.

One plant of the wild parsnip (*Pastinaca sativa*) gives the same as the above.

The International Exhibition.

From the most recent information the enterprize is proving very successful. In addition to the interesting communications which we have published from Col. E. W. Thomson, President of our Board of Agriculture, and one of the Commissioners of Canada to the International Show, we subjoin some extended remarks on the Canadian Agricultural Department from the Editor of the *North British Agriculturist*, of June 6th; which is the leading Agricultural Journal of Scotland:

Agriculturists in the United Kingdom have generally a very imperfect idea of the area of the various colonies usually classed under the term British American Colonies. By looking at the map of Canada, it will be seen that the greater portion of the colony is drained by the River St. Lawrence. This river with its tributaries, drains a superficial area of 400,000 square miles, of which 330,000 square miles belongs to Canada—the remaining portion being part of the Federal States. In Canada as well as in the other British American Colonies, man has obtained but an imperfect sway over the natural resources of the soil. Immense tracts in these regions are covered with forest trees, many of them of gigantic dimensions. The very limited extent under cultivation is one of the most remarkable features of the country, and is evidence that any number of emigrants which could by any possibility be drained from the population of Europe, would not greatly affect the capabilities of British North America to meet the existing demand for timber—the produce of these natural forests. We find from a paper recently read before the Society of Arts, London, by Mr. Henry Ashworth, the following statistical information:—

North American Colonies.—Canada, Nova Scotia, New Brunswick, Prince Edward's Island, Newfoundland, Vancouver, British Columbia—

Population.....3,210,779
Revenue.....£2,475,620
Debt.....£12,298,501
Imports from Great Britain, value..£4,724,066
Imports from other countries, value. £7,027,719
Exports " " " " £10,907,493

After acknowledging that he has received information from gentlemen connected with with Canada, he proceeds:—

In the Canadian Court there are between 30 and 40 specimens of wheat, grown in a dozen or fifteen different counties, the most distant being separated from each other by about 900 miles—the St. Lawrence and the great chain of lakes furnishing water communication, the Grand Trunk and Great Western Railways stretching their iron rails that distance from the north-east to the south-west through the country. During the latter part of the century, the alluvial deposits on the strong clay bottoms along the St. Lawrence and Richelieu rivers, in Eastern or Lower Canada, gave abundant crops of wheat to the then prosperous husbandman. Year after year these lands were ploughed up and sown, without manuring or enriching, with this same crop. Few cattle were kept, no rotation of crops observed, and the inevitable result followed—an impoverishment of the soil, which lessened produce; and this was followed by the scourges of the midge, fly, weevil, &c., till the farmers of Richelieu who had revelled in abundance have become almost pauperised. Fortunately for them, a few model farmers, such as Mr. Dods, from the neighbourhood of Edinburgh, who recently died much regretted, and Mr. James Logan, upon the Island of Montreal, and Major Campbell of St. Hilaire, on the Richelieu, have set to work in earnest to restore heart to the soil, and give an example of good culture. The manure which was at one time thrown into the rivers to get rid of it, or from the piles of which wooden barns and stables were removed to secure free entrance, is now returned to the soil. Subsoil ploughing is being resorted to, the previous cultivators having only scratched the surface. The need of rotation of crops is beginning to be understood, and Eastern or Lower Canada is again becoming a wheat producing country; but there the great length and severity of the winter renders autumn sown wheat an uncertain crop. Spring varieties are more generally sown, and among these the Black Sea and a variety brought into Canada from Glasgow, and known there as the Glasgow or Fife wheat, are most highly esteemed. Several samples of both are shown. There are 24 half bushel samples of spring wheat, average weight per bushel about 60 lbs,—all are of superior quality. A specimen of large, coarse unnamed wheat is shown from a model farm in the north-eastern part of Canada, which seems to have been obtained from France or Algeria, bearing a marked resemblance to some samples shown in the French department. It is rather, however, in the other cereals, and especially legumes, oats, barley, peas and beans, that Eastern Canada appears to advantage, and these are reckoned there more certainly productive, and therefore profitable crops.

There are several varieties of barley shown, two-rowed, four-rowed, and naked barley. There are several beautiful bright samples, the weights of which are stated to be, two-rowed 58 lbs and four rowed 46 lbs per bushel. From the evidence before us, we should expect that Canada is capable of producing superior qualities of barley, adapted for the production of high hopped ales, such as are brewed at Burton-on Trent, by Bass and others. The oats, beans and peas are of various kinds, the whole of the samples being distinguished by a general excellence. Lower Canada shows some very good specimens of the maize or Indian corn, showing how much even a short summer, if dry and hot, can do to ripen this plant, which hates moist skies and loves the

sun. The samples of maize shown are of the white and yellow varieties. The cobs of maize are large, and the samples of the grain are generally excellent. Buckwheat, linseed, and samples of flax straw are also shown. The flax and flax seed give promise that Canada may yet become an extensive exporter of seed and fibres.

Another proof of progress in agriculture in Lower Canada is furnished in the exhibition of drain tiles, manufactured there by the Missisquoi Drain Tile Company and others. A very short time ago there was not a thousand acres in Canada *properly drained with tiles*. Now it is becoming a matter of contest who shall use the most and soonest. Back from the plain districts we have named, stretch hilly, broken pasture lands, abounding in wild romantic scenery, plentifully watered with mountain streams, and affording an excellent grazing country during the summer months There, oats; root crops, and grass are the staple products, but they are very indifferently represented here. There are some specimens of timothy and clover seeds; these are good, and clover seed might form a far more extensive part of the exports of Canada than at present. And to represent the produce of the dairies, we have a single cheese of a decidedly American style of manufacture, and one little crock of excellent butter, which comes, however, from an esteemed correspondent, Mr. James Logan of Montreal. In Canada the farmers make a great portion of the sugar they use from the sap of the maple tree, and there are exhibited several good specimens of this—those from Lower Canada being decidedly the better. A bale of hops is also shown, grown on the island of Montreal, of very excellent quality, but not very carefully picked.

We turn next to the Upper or Western Province —the great wheat producing district, and concerning its products we have the advantage of information gathered from Colonel Thomson, a leading agriculturist there, and President of the Board of Agriculture. He is also a juror in this class at the exhibition. Specimens of winter wheat are exhibited from the counties of Durham, Peel, Wellington, Lincoln, Wentworth, Oxford, Brant, Elgin, Kent, and Lambton, extending over a distance of 250 to 300 miles from east to west. Here are comparatively new soils, admirably adapted to the growth of wheat, as yet in very few instances exhausted. The farmers of Upper Canada, warned in time, are beginning by careful cultivation and rotations to guard against the evils suffered in the east, and in parts of the United States, though it is still too common a practice to grow wheat, as the most saleable product, year after year.

There are twelve good samples of half a bushel each. One quality of the wheat is good, being generally plump and of a bright clear colour; a portion are white wheats, average weight about 62 lbs. per bushel. One sample shown by Mr. Fleming, seedsman, Toronto, weighs 66 lbs. The samples exhibited are all white wheats of highest commercial value, and are grown in all parts of Canada West. The usual quantity of seed sown per acre is 1½ bshl., and the yield is, when the soil is properly cultivated, from 16 to 40 bushels per acre, according to season and other circumstances. The average amongst good farmers is about 25 bsh's.; but a too numerous class of cultivators do not get an average of more than 13 bushels. The most reliable information Colonel Thomson has been able to collect (covering a period of ten years), gives a general average of 17 bushel per acre. 45 and even 50 bushels have been obtained in some cases in particularly favourable seasons. Their best wheat lands are marly clays and gravelly loams, with more of the calcareous element present in the soil.

The winter wheats are generally designated as "Soule's," "Blue Stem," "Red Chaff," and "White." These, I am told, are the best varieties of wheat grown in Canada, and command the highest prices in the Canadian markets, and those of the adjoining state of New York, being much sought after by the millers of that State to mix with inferior wheats grown there and in the Western Federal States, the flour being thereby made to command a better price for home consumption or export.

As to the name of Soule's Wheat, it is said to have been first introduced into Upper Canada by a person of that name, being brought from the State of Virginia. The Blue Stem has very naturally taken its name from the fact that the stem or stalk is of a bluish colour. One of the recommendations of this variety is that the straw is stiff, and never lodges, and consequently is easily harvested.

The old Red Chaff White has long been favorably known in Canada, as has also the Velvet Chaff; but the latter is now rarely met with. Another variety that was in favor ten or twelve years since, was a bearded wheat known as the "Michigan," having been introduced into Canada from the State of that name. It was supposed to resist the ravages of the fly better than any other; but the grain was found not to yield as much flour as the other varieties; consequently it will not now command so high a price.

The spring wheats shown are common to Canada East and West—some of the finest being grown in the vicinity of Montreal.

The Fife is an early wheat, and comes to maturity even when sown a month later than the date at which other spring wheats are sown. The ear does not appear until it is too late for the fly to deposit its ova in it. Being besides a good wheat, both as regards productiveness and its value to the miller, it has become a general favourite. It is a red wheat, and without awns. The Golden Drop is a fine wheat, it being also as well as the Black Sea wheat, without awns. There are besides one or two samples of bearded wheat shown, but they are not favourites.

The yield of spring wheat is often as high as 35 bushels to the acre; 20 to 25 is common on ordinary lands, and it does well to follow a root crop or maize (which are similarly weeded with hoes), and to be sown out with grass seeds. A mixture of Timothy and Red Clover—four lbs. of Timothy and six lbs. of clover per acre is the usual quantity sown. These wheats are not worth so much by ten per cent as the autumn sown wheats, as they do not yield flower that will bear transportation so well. In some parts of Upper Canada, however, where winter wheat was formerly grown, the spring wheat has superseded it. This change has occurred principally in this wise—During the severe frosts of midwinter the growing crops and grass are protected from harm by the deep coating of snow under the deep coating of snow under which they are buried. While the fields are defended from the bleak winds by the kindly shelter of the surrounding forests, this protective covering was pretty well assured. But as the country is denuded of the trees the winds sweep over all the plains and exposed places, and the young wheat and sometimes the grasses themselves in the meadows are so frozen as to be what is termed "winter killed;" of course spring wheat is not exposed to this danger. Of the excellent fruits grown in Canada, none are shown here, but some very good coloured lithographs of the natural size. The Royal Agricultural Society, London, have invited all the world to a contest for superiority, at their October show, and we are given to understand that Canada is likely to be a not unsuccessful competitor. Melons, cucumbers, and tomatoes are grown in almost all parts of the colony, in the open air, and the standard peach gives excellent fruit at Montreal, and throughout the southwestern province.

Several fruits are produced in great perfection in Canada, the soil and climate being generally well adapted to for the growth of the apple, pear, &c. With the view of showing the capabilities of the colony, there are exhibited 114 coloured plates of the fruits. These plates are beautifully executed, and are stated to represent the natural sizes of the respective varieties of the fruits produced in the open air. The plates were prepared by the Fruit Grower's Association of Upper Canada.

Written for the Canadian Agricultuurist.

Hints for an Agricultural Report of the Township of Hamilton.

The Township of Hamilton is the most westerly township in the County of Northumberland, and may be said to lie between Lake Ontario on the South, and Rice Lake on the North.

The land for two or three miles from Lake Ontario is generally level; the soil is clay or a strong clay loam; behind this level ground there is a series of small low hills, and undulating land, which seems at some former period to have been the lake beach. The soil on this rolling land is generally lighter, in some places gravelly, in others covered to an inconvenient extent with boulder stones; such as geologists attribute to the action of icebergs. Behind this we reach the highest land between the lakes, commonly called the "Plains." These heights and plains reach nearly to Rice Lake; they are, generally speaking, covered by from two to six inches of light yellow sandy loam, almost destitute of vegetable matter, except where the action of some streamlet has caused a difference in the character of vegetation. But their peculiarity lies in their subsoil; up to a recent period this was thought to be very inferior, but it is now ascertained to consist in many places of heavy brown, or reddish clay, in others of whitish clay, mingled with friable limestone, and in a small minority of cases, as far as our information goes, of sand. These plains were formerly thought unworthy of cultivation, but have now been found to produce good crops of wheat (both of fall and spring); and in fact to grow profitable crops of all kinds of farm products. The township is stated by last census to contain 40,891 acres under cultivation, and the cash value of the farms is set down at $2,254,929. To this ought to be added the land under *farm cultivation* returned for the town of Cobourg, which is situated in this township, viz., 1009 acres valued at $177-350. Annexed to this report will be given a tabular view of the different agricultural productions, and the quantity of land under the different crops, as far as these can can be ascertained from the returns of the late census.

In preparing a few hints for an agricultural report, we intend noticing briefly: Horses; the different breeds of Cattle that are reared in the township, Sheep, Pigs, the various Agricultural Productions—the Insects or Diseases that have affected our crops—Improved Implements—Agricultural Societies, &c., &c. At the outset, we would say, that few townships have been more fortunate in having been settled by an enterprising class of farmers, who have successfully introduced the various breeds of cattle, &c., as the number of premiums awarded to farmers in this township at the various Provincial Exhibitions abundantly testify, a list of which prizes, as far as we can ascertain them, is annexed.

Horses.—The township has perhaps paid less attention to the improvement of the breed of horses than to any other of our farm stock. This may partly be accounted for by the nearness of all parts of the township to market, so that the horses were more employed on the farm than used on the road; still there are many good teams in the township, and a

marked improvement has taken place in late years. About 1840, the County Agricultural Society, among other improved stock, introduced the stallion "Ploughboy," who was mostly kept in this township; and though his stock grew rather slow at first when young, yet they proved very useful, hardy horses, both for the farm and the roads. Indeed, some of the best horses in the township are from his stock. Some years after this, the late Mr. John Mason, of Cobourg, brought in "Clyde Britton" a stallion of the celebrated Clydesdale breed, and for a few years he was a great favorite with our farmers; but his stock hardly answered the expectations formed of them, though they made rather useful farm horses. The Township Society for two successive seasons offered a handsome premium for a stallion to travel in the township. The first year the premium was awarded to a horse of the "King Alfred" breed; the second year to one of the "Rainbow" breed. The stock of both promise to be useful, and an improvement on our former breed of horses. N. Grimshaw, Esq., has imported from England one of the celebrated "Suffolk Punch" breed of horses; and has travelled him for the last two or three years; his stock has not been sufficiently proved yet to enable us to judge fully of their merits, but we trust they will be a great improvement to our breeds of horses, and prove amply remunerative to his spirited importer. The Messrs. Underwood have this season brought in from the west, a fine large horse, the "Royal Prince of Wales," and are now travelling him through the township.

Cattle.—Following the order of their introduction, as well as that of our prize list, we shall notice, first, the "Durham," or as they are more appropriately called, "the Improved Short-horns." Of this class, the first one was brought into the township, as far as we know, by the late Mr. Robert Wade, of Maple Grove, who introduced the bull Forester, some thirty yeas ago; his stock was a great improvement on the breed then common among our farmers, and laid the foundation for much of our present improved stock. Mr. Wade followed up the stock of this bull by others; and at a later period, imported some fine heifers of this breed from England. When he retired from farming, his stock was sold by auction at high prices; and was widely scattered over this and the neighbouring townships. In this field, he was followed by his sons, John Wade, Esq., of Hamilton Gardens, whose stock is well known, and is now the largest and finest of this breed in the township, and also the late Mr. Ralph Wade (who was killed at the unfortunate Desjardines Bridge accident), made several importations from England, in which he met with great losses by deaths of stock at sea and otherwise. His stock was mostly sold after his death, and were thus spread over the country. His family still retains part of the stock.

George Roddick, Esq., has imported several superior animals of this breed from Britain. His stock is well known, and is fast spreading over the country. There are several other owners of this class of stock in the township; but we are not aware of any other breeder that has imported from abroad. A. Alcorn, Esq., has a small herd from imported stock. All the above named breeders have been awarded prizes for their stock at our Provincial Exhibitions.

Devons.—This breed has never been held in such favor by our farmers, as the Durhams, nor are their grades so widely spread in the township. The first bull of this breed, so far as we know, was introduced by Thos. Eyre, Esq., and afterwards became the property of the late John Mason; when in his possession, this bull, "Billy" gained many both local and Provincial prizes. At our earlier Provincial Shows, Asa A. Burnham, Esq., and Mr. J. Mason were among the most successful exhibitors of this class of stock. The principal breeders in the township at present are the Messrs. Eagleson, and Wm. Mason. We are not aware of any of them having imported any stock, and they have contented themselves with local honors, as none of this breed has been shown from this township at any of our late Provincial Shows.

Ayrshires.—This breed was much later in being brought into the township than either the Durhams or Devons. Mr. Robert Brown when in this township, was the first to bring in an Ayrshire Bull, and his stock proving excellent, especially for dairy purposes, he was encouraged to buy an imported bull at one of our Provincial Shows, which still further improved his stock, but the principal, best known, and most successful breeder of Ayrshires is P. R. Wright Esq., whose stock besides all the other prizes, both local and Provincial which they have taken, took the premium for the best herd at the two last Provincial Exhibitions. Mr. Wright in beginning his herd, had the misfortune to loose his first importations; which were all lost at sea on the voyage from Scotland.

Galloways.—This breed of cattle is the latest of the improved breeds that has been brought into the township; they were introduced here by Mr. Wm. Roddick, who imported from Scotland some fine specimens of this breed in 1854, (amongst the first ever brought into the Province.) They have proved very hardy and suitable to our climate, and are fast spreading over the country; although there are many grade animals of this class in the township there are no full bred ones except the stock

rge and William Roddick, whose herds ve figured in our local and Provincial Prize t for several years past.

These are the principal full bred herds in the wnship. The great mass of the cattle are still, l will probably long continue grades—of the ious breeds, chiefly Durhams, which are most dely spread among our farmers here—as they all over the province.

Sheep.—In no class is there so much improve- nt shown as in sheep, and they are more gen- lly diffused among our farmers than any other l of stock; it has become very uncommon see any of the old common breeds, even ong those sheep that are still turned out to ture on the roadsides and woods during sum- r. Among the first introducers of improved ep was the late Mr. Robt. Wade, who brought e of the "Teeswaters" into the township; rtly after Mr. Wm. Brown imported some eicesters," and from those the first great im- vement of our sheep stock was made. The e Mr. Ralph Wade made several large impor ions of "Teeswaters or Improved Leicesters." George Roddick, Mr. A. Alcorn, Mr. R. Hume, ndale, Mr. Wright and others have made impor- ions of this variety of sheep, and many others our farmers have either imported or procured m imported stocks, and are in possession of flocks which are both profitable to the own- and creditable to the township. Mr. Wm. lick imported some of the "Cheviot" breed sheep in 1854, the first, we believe, brought the Province. They have not been receiv- with the same favour as the "Leicesters," the full bred ones are still in few hands; ir hardiness, comparatively fine wool, and a position to fatten readily at an early age, der them a very suitable breed for the country. e fine wooled breeds have never had much at- ion paid them in this township; which is her surprising, considering that we have the l known "Ontario Mills" woolen factory in midst, which uses a very large quantity of wool, that has to be imported; thus sending ney out of the country that might be benefi- ly kept at home. We think if some of our ited and enterprising farmers would try a k of fine wooled sheep it might prove fitable to themselves, besides being a benefit the township. A. A. Burnham, Esq. has a l flock of Southdowns, the only one we w of in the township—they took several es at our earlier Provincial Exhibitions. Thos. Taylor imported a few of a breed call- South Hams, but they were not received with h favour, and we don't know of any of the d kept pure.

igs.—In looking over the Provincial prize we observe that our Township has taken r prizes for Horses and Pigs than for any r class of stock; still though we have very noted pig breeders, our pigs are generally im- ed—it is seldom we now see those speci- mens of the *genus sus* known by the names of *Land pikes* or Razor backs, which used to be common. The pigs in the township are gener- ally white in colour, and fatten easily at an early age, but as we are near a market for all kinds of coarse grains they are not kept in large numbers, nor thought very profitable by our farmers gen- erally.

P. R. Wright, Esq. introduced the Suffolk breed, and was a successful competitor at several of our Provincial shows, but though crosses of this breed are to be found, the pure breed never spread much in the township.

(To be Continued.)

The Value of Coal Ashes and Cinders.

Coal ashes, is as a general thing, thrown away and thought a nuisance. But after some experiments, I am inclined to take a different view of the matter.

It may be, and undoubtedly is the case, that they are less valuable than those derived from wood. The ashes of coal contains gypsum, lime, and phosphoric acid, but its main bulk is composed of insoluble silica. I have found coal ashes to be very useful in the peach or- chard; in the fall they should be spread around the root of the tree at the rate of of a good siz- ed wheel barrow load to each tree, and spread some five inches thick at the trunk, and sloping off gradually all around; the ashes should be allowed to remain in this position until the tree is out in blossom, when it should be spread over the orchard. I consider that I have derived much benefit from this plan, and would account for it in the following manner. We all know by experience that a large pile of coal ashes will retain the frost much later than common soil—the ashes at the trunk of the tree (as I have proven by experiments,) retains the frost later in the spring, and prevents the tree from coming out in bloom too soon. Another good effect is that ashes thus applied will keep off the peach-worm, which is often so destructive to the trees. Besides these mechanical advantages, coal ashes contains substances which are benefi- cial to vegetation of all kinds. Last winter I kept a portion of coal ashes under shelter until the ground was well frozen, when it was spread as before; if the effect should be thereby changed, I will report at the proper season. This system will apply as well to the other fruits as to the peach. I have tried it with the same effect on apple, pear, and cherry trees.

If coal ashes produced no other effect than the mechanical one of loosening the soil, it would still be valuable. But the following analysis by Professor Norton, proves it to be valuable as a manure. He found one hundred parts of ash

from white ash coal without any wood ashes from kindling, contained of

Insoluble silica	88.08
Soluble,	0.09
Alumina,	3.36
Iron,	4.03
Lime	2.11
Magnesia,	0.19
Soda,	0.22
Potash,	0.17
Phosphoric acid,	0.20
Sulphuric acid,	0.86
Chlorine,	0.09

Those who advocate the application of Iron to peach trees will find another reason for my success in the amount of that substance contained in coal ashes.

One of my neighbors has for many years applied coal ashes to his potato patch as a preventive of rot, and has not since been troubled with rotten potatoes. He retains the same piece of ground several years in succession, and applies coal ashes in large quantities each year. He attributes his success to the loosening or mechanical effects of ashes, but I attribute his and my own success in this line to early planting and early digging.

As to whether it will pay to buy or haul coal ashes far, I cannot say, but by the above analysis we see that nearly ninety pounds in every hundred is of no value as a manure; that the whole potash from one ton of coal ashes would amount to but three pounds, which may be obtained at a cost of twenty-five cents; the sulphuric acid would amount to but eighteen pounds in the ton, and would cost but about sixty-two cents. Apart from the insoluble matter the ashes would be as valuable as some of our patent fertilizers. —AGRICOLA in *Germantown Telegraph*.

Necessity of Land Drainage in the County of Essex, C. W.

(*From the Essex Journal.*)

No County in this Province needs drainage more than the County of Essex, and when properly drained, no county could surpass us in our Agricultural productions Our soil is most fertile, our climate very healthy, and the great drawback to our advancement and prosperity is the want of drainage. Thousands of acres of beautiful land are to-day immersed, which might be made productive of much good, and offer to emigrants, inducements unequalled in any other part of Canada. There is no trouble to find a market for all that can be produced, a railroad, and the Lakes and River Detroit, affording every facility for shipment.

In view of this subject, Mr. Weaver, Vice-President of our County Agricultural Society at its last meeting, said:

"In travelling through parts of this county, I find a great deal of waste land and crops, for the want of proper drainage. The farmer both loses his time and seed in working his land, and loses his crops also.

I would move that every farmer make up a statement giving the amount of his crops lost through wet, or water lying on the land so long that it prevents him from working it; also stating whether it is practicable to drain the said land, and, if so, where to and what distance, whether to a known creek or gully, and through whose land, whether wild or occupied, and of what advantage it would be to the neighboring lands, if within his knowledge. Also, farmers who have ditched and drained their land, stating the advantage they have received by such drainage.

These communications to be sent to James Woodbridge, Secretary of the County Agricultural Society, so that they may be forwarded by the President to the County Council, for them to deal with as they may think best and proper, for I am really of opinion that there is from eight to nine per cent. of labor, seed and crops that are entirely lost to the farmer.

I hope these remarks will meet with the view of the Directors, for I really think that it is one of the first things that should come under the notice of this society. For Agricultural purposes, our county is second to none in the Province. We have the advantage of a water communication all round us, and a railroad in our centre, so that our farmers have no distance from their own door to seek a market for their produce, if the surface water is taken off, or that the roads may be passable."

The Army Worm.

It may be recollected that among the wonderful characteristics which some writers, last year, asserted were possessed by the army worm was that of propagation while in the larva state. This of course was denied by all who understood the natural history of insects. The subject has been revived by a correspondent of the Valley Farmer, Mr. S. Washington. He states that in various examinations last year, he found small, white worms about an eighth of an inch in length, in the bodies of army worms—the numbers in each army worm varying from fifteen to fifty-four.

The editor of the *V. Farmer* submitted the statement to Mr. B. D. Walsh, of Illinois, a well-known entomologist, to whose writings in regard to the army worm we have frequently had occasion to refer. The point to which Mr. Walsh's attention was called, was, whether the worms found in the bodies of the army worms were of the species, and if not what they were. On this Mr. Walsh says:

"They were, beyond doubt, the larvæ or grubs of some species of ichneumon fly, whose habit it is to stick its eggs into the body of the

living army worm, with a long piercer which it has at the hind end of its body, and which a wise Providence has given it for the express purpose. These eggs hatch out, and the grubs proceed ing from them—which have no feet, because he Being that made them knows that in such a situation they have no need of feet—feed on he flesh of the army worm, avoiding the vital arts, but finally destroying it. They then eat heir way out, spin a little cocoon of white silk ike a grain of rye, only made smaller, inside hich they change into the pupa state; and af- er a few weeks they make their third and final hange into the imago or winged state, burst hrough the silken cocoon, and come out into he world in the form of four-winged flies, nown to entomologists as ichneumon flies. Of he three kinds of ichneumon flies which I have yself bred from the army worm, one kind omes out as a general thing without wings— nd in that state looks much like an ant or pis- mire. It may easily, however, be distinguished rom an ant by its horns (or antennæ) not being ail shaped, or elbowed, as those of all ants re."

Mr. Walsh states that the popular idea of rmy worms being killed by the sun, is not well ounded; that the dead worms which are found situations supposed to justify this belief, are ot killed by the sun, but by the ichneumon ies. He adds that the farmer, instead of being larmed under the idea that the army worms ropogate in the larva state, "ought to bless eaven for sending into the world these tiny ittle flies, whose special mission it is to prevent e army worm from increasing beyond its ap- ointed bounds. There can be no question that f it were not for the check which ichneumon ies and other parasitic insects form on the un- imited increase of plant-feeding insects, the orld would soon become a desert."—*Boston ultivator.*

The Edinburgh Sewage Meadows.

A committee of the the House of Commons s been sitting some weeks on the subject of own sewage—on the possibility of turning it agricultural account, and so of converting hat is now a poison into a food. Much of the vidence taken has been based on an experience limited as to render it untrustworthy as the oundation of any recommendation which the mmittee may be expected to make, and a good al has been vague, not to say unsatisfactory. here has, nevertheless, for many years been ple experience of the agricultural value of wn sewage on a large scale, and there has been a sufficient body of concurrent evi- e on the subject.

No committee was needed to make it known ther that sewage is at present generally both mischievous and wasted, or that in some locali- it has been profitably put to use; while in others it has been made expensively harmless. Edinburgh, Glasgow, Ayr, Carlisle, Mansfield, Rugby, Leicester, Birmingham, Watford, Croydon—some for longer time than others—have most of them been known as the scene of great sewage operations and experiments. The collection of evidence from men whose experience of "town sewage" is derived from the waste of one household, and whose farm sewage includes the liquid manure of half-a-dozen beasts, can only impart uncertainty and doubt—if it all tends to belie the great facts with which most of us are already well acquainted.

What are the main grounds on which it is believed that town sewage can be turned to good account? Having lately visited Edinburgh, Glasgow, Ayr, Carlisle, Rugby, and Croydon, and walked over the ground thus manured, we are able to give the testimony on this question of an eyewitness as to those localities.

1. The streams which wash out Edinburgh are used for the irrigation of grass lands at Craigentinny, Lochend, Grange, besides certain meadows west of the town.

a. The meadows at Craigentinny lie to the N. E. of Edinburgh, at the foot of the valley which drains two thirds of the ground on which the town stands. They are 190 acres in extent, of which 40 acres or thereabouts lie close along the shore, a narrow strip between it and the coast railway. The land is for the most part a free soil—next the sea it is a light sand—in places inland it is stiffer. It is a fan-shaped plot; the water enters at the handle, and travelling along the outsides, is diverted to one or other of the "panes" between the outward artificial channels and the old water-course. It is let in pieces varying from a rod to an acre in extent, and has this spring fetched prices varying from £20 up to £41 10s. per imperial acre.

The sandy pieces next the sea lets from £20 to £25 per acre, the inferior produce here being due partly perhaps to an original inferiority of soil, but chiefly, we imagine, that the water which pours over it has been used, all of it once, some of it twice before. At least half of the meadow is thus irrigated with tail water, and indeed it may be said that all of it is to some extent thus watered; for the Lochend meadows lie higher up the stream, and a quarter of the "Foul Burn" is diverted for use there, rejoining the main stream after having left much of its fertilizing contents behind.

The lighter portions of the land yield the earliest swathe and come quickest to the scythe again. We saw a swathe cutting on the 23rd of April, which must have weighed at least 10 tons per acre. There is, we believe, nothing elsewhere like it known to English agriculture. This great quantity is the result not of a very tall, but of a very thick growth. The blades of grass are not more than twelve to fourteen inches long, but they stand so thick and the

stem of each is so soft and succulent and large that the lower part of each is blanched, and the stubble left is white.

In a day or two, or immediately after the whole grass of any plot is taken away, the water is let on. The whole as to arrangement is a rough specimen of the ordinary ridge and furrow plan of irrigation, and the supply seemed to be ample according to the practice of the ordinary water meadow—forming a thin skin of flowing water, visible everywhere on the surface of the land. A stream 2 feet wide and 1 foot deep, running at the rate of a mile an hour, was in one place supplying what we judged to be an acre of the land. This corresponds to 10 000 cubic feet per hour, and as the supply is kept on foot for about five hours at a time, it is equal to from 12 to 14 hundred tons per acre for a dressing. Such a dressing is generally all that the plot receives until the next cutting; but as during the season of growth all the stream is kept in use, excepting at flood times,* and all is watered in rotation, it may happen that another dose is available for the same land during the four to six weeks' interval which elapses before the swathe is again ready for the scythe. If there should be an opportunity of giving it a second dressing within three weeks or at least a fortnight, of that time, the opportunity is taken.

From three to five cuttings are taken during the year—the first is not the heaviest, and indeed the cow-feeders who hire the plots are tempted to take the earliest earlier than they should both for the sake of an early bite of grass and in order that a fifth swathe may be taken in October. Putting four cuttings as the average, and remembering the water is laid on to some extent during the winter season, it is not too much to estimate that every acre of the Craigentinny meadow receives 10,000 tons of sewage during the year. For this an average produce of at least £25 or 6-10ths of a penny a per ton may be obtained; and as this (half the meadow being watered with tail water) is obtained a second time, the whole worth extracted from the Edinburgh sewage here is rather more than 5 farthings per ton. As an additional illustration of the experience here, it may be supposed that the waste of 80,000 persons, probably imperfectly gathered however, is here utilised, and as the Lochend and Craigentinny lands amount to about 230 acres, that is at the rate of more than 300 persons per acre!

As to the cost of operation—taken in one view it is hardly anything; the sewage is obtained for nothing, the work of management does not cost more than 20s. a week at Lochend, and at Craigentinny it is managed by two men, and probably costs under £100 a year. But if any company or new proprietary proposed to undertake the work, they could not purchase the apparatus (the estate) under £500, perhaps £600 per acre, which is two shillings or more for every ton of the swill which is turned to account upon the land.

b. The Lochend meadows lie above Craigentinny. About a quarter of the Foul Burn is diverted and sent along the narrow grassy valley over which it is here spread. The plot is about 30 acres in extent, of which one third may lie on the north-western side, about one hundred yards wide, sloping 1 in 25 or 30 to towards the old water-course below; a quarter on the south-eastern side, a narrower strip, rather steeper; and the remainder is on the flat below. By reason of certain alterations upon the level of a main stream, the out-fall to the drainage of the last portion has been temporarily stopped, the effect of which is very visible upon the crop. The plots—half an acre to an acre each—into which the whole is divided have this year let for £18 10s and upwards on the flat, and for £25 up to £39 10s. on the sides. Drainage is an essential part of successful irrigation. Soil, as we are told by the intelligent superintendent here, is like man or any other animal; no nourishment of it is possible unless the food pass through it. You may present as much nutriment as you please to the surface, or the mouth, but in either case a stoppage is fatal. This is well seen at Lochend; patches of imperfect drainage, even on the steep sides of the valley, at once show the same defective growth, which is much more generally visible on the undrained flat at its foot.

Men and carts were busy removing a heavy swathe of grass on the 23rd of April. The grass is in many places, both here, and at Craigentinny, very weedy—full of crowfoot; but the cows eat it all with greediness; and it is, indeed, very probable that the bitter of the ranunculus may be a wholesome corrective of the extra succulence of the growth. Be that as it may, the whole is removed and carted, much of it two miles to the cowhouse. The price of the food thus purchased growing on the ground must be at least 10s. a ton. When sold by weight it varies from 6d. to even 1s. a cwt., according to the demand. And the price per acre forbids our imagining it to cost less than the lower of these prices on an average throughout the year. Mr. Taylor, the farm manager for Mr. Scott, who is the tenant of the Lochend estate, considers it of importance not to let the water on until the scythe wound has fairly healed, and some natural, unassisted growth of the stubble has taken place. It is thus a week or ten days after a cutting before it is irrigated. The water is, however, then let over from 24 to 48 hours at a time; and as it is apparently at the same rate per hour as at Craigentinny, 4 or

* One man manages the distribution of the water, but he has an assistant, so that between them a watch night and day is kept especially for the diversion of a sudden flood, which is at once turned to waste; others are employed at busy times, and especially in cleaning out the water-carriers.

5 times as much water is thus put on; and taking the produce at the rate already stated, we do not suppose that a farthing per ton is here made of the sewage which passes over the land. This, however, for about a quarter of the stream, as already said, has to be added on to the sum already named as made at Craigentinny.

Besides the 30 acres of natural meadow where the sewage is thus used, Mr. Scott has 10 acres of higher land close by, which he manages to irrigate jet-fashion by subterranean pipes and surface hose. The stream diverted from the north-western side runs, about 500 tons per hour, as we estimated it, along a channel by the upper side of that side of the valley, and perhaps 10 or 12 feet above the channel below. A portion of it is taken over a water wheel, and this by a very simple arrangement of leverage and gearing, works four pumps, each delivering about one fifth of a cubic foot at a stroke, and making about 25 strokes per minute. These 20 cubic feet of water per minute, equal to 30 tons per hour, are delivered by Iron piping and hose at the rate of half an acre daily, or perhaps 600 to 800 tons per acre, over Italian ray-grass after each cutting. The land is an extremely light sand, with a deep sand-pit in the middle of it, and it is said that 30 tons per hour delivered in the ordinary way the ground in surface channels would sink so rapidly, that the whole surface would not thus be wetted evenly, and the apparatus of hose and jet is thus made necessary. This piece of Italian ray-grass is let in half-acre plots like the meadow, and fetches £25 an acre. It is sown by hand at twice, about 3 or 4 bushels per acre in early autumn, not watered until after the first cut in the following May, and then watered only gently and with caution, until the plant is fairly established. It is kept a second season, receiving then, as well as during the summer and autumn of the first year, a full allowance, and it is ploughed down in the autumn of the second year. A crop of early potatoes is taken in the third year, and the land is then again prepared for the seed.

c. The Grange meadows, the property of Sir . Dick Lauder, extend over about 20 acres, ear Newington, a southern suburb of Edinburgh The north side is watered from two streams, one of which is fouler than the other, nd the grass is proportionably richer there. We saw on several plots a growth equal to any of Craigentinny or Lochend, which had fetched close on £40 an acre. On the south side of the valley the surface is watered with clear water—not foul'er than in any ordinary village stream—and the difference in the produce of the two sides is very remarkable. The rents obtained on that side vary from £12 to £15 per acre; on this from £25 to £40. The soil, as shown by market gardens close by, is a loose loam.

d Let us now follow this grass home. Mr. Anderson, a cow-keeper in Murray street, off the East Cross Causeway, keeps 30 cows, chiefly short-horns. He has taken seven plots of meadow land for them on all the different meadows we have named, paying £100 for them. Two plots have been taken at £26 10s per acre each; one at £31, one at £38, and one at £27, two (being Italian ray-grass at Lochend) at £27 10s. We may suppose that he has thus secured 200 tons of green food, equal to rations for his cows during 160 to 180 days of summer. He finds it capital milk-producing food. Notwithstanding these enormous rents—notwithstanding a distance varying from ½ to 3 miles of carriage—notwithstanding that he is extremely liable to loose the milk of his cows by the foot and mouth disease, and his cows themselves by pluero-pneumonia, yet we could learn that his business prospers. A cow may last a year, and be sold fat, or she may last two months and die—there is much loss and injury, owing to the place of these being filled by purchases in the market, where infection of either pluero-pneumonia or distemper is indigenious; but notwithstanding all these costs and risks, a living and a profit are made by cow keeping. The management is as follows:—The cows receive about 1½ bushels apiece daily of "draff" from the distilleries—spent malt or "grains", as we call it—they get this all year round, and from ¾ cwt. to 1 cwt. of grass daily during summer, and about 1 cwt. of turnips, partly steamed, during winter, with straw or fodder all the year round. In illustration of the cost of feeding, the price of the grass has been already named, the "draff" costs 3s. a quarter, the turnips from 15s. upward per ton at the railway station, the straw 3d. to 4d. a stone. The sales are, milk at 9d. to 10d. a gallon; cream at 8s. a gallon, and about £140 worth of dung annually (nearly £3 per cow), which is bought and carried away by neighbouring farmers.

These particulars, then may suffice as an account of the Edinburgh sewage meadows. We did not see those on the west side of the town, except from the railway carriage—they appeared as full of grass and as busy with men and as busy with carts removing it (April 23rd) as the others. What has been already stated sufficiently represents the Edinburgh experience on the subject of town sewage. We have yet to refer to the experience of farm sewage near Glasgow and Ayr—to the southern experience of town sewage at Carlisle, Rugby, and Croydon—and to those particulars of ordinary farm experience which throw light on the subject.—*Gardiners' Chronicle.*

In one ton of cabbage there are 189 ounces of sand, 184 of salt (chroride of sodium), 279 of sulphuric acid, 156 of phosphoric acid. 72 of magnesia, 652 of lime, 208 of soda, 661 of potash.

Agricultural Intelligence.

Provincial and State Shows, 1862.

Upper Canada, at Toronto, September 22nd —26th.

Lower Canada, at Sherbrooke, 17th, 18th 19th September.

New York State, at Rochester, September 30 to October 3rd.

Illinois State, at Peoria, September 29 to October 4.

Soiling Milch Cows.

A correspondent of the Irish Farmer's Gazette says :—"I keep a large number of milch cows, say from 90 to 100, which I house-feed all the year round; in winter on roots, &c., and in summer soiling them with ray-grass, clover, &c. I and my father before me, have followed this practice for the last forty years or more It has also been our custom to give the soil cut fresh and fresh; that is to say, each feed is only cut a few hours before being given, except the early morning feed, which is cut the evening before, there not being time enough to cut it in the morning. Sunday's feeding has always been cut on that day, as the young grass, if cut the day previous, no matter what care is taken of it, would loose much of its succulent qualities, and be sure to become heated to a certain degree, and so throw the cows off their milk; as I need not tell you how small a change in their feeding will have effect on the milking qualities of cows. We once tried the experiment of cutting Sunday's feeding on Saturday, and the result was a considerable decrease in milk.

Yield of Grain in England.—The Mark-Lane Express gives a table comprising the average yield per acre, of wheat, barley, oats, beans and peas, for thirty-eight counties, in England, prepared from returns received from correspondents of that paper. The average for the cereal grains mentioned is as follows:—

Wheat	29 bushels
Barley	37¾ "
Oats	46½ "

The lowest average of wheat in any county returned, is 22¾ bushels per acre, in Devonshire, and the highest 34¼ bushels in Lancashire. The lowest average of barley is 29 bushels per acre in Shropshire, and the highest 44 bushels, in Northampton. The lowest average of oats is 34¾ bushels, in Westmoreland, and the highest, 59½, in Cambridgeshire.

The beans mentioned are a kind not much cultivated in this country. The average yield is 32½ bushels per acre. The average yield of peas is 30 bushels per acre.

Michigan State Fair.—It is announced th the next Annual Fair of the Michigan St Ag. Society will be held at Detroit, Sept. 2 to 25th inclusive—just one week before the N York State Fair. The Society has an able a efficient board of officers, and many enterpris and progressive members, and ought to mak better exhibition this year than ever before, n withstanding the war. Officers: *President*- J. B. Crippen, Coldwater *Treasurer*—Pl Parsons, Detroit. *Secretary*—B. F. Johnstor Detroit. *Members of the Executive Committee*—T. T. Lyon, Plymouth, Wayne Co.; S. Berry, Adrian, Lenawee Co.; A. S. Wel Ypsilanti, Washtenaw Co.; Geo. M. Dewey, Fli Genesee Co.; S. S. Bailey, Grand Rapids, Ke Co.; E. S. Moore, Tree Rivers, St. Joseph Co U. J. Baxter, Jonesville, Hillsdale Co.; Ira Butterfield, Utica, Macomb Co.—*Rural N Yorker.*

The Culture of the Sugar Beet is receiving considerable attention at the present tim particularly in the west. The Ohio State Boa of Agriculture offers a premium of $1,000 to th first person who shall have planted, within th State of Ohio, no less than five acres of sug beets, and manufactured therefrom no less th 5,000 pounds of good, brown sugar, and a spec men of white sugar of not less than 20 pour in a single uncompressed block.—*Rural N. Y.*

The Lindsay *Herald* says that the wheat i the County of Victoria has suffered severel from a grub of a greyish color. The grub no only eats down wheat, but also Indian cor lettuce, and almost anything that is green. T the wheat crop however, it seems more destru tive than to any other, and the damage threate to be very serious. In Mariposa many farme are rolling their wheat for the purpose of destro ing them. The dry weather has occasioned the unusual depredations.

Cheap Summer Food for Hogs.—The edito of the *New England Farmer* says he has pra tised the followsng plan for summer feedi of pigs for many years, and finds it to be an e cellent one :—"A few rods of grass plot co venient to the pen is reserved for this purpos and is manured by the weekly suds from th wash-room. Commencing at one side of th plot, a large basket of the thick, short grass mowed each morning while the dew is on, and part given to the swine at each feeding, thre times a day. By the time the last portion o the grass is cut, the first is ready to cut again and in this way the ground is mowed over man times during the summer, while the grass is kep short, thick, tender and sweet. It keeps th hogs in a healthy, growing condition—they ar fed with as much as they will eat every day, a little additional food is needed besides slop from the kitchen."

Horticultural

Horticultural Shows this Summer.

Peterborough Horticultural Society, at Peterborough, July 3rd.
Hamilton Horticultural Society, Second Exhibition, July 25th.
Kingston Electoral Division Society, Horticultural Show, at Kingston, July 2nd.
Toronto Horticultural Society, Second Exhibition, July 17th.

ruit Growers' Association of Upper Canada.

The next regular meeting of this association ill be held at St. Catharines, on Wednesday the 6th day of July, and all gentlemen interested the subject of fruit growing are invited to at-d, and those gentlemen who can not make it nvenient to be present will confer a favor by ding in to the Secretary, Mr. D. W. Beadle, St. Catharines, their answers to the questions oposed by the association and published in the *griculturist* for 16th February, 1862.

The meeting will convene in the Town Hall, 2 o'clock, P M, and will be in part occupied discussing and determining the varieties of erries, plums, and goose-berries best suited to r climate. Members and others are requested bring with them any specimens they may re of late strawberries, cherries, goose-berries, rants, raspberries, &c., &c. It is expected at there will be a full attendance, and the eting unusually interesting.

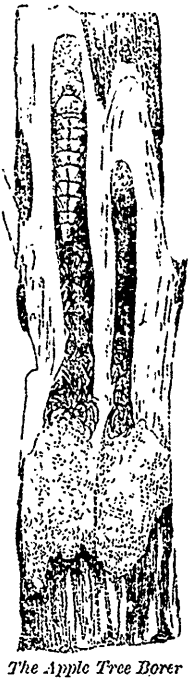
Apple Tree Borer.

As this insect has occasionally produced very urious effects on our apple trees in different ctions of Canada, we subjoin a description of from an article in the ***Rural Annual*** of 1860, da communication in a recent number of ***The nois State Agricultural Society,*** which th the accompanying wood cuts will be found resting to our readers.

THE APPLE TREE BORER.

(*Saperda Bivittata.*)

This insect is one of the worst enemies with h which our apple trees have to contend. It yellowish, footless, cylindrical grub, the lar- of a winged beetle of the ***Cerambycidæ*** fam- which makes its appearance in June, and deposits its eggs, one at a time, upon the bark near the surface of the earth. The maggot, when hatched, eats its way directly down into the bark, producing a discoloration where it is situated. Scraping off the outside bark, the last of August or early in September, so as to expose the white under bark which can be done without injury to the tree, will enable the young worm to be detected and destroyed. *Fitch* says of it: "the worm gradually works its way onward through the bark, increasing in size as it advances, till it reaches the sap-wood. Here it takes up its abode, feeding upon and consuming the soft wood, and forming a smooth, round, flat cavity the size of a dollar, or larger, immediately under the bark. It keeps its burrow clean by pushing its excrement out of a small crevice, or opening, through the bark. This excrement resembles new fine saw-dust, and enables us to readily detect the presence of the worm by the little heap of this substance which is accumulated on the ground, or covers the orifice of the hole out of which it is extruded." The worm when it is about half grown changes its habits, and the cavity, which it was so careful to keep clean and open, it now fills and obliterates, that it may not be discovered. It now confines itself to the heart wood, knawing a cylindrical retreat for itself, upward in the heart of the tree, as shown in the cut of a split section of a tree at this time. Here it lies dormant during the winter season, and in spring changes into a pupa, while still in its hole. From this the perfect insect soon after hatches, and, tearing away the saw-dust like powder which fills up the hole through which the worm originally cleared its burrow, it comes out of the tree. According to ***Harris***, the larva state of this insect continues for two years. The tree becomes so weakened by the borer working through the wood, that it is easily blown down by the wind, or knocked down by stock rubbing against it.



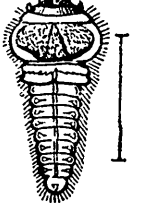
The Apple Tree Borer

The greatest preventative of the undue increase of this insect, is provided in the numerous woodpeckers which inhabit the country, especially the Downy woodpecker. These birds proclaim war to the knife against the borer, and are assiduous in seeking out and destroying it. In

regard to the remedies used by man, in this instance "an ounce of prevention is worth a pound of cure," and for this purpose alkaline preparations of suitable strength, such as soft soap, applied to the outer bark with a brush, are better than anything else. To kill the worm, Fitch recommends finding out, with an awl the top of the burrow, which will probably be not very far from the ground, cutting away the bark there with a pen knife, then scraping out the loose saw-dust and pouring in hot water from a tea-pot until you are certain, from its oozing out at the lower orifice, that the worm is dead. This operation will not hurt the tree in the least.

THE APPLE BUPRESTIS.—(*Chrysobothris femorata.*)

This is another insect, the larva of which has lately been discovered as a borer in our apple trees. The perfect insect is a shiny, blackish-green beetle, belonging to the order of Elators, or Chick-beetles. It may be observed in June and July, running up and down the trunk and limbs of the tree. Fitch says: "It deposits its eggs on the bark, from which a worm hatches; this worm passes through the bark, and during the first periods of its life consumes the sap-wood, immediately under the bark."—When the worm has become strong, it excavates a burrow in the heart-wood, and makes a great wide hole in the interior of the tree, in which it remains torpid during the winter. In its habits, and mode of procedure, it closely resembles the apple tree borer, already described, and the same remedies that are used against the above borer will probably be found equally effectual with this one. It will be seen by the cut, that this worm differs considerably in appearance from that of the apple tree borer. It is soft and flesh-like, and of a yellowish colour, with a black head, and powerful jaws.



Apple Bupretis.

From the Journal of the Illinois State Agricultural Society.

Apple Tree Borers.

MR. EDITOR: It is well known to entomologists that there are two distinct "borers" infesting the apple tree. The one in the *larva* or grub state is a whitish, hammer headed fellow, looking as if he had been squeeezd flat between two squares of glass; and in consequence of his front end being about twice as wide as it is high he bores a hole to suit the shape of his head—egg-shaped. The other in the *larva* state is a round or cylindrical whitish grub, and as his front end is round, he bores a *round* hole, not an *egg-shaped* one. He is also when full grown nearly twice as big as the other chap, and consequently his hole is a good deal larger than that of the other. In the *perfect* or *beetle* state, the FIRST is about half an inch long, with rather short horns (or antennæ), and on a cursory view seems quite a brown, dingy affair. A closer inspection, however, will show, that his body above is marked with elegant brassy spots, and that underneath he is all glorious with brass and gold. In the *perfect or beetle* state, the SECOND insect is about an inch long, with very long antennæ, and he is of a cinnamon color with two broad milk white stripes reaching all the way from his nose to his tail.

"But" some of your readers will say, "what is the use of knowing all this? What practical advantage is it to know, which of two insects equally mischievous, and equally hateful, destroying my orchard?" Not so fast my good friends. We will come to the "practical utility" part immediately.

The first or smaller insect which is a *Buprestis* attacks, as I know from my own experience, not only the trunk of apple trees, either at top, middle, or butt, but also small limbs, not over three quarters of an inch in diameter. The second larger insect, which is a *Saperda*, generally confines his attack to the *butt* of the tree, pretty close to the ground. Instances are known indeed of his attacking the trunk in the crotch or where it branches out into limbs, but such instances are rare, and generally occur only where the parent beetle finds the butts of all the trees pre-occupied, and so takes to the crotch for want of its favorite locality. Small as insects are, they know a great deal. For instance, they all know enough to make due provision for their future families, which is more than some two-legged bugs that wear coats and pantaloons always know. Now I stated in an essay on "Insects injurious to vegetation in Illinois," (printed in your transactions, vol. 1, p. 345) that Dr. Fitch, the state Entomologist of New York, had proved by a decisive experiment that a certain preventive against the attacks of the *Saperda*, or big round borer, was "to rub the bark of the trees with soap, in the latter part of May each year;" but that whether the soap was equally effectual against the little hammer-headed borer (or *Buprestis*) remains to be proved. I have a small garden in Rock Island about the size of a pocket handkerchief, in which I planted, some years ago, a dozen apple trees. In the spring of 1851 I dug out of these trees probably over a dozen borers of the hammer-headed headed kind, and having great faith in soap, about the last of May, 1861, I applied Dr. Fitch's preventive to all of them. To be plain and explicit, I took a bar of the newest and softest soap I could get (value 5 cents,) and with this I thoroughly rubbed over all my trees, not only to the trunks, but to such limbs as were three-quarters of an inch through. The result this spring (1862) is,

is not a borer to be found in any of them
I are the facts, just as they are, to your
ers for what they are worth. Of course, it
ld have been more satisfactory to have soap-
alf the trees, and left the other half unsoap
as Dr. Fitch did; and then if the soaped trees
been free from borers and the unsoaped trees
of them, the proof would have been pretty
clusive. But Dr. Fitch is paid by the state
w York for conducting such experiments
ese, and therefore can afford to make them;
western bug-hunters on the other hand, who
e to foot our own bills, cannot afford to sa-
e our own private and peculiar apple trees
the benefit of the public.

ow for the "practical utility" part. Look
our apple trees, and see if you can dig any
s out of them, and what shape and size
e borers are; and if not, see if you can see
holes where the insects have formerly eaten
r way out. If the holes are oval and rather
ll, say the 3-16ths of an inch, and not con-
to the butt of the trunk, you may know it
e *Buprestis*; if the holes are larger, and
the size of a smallish pea, and found eclu-
ly in the butt, you may know it as the
rda.

the former case, if you have faith, as I
, in the "soap remedy," you must soap not
the trunk of the trees, but the small limbs;
e latter case it is sufficient to soap the trunk,
if you are driven for time and soap is dear
you, probably it would answer to soap the
ch and the butt end of the trunk alone. *A
to the wise is sufficient.*

BENJ. D. WALSH.

Improvement of Grounds.

he following valuable article on a subject of
interest to all who own the soil on which
lice, whether in country or village, is by A.
OWING:

Pleasure and profit are certain, sooner or
, to awaken a large portion of our country-
to the advantages of improving their own
te grounds. But we find it is only under
conditions that many public improvements
arried on. The first, is when nearly the
e of the population enjoy the advantages of
ation, as in New England. The second, is
a few of the more spirited and intelligent
e citizens move the rest by taking the bur-
n the beginning upon their own shoulders
lling the example themselves, and by most
sily urging all others to follow.

The villages of New England, looking at
sylvan charms, are as beautiful as any in
orld. Their architecture is simple and un-
ading—often, indeed, meagre and unworthy
tice. The houses are surrounded by en-
es full of trees and shrubs, with space
gh to afford comfort, and ornament enough
to denote taste. But the main street of the village is an avenue of elms, positively delightful to behold. Always wide, the over-arching boughs form an aisle more grand and beautiful than that of any old gothic cathedral. Not content, indeed, with one avenue, some of these villages have, in their wide, single street, three lines of trees, forming a double avenue, of which any grand old palace abroad might well be proud. Would that those of our readers whose souls are callous to the charms of the lights and shadows that bedeck these bewitching rural towns and villages, would forthwith set out on a pilgrimage to such places as Northampton, Springfield, New Haven, Pittsfield, Stockbridge, Woodbury, and the like.

"When we contrast with these lovely resting places for the eye, embowered in avenues of Elms, gracefully drooping like fountains of falling water, or Sugar Maples swelling and towering up like finely formed antique vases, some of the uncared for towns and villages in our own State, we are almost forced to believe that the famous common schools of New England teach the aesthetics of art, and that the beauty of shade trees is the care of especial professorships. Homer and Virgil, Cicero, Manlius, and Tully, shades of the great Greeks and Romans!—our citizens have named towns after you, but the places that bear your names scarcely hold leafy trees enough to renew the fading laurels round your heads!—while the direct descendants of stern Puritans, who had a holy horror of things ornamental, who cropped their hair, and made penalties for indulgences in fine linen, live in villages overshadowed by the very spirit of rural elegance!

"It is neither from a want of means, or want of time, or any ignorance of what is essential to the beauty of body or of mind, that we see this neglect of the public becomingness. There are numbers of houses in all these villages, that boast their pianos, while the last Paris fashions are worn in the parlors, and the freshest periodical literature of both sides of the Atlantic fills the center tables. But while the comfort and good looks of the individual are sufficiently cared for, the comfort and good looks of the town are sadly neglected. Our education here stops short of New England. We are slow to feel that the character of the inhabitants is always, in some degree, indicated by the appearance of the town. It is, unluckily, no one's especial business to ornament the streets. No one feels it a reproach to himself, that verdure and beauty do not hang, like rich curtains, over the street in which he lives. And thus a whole village or town goes on from year to year, in a shameless state of public nudity and neglect, because no one feels it his particular duty to persuade his neighbors to join him in making the town in which he lives a gem of rural beauty, instead of a sorry collection of uninteresting houses."

Fruit Trees in the West,

The *Wisconsin Argus*, with the text, "the failure of Fruit Trees," discusses the question of fruit growing in the West as follows:

It is notorious that, in this State, most varieties of apple trees, after growing finely for a few years, just as they begin to bear, begin to die; and after lingering two or three years, perish entirely. This mortality is, we believe, confined to the grafted trees. The defection commences in the *body* of the tree at various points, but most usually near the lower branches, and spreads in both directions, till the main branches, one after another, are deprived of nourishment and die.

Various remedies have been tried, the most successful of which is similar to the one divised by a certain wight for keeping the squirrels from destroying the corn. He had noticed that they always took the *outside row*, and his plan was not to have any outside row! As the disease affects the *body* of the tree, the remedy is, *not to have any body*, but let the limbs come out as near the ground as they will—within two or three feet at the farthest. It is well known that trees of the same variety, thus grown, will succeed and live, while those trimmed up for a long body will die.

It is difficult to understand what can cause the difference, unless it be that low branches keep the short trunk shaded and less exposed to to extreme variations of the temperature. This explanation receives confirmation from two considerations, viz: the defection always takes place upon the *south-west side* of the trunk; and that is the side exposed to the sharpest cold in the winter and the most scorching heat in the summer. If we have here a clue to the cause of the difficulty, the question arises whether the disease is produced by the piercing south-west winds in the winter, or the scorching afternoon suns in the summer, or from the alternating extremes of the two. A little range of observation may aid our conjectures upon this point.

Upon the island of Mackinaw we have seen apple trees, of considerable age and in full bearing, remain sound and healthy, though as to the varieties we could not speak with certainty.—This would indicate that it is not the *cold* which does the mischief.

In South Carolina, Georgia and Alabama, peach trees, if left unprotected, perish precisely in the same way that apple trees do in Wisconsin. The bark dies, the wood cracks open, and the whole south-west side perishes, and the defection works round till there is nothing but a narrow strip of life left upon the north-east side; and this soon yields to the influence of the dead portions of the tree. The destruction of the peach tree in those regions is well known to be caused by the intense heat of the sun in the after part of the day; and the remedy there is to take a piece of board, about six inches wide, and long enough to reach from the ground to the limbs; sharpen one end, and drive it into the ground, leaving it to stand within six or eight inches of the body of the tree on the south-west side. In well managed peach orchards in those States, every tree is protected in this way; and whenever one is neglected, it presents exactly the appearance of a half dead apple tree in Wisconsin; while trees thus protected, remain sound and healthy.

It is affirmed by some intelligent fruit growers in Wisconsin, who have paid much attention to the subject, that there are varieties of choice grafted fruit that will stand the climate; but we do not consider this fully demonstrated, but would suggest the simple precaution practiced by our Southern brethren with their peach trees. A dime's worth of lumber will protect a tree several years."

Growing Double Flowers.

We cannot explain all that a correspondent would like to know about Double Flowers—why they become double, &c.; nor can we tell from the appearance of a seed whether it will produce double or single flowers. It seems to be admitted, generally, that seeds that have been kept a number of years, will produce more double flowers than if sown the first season. In this opinion our correspondent is supported by good authority, yet we have always doubted whether there is any good reason for the belief. On this subject we give an extract from a volume of the *Revue Horticole*:

"It is impossible for any inquiring mind not to attempt an explanation of the fact that many plants which, in a state of nature, never present more than a single row of petals, begin to assume several rows under continued cultivation. The effects of a richer soil, and other genial circumstances, or the mere accident of double petals in one plant, transmitted with improvement through its progeny, are the common explanations; and they are generally received as satisfactory, without reflecting that what we call accident is itself a result of some cause, and that change of condition must attack some physiological principle before it can have any effect in modifying the character of a plant. Nothing is now so common as double flowers; and to explain this phenomenon, we must make practice agree with theory. Every gardener who sows seeds wishes to obtain plants with double flowers, so as to have blossoms which produce the greatest effect. Every double flower is a monstrous vegetable. To produce this anomaly we must attack the principle of its creation, that is to say, the seed. This being granted, let us examine in what way these seeds or

treated. If, after having gathered the s of Tenweeks' Stock, for example, we them immediately, the greater number of seedlings will produce single flowers; le, on the contrary, if we preserve these e seeds for three or four years, and sow , we shall find double flowers upon nearly the plants. To explain this phenomenon say, that in keeping a seed for several years fatigue and weaken it, so that the energy ch would otherwise have been expended roducing stamens, produces petals .Then, n we place it in a suitable soil, we change atural state, and from a wild plant make cultivated one. What proves our position that plants in their wild state, shedding r seeds annually, and sowing them as soon hey fall to the ground, yet in a long suc- on of time scarcely ever produce plants double flowers. We think, then, after t we have said, that whenever a gardener es to obtain double flowers, he ought not w the seeds till he has kept them for as a time as possible. These principles equally applicable to melons, and all ts of that family. We admit, like many rers, that melon plants, obtained from the preceding year, ought to produce, do produce, really very vigorous shoots, much foliage; but very few fruitful ers appear on such plants; while, on the r hand, when we sow old seed, we obtain bundance of very large fruit. In fact, in arieties of the melon, the seeds should al- be kept from three to eight years before g sown if we would obtain fine fruit and ty of it."

e have kept Balsam and Tenweeks Stock for ten years, sowing some every year, we could not discover any improvement ge in any respect. Much more depends the manner in which the plant that pro- the seed is grown than upon its age. idea of the seed being fatigued or weak- by age so as to produce double flowers, to us very much like nonsense. What want to produce good flowers, is short, y plants. If the plants become drawn young, the flowers, as a general thing, be worthless.—*Rural New Yorker.*

RIBAND FLOWER BORDERS.—The riband sys- is now very generally practised, and where ace admits of sufficient length and width, st effective display may be created by plant- ay—1st row, Cerastium tomentosum; 2d Purple Verbena; 3d row, Variegated Ger- ; 5th row, Bedding Dahlia, *Alba flori- nana*, planted in a sloping position so as ep it dwarf. Such a riband can be very ried by using White Verbena, Blue Lo- , purple Zelinda Dahlia, Yellow Calceolaria, any other plants, always avoiding, if pos. bringing a bright scarlet and a yellow close together. Very effective beds may be planted with Blue Ageratum, bordered with Lemon Calceolaria; Maroon, or Purple Verbena, with the Silver Cerastium; Yellow Calceolarias, with Cattels' Orange Scarlet Nasturtium, or Gazania splendens; Variegated Geraniums with Scarlet Geraniums, or *vice versa;* Blue Lobelia with the Silver Cerastium or Variegated Alyssum; Gazania splendens with Blue Lobelia; White Verbena with Scarlet Verbena, or *vice versa;* Pink, Rose, Maroon, or Crimson Verbena; Alba Floribunda Dahlia with Purple Zelinda Dahlia; Tropæolum Lobbianum elegans with Silver Cerastium; Scarlet Geranium or Crystal Palace Ccarlet Dahlia with Silver-Leafed Cineraria; Helliotrope with variegated Mint. In fact, so many different and pleasing arrangements may be made in regard to the plants named, that we do not consider it necessary to detail them here, as they will readily suggest themselves to those who bestow a few moments' thought on the subject. Bordering beds seldom answers, if the beds are very small. The border, to be effective, should be about one-third the diameter of the bed.—*Scottish Horticulturist.*

STRAWBERRY CULTURE—STIRRING THE SOIL.—At a late meeting of the Brooklyn Hort. Society, Mr. Fuller "said that he had grown at the rate of 600 bushels per acre, on a small plot of the Bartlett strawberry, and by the same mode of treatment, 400 bushels of Triomphe de Gand. The best treatment I have ever given strawberries when grown in hills, was to stir the surface a little every day. Some varieties grow best in stools, the Wilson, for instance, and others do best when they all run together. I have great faith in lightly stirring the soil among strawberry plants. The best Delaware grape vines I ever grew I produced by stirring the soil regularly every Saturday evening, with a rake, and I believe it would pay to rake the ground among the strawberry plants every day, and cut off all the runners. I can grow strawberries by this process upon poor soil, without manure. I am satisfied that surface soil stirring is the most important of all modes of cultivation. But in a strawberry bed you must be careful not to dig too dee There is no process that can be applied to the cultivation of cabbage and cauliflower, equal to stirring the surface every day."

RENEWING PEACH TREES.—Peaches are never borne twice on the same wood, but always on the new wood of the previous summer's growth; hence peach trees soon get beyond our reach, if not cut back, or "summer pruned." The bearing wood each year gets farther from the ground, until we only find a little fruit on the ends of the branches. Mine were in that condition in the spring of 1861, when, as the sudden cold snap of November, 1860, destroyed all the fruit

buds, so there would be no fruit for the trees to nourish in the summer of 1861, the growth of wood would be very great, and the trees still farther beyond control. To subdue them, I sawed them off about two feet from the ground, in April, and covered the wounds with gum shellac, (not a good article;) a mixture of one third each of beeswax, rosin, and tallow is a much better covering. They all pushed out numerous shoots, which grew from 5 to 8 feet in length, and every twig is full of fruit buds, so that I have a good prospect of a crop the coming season, unless the mercury falls to 8 or 10 below zero, a degree of cold the peach blossom bud cannot stand in this section.

The conclusion arrived at is this: with the treatment named, (barring the excessive cold,) a crop of peaches can be obtained every year, by sawing down every other tree in the row, or alternate rows, every year. Let half the trees be producing wood and the other half fruit, and the following spring saw down those that had fruited.

Shou'd the frost kill the fruit-buds, then saw all back to the stump again.

The method of cultivating low gives us control of the trees, to thin out fruit, cut back, or summer prune.—*J. C. Thompson in the Horticulturist.*

The Cultivation of Wild Flowers.

Those who wish to cultivate flowers, yet cannot well afford to purchase them, and others, also, who would add some native growing varieties to their fine parterres of rare and important plants, may find in our woods and fields many beautiful kinds well worthy of removal and careful cultivation. Foremost of these in simple loveliness, are the white, blue, and yellow Violets; they are readily transplanted, and when arranged in large beds or borders, are exceedingly effective, growing much larger and longer-stemmed under garden culture, than in their native haunts.—Then, there are the Anemones, with their tender white or pinkish flowers, threaded with crimson. These, also, grow finely in large patches, and may be transplanted either in the spring or early autumn. The writer has succeeded in transplanting many kinds of wild flowers, even while they were in full bloom, by keeping them well watered and carefully shaded for the first ten days.

For extreme richness of colour, the Scarlet Lobelia (*Lobelia cardinalus*) is unequalled. This is very easily cultivaled, and, under the gardener's care, throws out its vivid flowers in grateful profusion. The native Asters are susceptible of great improvement under garden culture. Then there are the Gentians, the wild Honeysuckle, and the Climbing Clematis, all hardy and graceful; and, among shrubs, the Laurel with its waxen clusters peering from branches of glossy green—the most exquisitely-wrought of all the wild flowers.

The Lilies, Lupins, Sweet Briars, Geraniums, Iris and Hepaticas, are well worthy of a place in the flower garden. The Dragon Root (*Arum triphyllum*) is extremely graceful, and grown in large patches, as the writer has seen it, has the effect of some rare tropical plant. The Yellow Snakeleaf or *Erythronium*, is very pretty with its long green leaves, spotted with red, and its delicate bell-shaped flowers, and in many localities is the earliest vernal flower we have. Like most wild flowers, it requires to be kept very moist when first transplanted, and completely shaded from the sun's rays.

The list given above, of wild flowers susceptible of garden cultivation, is necessarily incomplete—their name is legion—and in no book yet written, can a complete catalogue of Nature's floral treasures be found. On her own glowing page, lying invitingly open to the hand and eye of man, each may find for himself an endless variety; and by observing the habits and localities of the various kinds there need be no difficulty in adapting soil and treatment to their wants. Some are found nestling deep in the shadow in the woods, some, more light-loving, cluster in the field and along the roadside; some love the pond and brooks, and bloom amid the tall grasses, the banks, and some climb the mountain side and hang their graceful festoons across the jagged rocks. In each and all there is beauty, and Nature, in her prodigality and conscious ness, will not begrudge us a few to nurse and tend in our gardens. We can never make them appear half as beautiful as they do in their original surroundings—for the Gentian on our faultless trellis, fuller in its flower, as richer in its dye, is still but the city sister of the blue-eyed Gentian, climbing up the rock—but we can turn them into very respectable garden flowers, "improved" and "double," as we wish—and certainly we will find the task well worth the trouble.—*Working Farmer.*

Rose Leaf Picture Frame.—A writer in *The Home and Garden* thus describes how to make a pretty, ornamental style of picture frames:—"The leaves of the multiflora, a climbing rose, are best suited for this purpose as they have a greater richness and variety of colour than most of the rose family. At a time when there is the greatest variety of coloured leaves, strip them from the bush, and put them to press in any old book you do not wish to use; change them as often as every other day, until sufficiently dried; then take any picture you wish—an engraving is best

used—fasten it on to a paste-board, and
re a margin of the width you wish for your
e, outside the engraving. Sew the leaves
to the paste-board frame, either in knots
groups, or simply overlapping each other,
d varnish with furniture varnish. When
, suspend with cord and tassels, and you
re a very pretty picture-frame." Other
ves of variegated colours, as maples, &c., or
eral sorts showing different shades of green,
y be used in the same manner.—*American*
-culturist.

Indoor Gardening.

One of the prettiest ways of having flowers in
ms is perhaps the fashion of little hanging
kets. In flower stands and on tables, and
in boxes, it is often difficult to arrange
bers nicely; they either require height in
way of trellises, which we find it hard to
, or they droop down in an ungraceful
ion. In the use of hanging baskets neither
these things happen. The climbers may if
like twine up the wires or cord, or they
still more prettily droop down over the
ket. One of the prettiest things for this is
little Campanula, its bright blue flowers
l down neatly and yet closely into a lovely
t, and if in the midst we place a pretty
, its fronds wave over and make quite a
ect centre. I was told the other day that
Adiantum cuneatum, one of the very loveli-
sorts of Maiden Hair, did well for such a
pose, and this would be, I think, the prettiest
d to try; although it is a stove fern it has
n kept for years in a room window, and, in
, it seems one of the most easy of its class
manage.

The wild pink geranium is another delightful
very aromatic basket plant, and the little
e Lobelia and the beautiful Torenia asiatica
also amongst those which droop down grace-
y and show their beautiful blue flowers.

In arranging these baskets the grand thing, I
ink, is to give enough drainage. I always put
oken charcoal, covered with a thin layer of
ss, adding afterwards the soil that the plants
quire, and the charcoal occupying a space of
haps 2 inches, a little water generally collects
re. Any one used to watering these baskets
on comes to know by weight if they are dry
wet; and if by any chance one morning the
should seem still moist, the daily watering
ght to be then omitted.

Common black hair-pins are excellent pegs to
for fastening down the runners of creeping
ogs, when we want not to show a quantity of
ks, and for tying up window plants the narrow
k green ribbon often used for book marks is
best and neatest substitute for bass when a
a stripe of it is not found suitable. I have
en tried tying up plants with worsted, but
that holds water too much and is also untidy
looking, and threads of netting silk, though in-
valuable for trainers (on which the plants twine
themselves), are too apt to cut the stems to be
safe for tying.

Any baskets that are to be hung up ought to
be fitted with an inner lining to contain the
roots, and this should be surrounded by some-
thing calculated to prevent over dryness to it.
I do not generally like wire stands for plants;
but when they are used, and when some means is
found of protecting the pots sufficiently, they
may be made really beautiful by pink and white
and blue Ipomœas climbing all about them.
The different varieties of *Quomoclit* I think are
the best to use for this, with the exceedingly
pretty "rubro-cœrulea," which I have often
grown, and consider a charming annual. It will
not, however, bear a great deal of sun, and is
especially injured by the hot summer rays strik-
ing upon the stem or collar when it is exposed.
In placing it in a window box I therefore always
manage to have some plant in front of it to give
a little shelter. Mignionette thus proves a capi-
tal foster nurse to a great many plants.

The wire stand that I had last year was one
of those in steps—three on each side, and a
wide shelf beneath. Very green and spreading
Ipomœas were placed in the lower steps, roses,
or geraniums, or fuchsias, in the others, and two
or three more Ipomœas with mignionette below.
The leaves and tendrils entwined themselves
most gracefully round every wire, and ran round
every edge, while the varied flowers that opened
every morning and closed up at night looked ex-
tremely gay. Each of these pots of climbers
contained several plants—the pots were 32's
and the soil leaf mould. They required gen-
erally very abundant watering at the roots; in-
deed, a day's dryness at any time caused some of
the leaves to assume a yellow and faded look.—
E. A. M.. *in Gardener's Chronicle.*

Domestic.

Approved Domestic Receipts.

GINGERBREADS, PIES, JELLIES, &c.

Soft Molasses Gingerbread.—Mix with a pint of molasses, a teacup of melted butter, a pint of flour, 2 eggs well beaten, spoonful of ginger dissolved in a tumbler of milk, and stir in 2 teaspoonsful of saleratus; add flour to make it stiff as pound cake; bake half an hour.

Hard Gingerbread No 1.—Rub half a pound of butter into a pound of flour, then rub in half a pound of sugar, 2 teaspoonsful ginger, 1 spoonful rose water; mix it well, roll out, bake in flat pans in a moderate oven half an hour.

Hard Gingerbread No. 2.—3½ lbs sugar, 2lbs flour. 3 eggs, half pound butter, 1 teaspoonful saleratus, 2 spoonsful ginger or nutmeg, wet with half cup of milk.

Circle Gingerbread. 2 cups of milk, (sour if you like,) a cup of molasses, 1 of sugar, 1 of butter, 2 eggs, 5 heaping teaspoonsful of saleratus, flour enough to make it stiff as pound cake, essence lemon, and nutmeg.

Hard Gingerbread. 1 cup of butter, 1 of sugar, 3 eggs, 1 nutmeg, or ginger, a small teaspoonful of saleratus dissolved in a little milk; as little flour as will roll it out well.

Alum Gingerbread. 1 cup molasses, 1 of milk, half cup butter, 1 teaspoonful alum, 2 of soda, large spoonful ginger, flour enough to roll out, bake in sheets.

Good Gingerbread. 1 cup molasses, 1 of milk or water, 2 eggs, half cup butter, 1 teaspoonful saleratus, 1 of cream tartar, nutmeg or spice to taste.

Gingerbread.—1 cup sugar, 1 of molasses, half cup of milk, 1 cup butter, 2 eggs, 3½ cups of flour, half teaspoonful of saleratus, ginger to to your taste.

Sugar Gingerbread.—2 cups sugar, 1 of butter, 1 of milk, 1 egg, 1 tablespoonful of ginger, 1 teaspoonful of saleratus, flour enough to roll.

Gingerbread.—2 cups molasses, 1 of butter, 2 eggs, 1 cup sweet milk, 5 cups flour, 2 teaspoonfuls soda, 1 teaspoonful ginger.

Molasses Gingerbread.—1 cup molasses, 1 cup milk, 2 eggs, butter size of an egg, 1 spoonful of saleratus, flour and spice.

Sugar Gingerbread. 1 cup butter, 2 cups sugar, half cup boiling water, tablespoonful ginger, 1 of saleratus.

Muffins. 1 pint of warm water, 1 egg, half cup sugar, half cup of yeast, half teaspoonful saleratus, a little salt, flour enough to make a stiff batter; mix at noon and fry in morning.

Muffins. 4 cups of flour, 2 of milk, 1 egg, 2 tablespoonfuls of sugar, 2 teaspoonfuls cream tartar, 1 of soda; bake in a quick oven.

Muffins. 1 pint of milk, 1 pound of flour, 3 eggs, half cup yeast.

Doughnuts. 2 cups white sugar, 3 eggs, 2 cups milk or water, piece of butter size of an egg, 1 teaspoonful cream tartar, 1 of saleratus, 1 nutmeg, a little allspice.

Doughnuts. 2 cups sugar, 1½ cup milk, 3 eggs, 1 teaspoonful saleratus, piece of butter size of a hen's egg; roll very soft.

Doughnuts. 1 cup of sugar, 1½ of milk, 1 egg, small piece of butter, 2 teaspoonfuls cream tartar, 1 teaspoonful soda, spice to taste.

Doughnuts. 2 cups of sugar, 1 cup butter, 1½ cups sour milk, 5 eggs, half cup sweet milk, one teaspoonful of saleratus.

Buckwheat Cakes. Mix one quart of buckwheat flour with 1 pint of lukewarm milk or water, half cup of yeast, and set it in a warm place to rise. When light, which will be in eight or ten hours, add 1 teaspoonful of salt, and if sour, 1 teaspoonful saleratus dissolved in a little milk; if too thick, thin them with just sufficient cold milk or water; fry in enough to prevent sticking to the pan.

Little Plum Cakes that keep long. 1 p flour, mix with 6 ounces sugar, beat 6 ounces ter to a cream, add 3 eggs well beaten, pound currants, the plums and sugar; be half an hour, then drop the butter on t buttered paper size of a walnut; bake in a oven.

Rye Drop Cake. 1 pint of milk, 3 e tablespoonful sugar, little salt, stir in ry till it is as thick as pan cakes. Bake in b ed cups or saucers half an hour.

Mince Pies. 3 pounds chopped meat suet, 6lbs. chopped apple, 1 lb. raisins, more than 1 quart molasses, more than 1 q cider, 1 cup spices.

Lemon Pie. 2 lemons, 3 crackers, 2 c cups sugar, 1 of water, small piece of bu This will make three medium sized pies.

Lemon Pie No. 1. 4 lemons grate but the rind of two, 3 cups sugar, 3 eggs beaten together will make three pies.

Lemon Pie No. 2. The juice of 1 lem pounded cracker, 1 cup sugar, 2½ cups wat

Lemon Pie No. 3. 1 lemon, 1½ cup su eggs, 2 spoonfuls cream, 1 cup flour.

Lemon Pie. 1 lemon, 2 eggs, 2 spoo cream, 1 spoonful flour, 1½ cups sugar.

Nice Dish for Breakfast. Beat 1 egg, one teaspoonful salt, pour in about two of a pint of water, slice some bread, dip and fry in a little butter. Serve warm.

Brown Bread, or Togus Cake. 3 cup dian meal, 1 of flour, 3 of sweet milk, 1 of milk, half cup molasses, small teaspoonful steam three hours, (bake 20 minutes;) half spoonful of ginger improves it.

Brown Bread. 1 cup sour milk, 3½ c meal, 1 of rye, 1 of molasses, 3 of sweet 1 teaspoonful salt, 1 of saleratus. If large steam 4 hours and bake 2.

Icing for Cake. White of 1 egg, 9 spoonfuls sugar, 1 of starch.

Ginger Snaps. 1 cup butter, 2 of s half cup milk, (sour if you have it,) 1 tea ful ginger, half teaspoonful soda.

Cookies. 1 cup of butter, 1½ of sug eggs, 2½ cups of milk, 1 teaspoonful sale melt butter, put the sugar to it; do not the eggs.

Kisses. Half pound of sugar and the w of four eggs, beat to a froth, mixed and fl ed with rose; put in the oven on a board, ed with white paper, drop with a teaspoo the paper and bake light brown, then slip off with a knife, and stick two together.

Charlotte Russe. Half box gelatine; s ed in 1 coffee cup of milk; cooled, add 1

am, whites of seven eggs, beat to a hard
l cup sugar ; line the mould with sponge
pour in the jelly, set away to cool ; when
l turn on to a flat dish—vanilla.

lian *Cream.* Take 3 pints of milk or
, sweeten it with white sugar, flavor with
a or lemon, add 1 paper of gelatine ; stir
ntly until it boils ; beat well the yolks of
, stir them well into the boiling cream,
into moulds, stand on ice 5 or 6 hours ;
served with cream and sugar.

ad. 3 potatoes, washed clean and put
l quart of water, with half a pint of dry
boil together till the potatoes are done
el and wash ; one third of a cup of salt,
p sugar, 1½ cup flour, mix with the pota-
strain the hops when hot upon the above
in the whole through a colendar, when
arm, add a cupful of yeast, and put to
ter which put down cellar ; to 1 quart of
two-thirds of a cup of yeast is suitable to
read.

ato *Yeast.* Take 6 good sized potatoes,
m in 2 quarts of water ; when well done,
them out and mash them fine. Then put
back into the water, and add a handful of
When well boiled, strain it through a
into a little thickening, a tablespoonful of
a cup of sugar, half cup of salt ; if you
he bread with water a little shortening
prove it ; if you use milk, it is not necess-

Jelly. To one-half of a 25 cent box of
e add 1 pint of cold water, the rind of 1
ent, not grated, juice of 2 lemons ; let it
for an hour and a quarter, take out the
rind and add a little less than 1½ pint of
water, 1¼ lbs. sugar, a good half pint of
then pour into moulds ; straining is hardly
ry ; stiff in 4 or 5 hours.

e *Jelly.* 1 box of gelatine, 1½ pint boil-
ter, 1 pint sugar, 1 stick cinnamon, 1 le-
l pint of wine ; stir the ingredients to-
and then strain it.

rant *Jelly without Boiling.* Squeeze the
s through a thin cloth, take a pound of
to a pound of juice, rub sugar into juice
nds, set it in the sun 2 or 3 days.

rant *Jelly.* Wash the currants, then
them through a thin cloth ; to 1 pint
add 1 pound of sugar ; heat the juice
n put in the sugar and boil about 15
; strain and put in cups.

e *Jelly.* Quarter the best quality of
and stew till soft ; strain out the juice,
to the consistency of molasses, then
it and add as many pounds of crushed
stirring it constantly till the sugar is dis-
; add 1 ounce of extract of lemon, to
pounds of jelly ; when cold set it away
jars ; it will keep good for years.

Crullers. Dissolve a teaspoonful of saleratus in four tablespoonfuls milk, or leave out one spoonful of milk and substitute one of wine ; strain it into half a pint of flour, 4 tablespoonfuls melted butter or lard, and a teaspoonful of salt ; beat 4 eggs with 6 heaping tablespoonfuls of rolled sugar ; work them into the rest of the ingredients, together with a grated nutmeg ; add flour to make them stiff enough to roll out easily—about an inch thick.

Crullers. 4 eggs, 3 cups sugar, butter the size of an egg, 4 large spoons of milk, 1 salt spoonful saleratus, nutmeg or lemon, salt ; roll out hard.

Sauce. 2 eggs well beaten, 9 teaspoonfuls sugar, a little butter and flour ; pour boiling water upon it ; butter and flour together ; sugar and eggs together.—*Maine Farmer.*

Recipes for Hard and Soft Soap.

A correspondent in the *Germantown Telegraph* offers the following recipe as one to be perfectly relied on :

Take ten pounds of soda ash, and dissolve it in twenty gallons of soda water, with twelve pounds of fresh lime and three-fourths of a pound of rosin, by boiling them all half an hour, stirring the while to keep them from setting or burning ; then pour all the contents into a tub to settle, washing your kettle clean. After these contents have settled, take the clear water that comes on the top and put it in the kettle ; now hunt up all your fat and skins till you get about twenty-three pounds—if clear fat not quite so much—put over the fire to boil till all the fat is eaten up ; perhaps it will take two hours, or not nearly so long ; then take fine salt to divide, and add salt till the hard soap comes on the top. It will at first look like froth, and the waste will look very dark in the bottom of the kettle. Pour all out in a tub. I forgot to say, fill up your tub with cold water after taking on the first clear lye, ready to boil your soap froth with the second time ; put two good bucketsfull of this clear lye in the kettle, then with an iron ladle take all this soap froth off the top of the tub and put it in with these two buckets of lye-water, to boil again a few minutes, to make your hard soap clear and nice, adding salt till it separates well. Then pour all over in a tub, to remain undisturbed over night. In the morning you will have over thirty pounds of as white soap as you will wish, for either washing or toilet use, which will not chap the hands at any time. Again, if you would wish a half barrel of nice white soft soap, fill up this said lime tub again with cold water till it settles, then take the hard soap that sticks to the kettle and the pitcher that you dip out with, and three or fourth ladles full of your hard soap, with two pitchers full of this lye-water, and let it boil a

few minutes till it looks like soap, then fill up your kettle nearly full of the lye-water, and let boil a few minutes, then pour it into a vessel, and you will be much pleased with the result of your labor. This soft soap will be thick and solid, and it is very nice for boiling clothes or washing as it makes a very nice froth.

In order to have plenty of soap fat, you must begin at the beginning to save all the skins of meat, and all the fat scraps that come from your table, which in warm weather, should be put in some of this clear lye until you get enough to make some soap. By this course, in an ordinary family, you will always have enough soap without buying.

Killing Rats—A Novel Trap.

The premises of a good many farmers are often infested with rats, and we are often asked for modes of destruction. A resident of Brooklyn is vexed with an increasing family of rats that seem to grow fat on arsenic and rat exterminators. He doesn't like rats, and refers his case to the *Sunday Times*. That journal recommends a trap made as follows:

"Take a mackerel barrel, for instance, and fill it to about one-third its height with water. Then place a log endwise in the water, so that one end of it will just remain above the surface. Make the head of the barrel a little too small to fit, and suspend it by two pins to the inside of the top of the barrel, so it will hang as if on a pivot and easily tip by touching either side. On this head, thus suspended, secure a piece of savory meat. The first rat that scents it, will, to get the meat, leap on the barrel head. The head will tip, or tilt, and precipitate him into the water, and resume its former position. The rat in the water will swim to the log, get on the end of it, and squeal vociferously. His cries will bring other rats, all of whom will be tilted into the water, and all of whom will fight for the only dry spot in it—viz., the end of the log. As only one rat can hold it, the victor will drown all the rest, and can, in the morning be drowned himself. We have seen twenty rats caught in one night by such a trick.

How to Cook Eggs in the Shell.—A correspondent of the *Agriculturist* writes:

One way to cook eggs is to drop them into boiling water, and let them remain there three minutes—the water all the time boiling. This hardens the white next the shell to almost leathery toughness, while within it is still not cooked. Another and preferable mode is, to pour boiling water upon the eggs; let them stand five minutes; pour off this, and add more boiling water, and immediately bring them to the table *in the water*. Those taken out at once will be somewhat cooked through; and those left in five minutes will be "hard boiled," or nearly so, and thus the taste of every one may be suited, and no toughness of the whites be observed.

Veterinary Department.

(Conducted by A. Smith, V. S.)

Sore Shins.

This is a disease affecting both the fore and hind shank bones of horses, and of most common occurrence in race-horses. It arises from inflammation set up in the periosteum or covering of bone, and as a consequence there is an effusion of the lymph between the bone and periosteum also on the surface of this membrane. A diffuse tender swelling rises on the front of the shank bone, by-and-by ulcers form on the skin from which matter freely exudes. The outer surface of the bone dies, shells off and comes away in small pieces, and if recovery takes place new bone forms underneath.

The reason that this disease most commonly occurs in well bred fast young horses, can be accounted for thus:—For instance a young thorough-bred horse is frequently put into training when two years old. Perhaps he may be a weak constitution, and the bones at this period in a growing state, and not sufficiently consolidated and therefore not adapted to the wear and tear to which they are subjected. The consequence is, inflammation is set up, which leads to all those results.

In treating sore shins the great object is to give the animal rest, apply poultices, and administer a dose of laxative medicine. After some time cold applications are useful, and a blister may be applied; but before blisters are had recourse to all inflammation must be subdued.

A Substance to supply the partial loss of Hoof.

(Translated from the French for the Veterinarian.)

Accidental breaches and loss of hoof in a horse being not only unsightly, but also causes which render shoeing unsafe, and prevent the horse from doing his usual work. M. De— has endeavored to discover a substance that will not only conceal these defects, but be of such solidity as to bear the nailing on of the shoe, and of such consistency that it can be moulded into shape, so as to be easily applied to the part, while at the same time it will not be affected by exposure to moisture. Of all the substances the author experimented with, gutta percha was the only one which offered any chance of success. When the fabrication of gutta percha soles were introduced, the author conceived the idea that means similar to those employed to fix them to boots and shoes would be equally efficacious for the purpose of attaching the material to the horses' hoof, but the experiment proved a failure, although he was assisted by M. Ledow, a celebrated manufacturer of boots and shoes.

Notwithstanding all the care and trouble they ... they could not obtain the slightest adher... between the substance and the hoof. After ...eral failures it was found that an admixture ... gutta percha and gum ammoniac offered some ...ce of success. Two parts of gutta percha ...th one part of gum ammoniac, melted together ...r a slow fire, and well incorporated by fre... ...en stirring was found an excellent agent for ...r the required purpose.

To apply it the hoof should be perfectly dry ...d free from grease. The composition after ...ng warmed is to be applied with a spatula, ...d smoothed by a heated piece of iron. M. ...days adduces several instances in which this ...bstance has been applied to horses, which ...e been able to work when they otherwise ...uld not have done.

Pleuro-Penumonia.

...e find the following address of the Massachu...setts State Cattle Commissioners on the sub...ject in a late number of the *Boston Cultiva...tor.*

To the Farmers of Massachusetts.—The dis...e termed pleuro pneumonia has appeared in ...eral herds of cattle in the eastern portion of ... State during the present season. The ...te Cattle Commissioners have adopted the ...st effective measures to prevent its dissemin...on. All cattle that have been exposed, with ... exception of four, have been destroyed. ...e Commissioners have been forced to this ...se of action by the logic of facts. These ...e been scrutinized with the utmost care and ...stance. No opportunities have been suffered ...pass without improvement, and no efforts ...e been regarded as vain which promised to ...w light upon the origin and characteristics of ... disease. Two of the three Commissioners ...menced their labours with a feeling that by ...ful inquiry and by through examination, ...y should be enabled to demonstrate to the ...ld the expediency of the action of the for... Board of Commissioners, as well as the ...eedlessness of the apprehensions of many in ...ard to the fatal character of the disease. ... number of persons had published treatises ...ove that pleuro-pneumonia was generated ...oorly ventilated barns, and was not infec... The facts as developed to the Commis...rs, have constrained them to discard their ... impressions, and to deny the positions of ... various writers before alluded to. They ...e, moreover, throughly convinced them...ves that the worst apprehensions in regard to ...isease are well founded and wise. They have ... the disease prevailing in barns of every ...ty of structure, and of all degrees of ventil...n, and even in the open fields. They have ...t it from root to branches, whither it flows ...rely as the sap flows in trees. They do ...find a single case outside of the line of trans... mission. As surely as every rivulet tends towards the sea, does each case connect itself with its fountain head. The conclusion is irresistible, that if any disease be infectious this one is. In Massachusetts the disease was introduced by four Dutch cattle imported by Mr. Chenery, of Belmont.

But it is said the same disease exists in New York, New Jersey and Pennsylvania. The Commissioners determined to see for themselves. They went to New Jersey. They were met in Bordentown by a veterinary surgeon of that place, Dr. Jennings, by a large stock-breeder and noble-hearted farmer, Adolph Maillard, and by others, members of a Committee of the Agricultural Societies. They visited herds which had been infected with disease; found some where a large portion had died. They killed and examined a sick cow, and identified the disease with that in Massachusetts. In all instances where it existed, it had been introduced by cattle brought from Philadelphia. The apprehensions of the farmers in that region had been aroused, and the Commissioners found that a species of isolation had been resorted to; but this was far from being thorough and efficient. Cattle were allowed on the highway, even in some of the infected districts. Very erroneous impressions existed in regard to the character of the disease, even among those who were called to treat it. Attention was given only to such animals as had come down with disease, and attempts were made to treat these by various remedial processes, and those which lived and recovered their vital energie were regarded as safe—an error, than which none more fatal exists. It has been demonstrated to the Commissioners for Massachusetts, that the last state of this disease is more pernicious than the first,—in other words, that recovery is worse than death. We say to the farmers of Massachusetts, when the disease appears in your herds, separate the sick from the well, and both from all other cattle; fatten the cattle, if you can, for beef, and kill all of them. This is the only safe and effective remedy.

The Commissioners followed the trail of the Bordentown disease to Philadelphia. There the disease had committed great ravages; one man was reported as having lost his entire herd of sixty cattle. Treatment was here resorted to as in Bordentown, but the disease had evidently become an *institution*, and was looked upon with apathy by all classes. They neither looked for its origin nor contemplated its future. Hence, as in England, many regarded the disease very much as they do those diseases which affect various kinds of fruit trees; as an evil to be endured, which will have its course and then disappear. In the mean time they must drink the milk and eat the meat of animals whose inflamed or putrid lungs cannot supply the due and healthy proportion of oxygen to the blood.

From Philadelphia the Commissioners proceeded to Brooklyn, N. York, to visit the herds

said to be infected with a milk-disease similar in its character to the pleuro-pneumonia of Massachusetts. They went directly to Skillman Street, to the place described by Frank Leslie in his illustrated paper. Near the cattle-sheds were several cows apparently dying from disease whose symptoms did not differ from those of cattle infected with pleuro-pneumonia. Leslie's description had impressed us with the idea that the cows in these places had been fed with offal collected from the city, and that in consequence, and by reason of bad ventilation, the disease had been there generated. This opinion seems to have been endorsed by the surgeons who had visited those places. They had entirely misrepresented the state of the case. By the kindness and favor of Messrs. Wilson and Fletcher, distillers, we were permitted to examine the cattle of various milk-dairies. Mr. Fletcher, who, by the way, is a Massachusetts man and every inch a gentleman, conducted us through the cattle sheds and explained to us the mode of feeding. The "swill," about which so much is said, proves to be nothing more or less than the distillery grains, so highly prized in this region for feeding cattle. In addition to these, more hay of the very best quality is fed out than is generally fed by the farmers of Massachuetts.

It was evident to us that no disease was there generated. Mr. Fletcher kindly procured for us a sick cow, which was killed and examined, and proved to be affected with the genuine, infectious pleuro-pneumonia. One man had lost his whole herd of forty by the disease. Whence did it come? The information was voluntarily proffered. It was brought over by a cow in a ship from England about the year 1850. This cow was taken on board to supply milk, and after the arrival of the ship, was sold to a dairyman near the South Ferry in Brooklyn. This cow had the veritable pleuro pneumonia, which she disseminated and which previously had never been known there. The disease spread with great rapidity, annually taking off more than fifteen per cent. of the cattle. The practice of inoculation was resorted to but without beneficial results. The value of the milk business in that section is nearly destroyed. The cattle that do not die are fattened and killed for beef, which confines the disease, happily, to that region.

Farmers of Massachusetts! be not beguiled into a false security. By efficient regulations and prompt action, this fatal disease may be excluded from the limits of our State. But in this matter, the price of exemption is eternal vigilance. Be on your guard; keep all unknown and suspected cattle far from your herds. See that no stray cows are allowed to wander in your streets, and even take care to know the state of each herd whence come cows to be served by your bulls. Especially be cautious as to the cattle sent to a distance in the country to be pastured, and do not allow them to be returned to your farm in the fall without a c bill of health. Be not afraid of being tho "fussy," and in particular, place no reli upon the theories of inexperienced or prej ed parties who may try and persuade you this disease is not infectious, or that ani which have once had it and have recovered safe companions for other cattle. Total ab ence from all that can contaminate is the safety. This is our faith, the result of our s and experience.

Signed, James Ritchie, D. F. Thayer, H L. Sabine,—Cattle Commissioners.

Boston, June 3, 1862.

Runaway Horses---A New Check.

A great many patents have been taken c late years for stopping runaway horses, a almost every saddler's shop we see engra of apparatus devised to squeeze a horse's th or nose, or to catch up one leg and throw down. But to all machinery it is objected if a horse is really running away at a great he cannot be stopped suddenly by violent r without considerable risk to man and beast very ingenious invention, operating upon horse's movements by moral force alone, been recently brought out by M. Leveq French officer of the Cavalry School of Sa His plan will assuredly not be approved c those who object altogether to the use of e s, for it is but an extension of the blinke tem. The partizans of blinkers, however horses in harness, are, up to the present ti an enormous majority. The leading feat M. Leveque's invention is to induce the ho his own natural instincts, and without any chanical force, to hold his head in such a tion that the bit shall act properly upo mouth. Inside of each blinker he places a of leather fan, called *lunette d'arret*, opens or shuts at pleasure by means of a rein. When developed, it only partially the horse, and it is in the natural action horse to avail himself of the sight left hi the virtue of the system consists. If he t up his head to run away, and the lunette is ed, he can see nothing but the sky, and he inevitably brings his head down to the p position in order that he may see straight him. If, on the contrary, the habit of the be to escape the action of the bit by curri neck till the chin almost touches his brea apparatus may be so adjusted as to preve from seeing anything but the ground, a naturally raises his head. Thus the lunette both as a bearing-reign and a martingale, more certainly, and without the dangers a convenience of those contrivances. For addicted to shying, the apparatus is partic useful. As soon as the horse pricks his shy at any object lying in the road, the dri

y to raise the lunette, and the animal, seeing
the distant horizon, and nothing immediate-
bout him, will go by or even right through
thing which frightened him without taking
least notice. At an exhibition on the
mps de Mars in Paris, horses went unhesi-
gly through the flames and smoke of lighted
s of straw, which a moment before, when
lunettes were folded, they could not be made
pproach.

he apparatus is intended chiefly for horses in
ess, but there is a form of it adopted for
lehorses. Of course a hard-mouthed horse
not unfailingly be prevented from running
merely by the use of this lunette, but a
deal is done towards diminishing the dan-
when his head is got into a proper position,
ause he will then surely be pulled up before
, and in the meanwhile the driver can guide
—*Ann. of Scientific Discovery.*

Cure for a Jibing Horse.

.R S., writing to *Wilkes' Spirit* from Pitts-
, Pa., thus describes an occurrence to which
as witness:

noticed a novel cure for a fit of "balks" ap-
to a horse yesterday. A fine iron gray
, about 16 or 17 hands high, and weighing
bly 1,200 or 1,300 pounds, with a fine,
open forehead and bright, clear eyes,
ing no signs of vice or stubbornness, was
ng up street harnessed to a light, open, ex-
wagon, and at a corner suddenly balked,
could not be persuaded to move: his driver
tried the usual remedy of careless, brutal
, viz., a tremendous flogging with a bar-
tave. The poor animal evidently could not
rstand the operation, and showed no sign of
, but stood still, with his head turned back,
his ears put forward, starting at each blow,
not rearing or kicking. The brute who was
ng him kept up his cruelty for at least ten
tes, until a bystander stepped forward and
ed to start him, and the drive rather surlily
uted. The gentleman went up to the horse
quieted him by patting and soothing, and
stooped down, and gathering a handful of
from the roadway, thrust it into the horse's
th, and then taking him by the head, the
, whom coaxing, pounding, and flogging
to move, stepped off as quietly and docile
lamb The cure was entirely new to me,
thought it quite a valuable one. The al-
universal mode would have been to flog,
ammer, until either the two-legged or four-
brute got tired.

Artificial Hoofs for Horses.

is impossible to calculate the various useful
to which gutta-percha may be applied.
of the most ingenious applications re-
cently made of this valuable substance, is that of making artificial hoofs for horses' feet. Many ingenious devices have been resorted to, to attain this result, but the adoption of gutta percha will, doubtless, supersede all others, as soon as its efficacy becomes recognized. What is required by the veterinary surgeon, is a substance possessing the consistence of horn, to retain the nails of the shoe; that will readily soften by heat, so as to mould itself to the required form; that it will be indissoluble in water, seeing that the horse's hoof is generally in contact with moisture; and, lastly that it be capable of uniting perfectly with the hoof. No known substance possesses all these qualities except gutta percha. For the purpose under consideration it is prepared by being cut into fragments the size of a nut and softened in hot water; the pieces are then mixed with half their weight of powdered sal-ammoniac, and melted together in a tinned saucepan over a gentle fire, keeping the mass well stirred; the mixture should assume a chocolate color. When required for use it should be melted in a glue pot; the surface of the hoof must be scraped clean, and the gutta percha applied as required. The spplication may be facilitated by the use of a glazier's knife warmed, by which also the surface of the artificial hoof may be smoothed and polished. In this manner many a valuable horse may be rendered useful, which, otherwise, would only remain fit for slaughter. On the score of humanity, also, this application of gutta percha is to be welcomed.—*Ann. of Scientific Discovery.*

Miscellaneous.

About Keeping Goats.

Many persons who cannot conveniently keep a cow would find it profitable to keep one or two common goats. They require but little care, may be supported at small cost, and yield a good supply of milk of superior quality. A goat, well kept, will yield from three pints to two quarts of milk daily, for a large part of the year, the quantity diminishing in the cold weather as the time for kidding approaches. It is much cheaper to keep a goat in town than to pay a milkman, and families everywhere will find the milk very nutritive and wholesome, and especially good for children in most cases. An English writer estimates that two goats are equal to a small Shetland cow.

Goats may be very cheaply supported. If picketted in a pasture in warm weather, or allowed to be at large, they will pick up their own living, eating readily almost every sort of green thing. Grass, weeds, twigs of bushes, vegetables, fruits, nearly everything that grows, will suit their taste. They are fond of dry leaves, corn-stalks, horse-chestnuts, and even eat poisonous plants with impunity. If con-

fined in a yard, or in closer quarters, they will take the scraps and waste of the kitchen—Some persons allow them to feed out of the swill-pail, but this practice cannot be commended. Cobbett says, in his "Cottage Economy:"

"When I was in the army in New Brunswick, where, be it observed, the snow lies on the ground seven months in the year, there were many goats that belonged to the regiment, and that went about with it on shipboard and everywhere else. Some of them had gone through nearly the whole of the American war. We never fed them. In summer they picked about wherever they could find grass; and in winter, they lived on cabbage-leaves, potato-peelings, and other things flung out of the soldiers' rooms and huts. One of these goats belonged to me, and on an average throughout the year, she gave me more than three half-pints of milk a day. I used to have the kid killed when a few days old; and, for some time, the goat would give nearly, or quite, two quarts of milk a day. She was seldom dry more than three weeks in the year.

The same writer adds, that "goats will pick peelings out of the kennel and eat them. They will eat mouldy bread or biscuit; fusty hay and rotten straw; furze-bushes, heath-thistles and, indeed, what will they not eat, when they will make a hearty meal on paper, brown or white, printed on or not printed on, and give milk all the while? I may add to Cobbett's list of odd delicacies by stating that my own goats have gnawed smooth the rough sides of my pile of hemlock bark, and have cleaned out all the powder-post from the sills of the woodshed!

But goats like most other animals, prefer clean food, and will not devour all the abovementioned things if a supply of more desirable edibles are at hand. In the winter, it is well to lay in a few hundred pounds of hay—second crop is preferable—a few carrots and some fine feed. Indian meal is sometimes given to them, but it is too drying. They need water occasionally, but do not drink much.

The goat is one of the most hardy of our domestic animals, enduring easily all extremes of heat and cold. It needs the shelter of a shed or barn in wintry and stormy weather, and will lie anywhere on the floor, preferring a board to a bed. Its natural activity and nimbleness, together with a capricious disposition, fit this creature to enjoy a state of freedom. When roaming wild, on its native mountains, it loves to climb the most dangerous and inaccessible places, clinging on the verge of precipices by its wide-spreading and sharp-edged hoofs, and defying the pursuit of the hunter. This inclination it manifests in domestic life, by scaling sheds, walls, wood-piles, &c., with great agility. But the goat will bear confinement extremely well, continuing in good health and yielding the usual quantity of milk. On shipboard it is healthier than any other domestic animal, and is highly valued on account of its sportiveness, its fa- ity, and its ability to give milk upon such food as is there obtainable.

The milk of the female goat is sweet, and nourishing. It has the body and smoo of cream, is viscid and strengthening, little ductive of oil, but abundant in the matt cheese. In tea and coffee it is far superi cows' milk, and will go at least as 'ar ag imparting color and flavor. In all kinds of ing it is equally excellent. It has no p culi unpleasant taste and is not affected by wha creature eats. Onion tops have been give the females, by way of experiment, witho parting an oniony taste to the milk. I co two pints of goat's milk to be as good to a fa in every way, as three pints of cows' milk.

For most feeble and sickly children, as as those in health, it is invaluable. It doe tend to form curds in the stomach, as cows' does, and is therefore frequently prescribe physicians in cases of extreme weakness. sold for this purpose in Salem at twenty-five a quart. Invalids abroad often resort to mountainous districts of Ireland and Sco to derive benefit from the use of this a which is there known as "goats' whey." Colman noticed that the Irish mountain about the Lake of Killarney, kept from o thirty goats apiece, for the sake of the to to that delightful region. In Spain and P gal, goats are abundant, and in Lisbon, milk is more commonly used than that of c The goats in those countries are driven int cities in the morning, and milked at the doo the houses. The district in France most brated for goats is the Canton Mont d'Or, w in a space not exceeding two leagues (six i in diameter, upwards of eleven thousand are chiefly ao supply the city of Lyons with ch There are several other interesting partic relating to the goat, which I will give in an paper.

G. L. Streeter.

—*New England Farmer.*

Salem, Jan., 1862.

Hints to Fowl Keepers.—B. S. H. giv the *Prairie Farmer* his method of kee fowls, thus: "The way I keep my hens l and healthy, is in the first place, by giving plenty of corn and oats, also some buck Last fall I commenced throwing out ashes my stoves in a pile near my yard, so as to with compost in the spring. I soon dis ered my hens came to the pile every mo as soon as light, (cold or heat,) through the ter. They would pick up and eat coal the size of a wheat kernel to a thimble. hens commenced laying in November, and laid ever since. They are last harvest's c ens. If they cannot have access to wood coal, pick up and burn all the bones you find and pound them fine, and place them they can have easy access to them."

Editorial Notices, &c.

...TERS FROM CANADA, with illustrations. Tenth ..., printed at the "Morning Chronicle" Office, ...

...e are indebted to the author for a copy of ... interesting and useful little work. It is of ...ld to convey a great deal of useful informa... to persons in the better classes in the British ...s, thinking of emigrating somewhere; and ...should be glad to see it distributed extensive... ...th that object.

...NUAL OF AGRICULTURE, for the School, the ... and the Fire-side, by George B. Emerson, Charles L. Flint. Boston: Swan, Brewer, & ..., 1862.

...e have received from the publisher a copy of ...w edition of this work. Having noticed it ...a former occasion, (December 1861), we will ...ly repeat that we consider it admirably ...ed for the use of Schools, and a valuable ...book to all interested in rural affairs.

...PORT OF THE MASSACHUSETTS BOARD OF AGRI... TURE.

...e are in possession of the Ninth Annual ...rt of the Secretary of the Massachusetts ...d of Agriculture, together with Reports of ...ittees appointed to visit the County Soci..., with Appendix, &c., for 1861. This is a ...domely got up volume, and the Secretary of Board, Mr. C. L. Flint, who is known as the ...or of several able treatises on agricultural ...jects, has embodied in it much useful and in...ding matter, amongst which we may mention ...port on Cattle Breeding and Feeding, a Re... on the Wastes of the Farm, a Report of ...mittee on Wheat Culture, a Report on the ...e Animals of the State, &c., &c.

Contents of this Number.

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