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Vol. V. No. 17.

TORONTO, CANADA, SEPTEMBER 1, 1868.

POSTAGE FREE.

The Month.



SEPTEMBER

is one of the pleasantest months of the year. As June is a delightful compound of spring and summer, so September is an agreeable mixture of summer and autumn. We have mid-day heat, but it is tempered by cool nights. Indeed, some time this month, Jack Frost may be expected to appear on the scene, committing his first depredations on our melon, tomato, and grape vines, blanching the corn leaves, and putting the first faint hues of loveliness on the forest leaves. Summer will soon abdicate the throne, and after a brief October interregnum, Winter will be crowned king. On all the beauty and life of nature may now be clearly read the inevitable doom, "PASSING AWAY."

The mean temperatures for September, at the prominent Canadian points enumerated during the previous months of the year, are as follows. —

Stratford.....	53° 69'
Hamilton.....	55° 00'
Barris.....	54° 31'
Toronto.....	56° 29'
Belleville.....	56° 29'
Montreal.....	61° 46'
Quebec.....	51 40
St John N B.....	55° 56'
Hallfax.....	53° 00'

It has been well remarked that "when autumn days come Nature, like a retired merchant, changes its manner from thrift and bustling industry to languid leisure and ostentatious luxury." But the farmer cannot yet play the retired merchant, though the air is deliciously restful, and the scenery suggestive of repose. The hurry of harvest is over, but not until winter fairly sets in can the busy farmer think of holiday. Chief among the duties of this month is the sowing of fall wheat. This crop is not now so

widely grown as it formerly was, owing to the many uncertainties and disappointments that have attended it of late years. It is a question worth considering, whether it is not falling too much into disuse. In view of the superior quality and higher value of winter wheat, is it not wise to sow it, even though some risk is run of failure? The loss of seed is all that is hazarded, for the preparation of the ground is so much clear gain even if it is found needful ultimately to sow spring wheat. If our farms had not been so absurdly cleared of everything in the shape of a green tree if protective belts of timber had been left at proper intervals, one great cause of the failure of this important crop would never have existed. In the unsheltered condition of our grain fields, and our exposure to drought in summer, and bleak winds in winter we are suffering the pains and penalties resulting from the wholesale and inconsiderate destruction of our forests. By all means have the patch of winter wheat. And if there be a field so situated as to be a protected nook, shielded by the woods from bleak, wintry winds, let that be devoted to this crop. It will pay to put land in the best order for fall wheat. It should be well enriched and made as mellow as possible. The best of seed should be got, carefully cleaned from all admixture of weeds or other grains, brined to destroy smut, and put in with a drill *by all means*. All grain crops do best drilled in, and it is time broadcast sowing were altogether abandoned, but there is no crop that shows the advantage of the drill as does fall wheat. If the land is to be seeded down with timothy, it is better to defer that operation a fortnight later, than to sow the grass seed with the wheat. Clover seeding should be attended to as early as possible the ensuing spring. Fall ploughing is an operation that should not be neglected, and after the seeding for winter crops is finished should be continued as long as the state of the weather will permit.

Various other farm operations are in order this month. Not the least important is the care of fattening animals. It is a great mistake to defer feeding them for the butcher too late in the season. They improve in condition, if well fed, much more quickly in early fall than when winter sets in. This applies especially to hogs. They should be penned early, their styes kept scrupulously clean, and their food given regularly and abundantly. "Never," says the *Illustrated Register*, "keep them waiting for food, never let them squeal off their flesh." When we have the usual downpour of fall rain, September is a good month for butter-making. The winter supply should now be laid down, if it has not been already done. Corn must be harvested this month, and properly cared, the stalks will make excellent winter fodder. This is a source of fodder supply which is too little thought of by the generality of Canadian farmers. Many odd jobs lie in wait to occupy spare

days and hours at this time of year. Meadows may be top-dressed, if there be well-rotted manure to do it with. Happy is the farmer who, notwithstanding the demands of the turnip field and fall wheat patch, has choice dung to spare for the meadow. It protects the grass crowns, and affords a cherishing mulch, while it stimulates an early and vigorous growth, when spring comes. Grabbing up lishes and briars, exterminating thistles to be found here and there in pastures, rooting out mulloins and other weeds that disfigure the fence corners and road-sides, draining swamps, if the weather be sufficiently dry, clearing stones off pasture lots and fallows, preparing root cellars for being stored, picking out weeds from among turnips, to prevent their going to seed, fixing up cattle-sheds, repairing fences, are not these "chores" enough to show that there need not be an idle minute on the farm, betwixt this and the setting in of winter?

September is the month during which most of the Agricultural Exhibitions are held. It should never be deemed lost time, wasted money, or mere holiday-keeping to attend these. Much useful information may be obtained at such places, that is, provided those who go keep their eyes and ears open. "Eyes and no eyes," might be the title of a descriptive account of the manner in which two classes of persons, the observant and unobservant, demean themselves at shows. An enquiring mind will find enough to engage its best attention, and waken its fullest energies on such occasions, while a dull, sleepy mind will go and come like a door on its hinges. These exhibitions do much to keep the spirit of improvement alive, and are well worthy of encouragement and patronage from all.

Beyond the pleasant work of in-gathering, and the ceaseless fight with weeds, there is not much to do in the garden this month. Strawberry plants may be set out, and with careful tillage, weeding and watering, will yield moderately next spring. Land for new gardens or orchards may be got ready for spring operations by thorough ploughing, manuring, and mellowing. We prefer to plant both fruit and shade trees in the spring, though fall-planting has its advocates.

The apiary will need some attention in September. By the middle of the month the honey harvest will be quite over, and all surplus boxes not yet removed should now be taken off. Late or small swarms should be put together. One strong stock is better than two or three weak ones. Generally speaking, it is poor policy to feed bees, but if it must be done, now is the time, instead of disturbing them in winter. Watch against robbing, and if there are signs of it, contract the entrance to the hive, so that only a bee or two can pass at a time. Queenless stocks should either be joined to others, or supplied with queens. Look out sharply for the moth-miller.

The Field.

Irrigation.

The artificial irrigation of land has been practised from time immemorial, and is in some countries absolutely indispensable to successful agriculture. The ends sought by the operation are both the supply of requisite moisture in countries or seasons of deficient rainfall, and the addition to the soil of rich alluvial deposit left by the overflow and subsequent draining of river water. The most costly works have been constructed to effect the desired object; but in favourable situations the end has sometimes been attained by comparatively simple and inexpensive means. It is usually along the course of rivers only that this method of watering has been adopted, though in some instances water had been conducted for the purpose to a considerable distance, artificially raised above its natural level, and stored in ample reservoirs for the purpose of irrigating otherwise arid and sterile land. Most frequently fields thus irrigated have been sown to grass, and called water meadows; but in many countries the same plan of operations has been adapted to arable land, and water is thus regularly supplied to corn crops, being conducted over the ground between the ridges or drills of the growing grain. Great advantages have thus been secured, and the expense, however great, has been well repaid by the increased productiveness of the land.

Most of the water meadows in Britain are met with in Gloucestershire, Wiltshire and Dumfriesshire. In the first-named county a striking instance of the benefit derived from the process was afforded in the following case: A meadow of eight acres, in South Cerney was thus artificially watered, and the ordinary yield, even in dry seasons, is thus stated. The land was untouched till the end of April, when it was let to be fed for five weeks by stock, as follows: 167 sheep, 8 cows, and 4 colts. After this the grass was allowed to grow, and fifteen tons of hay were cut; and subsequently the after-feed, valued at 15 shillings the acre, was again eaten off by stock. The profit was estimated at nearly £10 the acre. This land, which is now in the possession of a miller, was formerly occupied by a farmer, between whom and the miller some disagreement arose, in consequence of which the farmer was deprived of the use of the water. During that season, which was unfortunately dry, the whole produce of the eight acres was only three tons of hay. On the estate of the Duke of Bedford, there is a water meadow of nine acres, the yield of which is thus given: During March 240 sheep fed on the grass for three weeks; in June, eighteen tons of hay were cut from the field; in August, thirteen and a-half tons were again mown; and in September, during the whole month, there was pasture for eighty sheep. The *Farmer* (Scottish), of the 5th August, contains an illustration of the value of artificial irrigation, in the following extract:—

"Robert Malabar, of Newcastle, in this county, describes the poor state of the grass crops on the land adjoining the Trent, which he says might have been improved by irrigation, and he gives an instance:—'A few years ago I designed and directed a diversion of a portion of the river Trent over nearly twenty acres of land, which was then partly a bed of rushes, &c., and on the whole worth about 20s. an acre to rent. It is now free from rushes, and affords a bulk of early spring eating, having this year mainly enabled the tenant to feed the lambs from 100 ewes till the latter end of May, and has since produced about two tons of hay per acre—(this may be considered an excess over the original produce, as the spring eating and after-math are now more valuable than the year's produce was ere the improvement

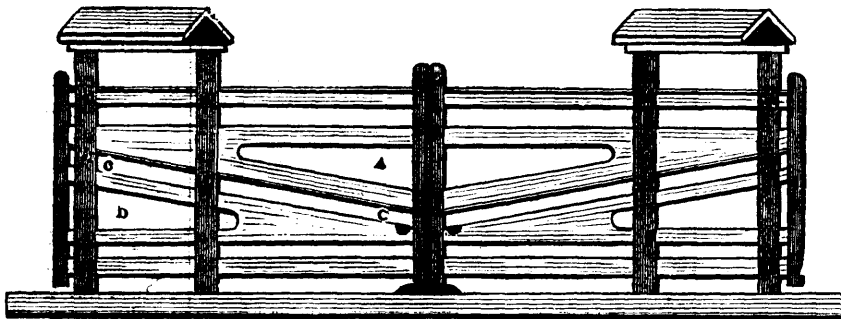
was made)—which is now safe in the stack, and the tenant can apply the stream at once again if he chooses. The rental is now 60s. per acre. Thus, having seen the enriching capabilities of the Trent stream in this instance, I can see no good reason why a similar improvement might not be more generally made on the lands through which the river passes.'"

There is another very important application of irrigation which has quite recently received special attention, namely, the utilization by its means of the sewage of towns, which are thus emptied of what is noxious and pestilential to the residents, while land in the vicinity is at the same time vastly enriched.

The subject is one which may well engage the attention of thoughtful and practical men in this country, and is especially pressed upon the attention of agriculturists by the drought of the present season, indeed, we may almost say, by the yearly recurring drought of the country. It is beset, we admit, by difficulties of no trifling character, but in this age of ingenuity and enterprise these are not surely insurmountable; and while we would place our chief reliance on deeper cultivation, subsoiling, and underdraining, we do not think the subject of irrigation should be altogether ignored or neglected.

Lewis' Incline or Self-closing Gate.

At the last Provincial Exhibition Mr. Lewis exhibited a number of gates, and among those that received the commendation of the judges was the incline gate represented in the accompanying illustration, which will be readily understood by aid of the maker's own description as follows:—The cut



shows the side or front elevation of gate. It is made to slide on rollers placed between the upright frames and in the opening C. C. The gate is made in two parts, consequently this description of the left hand gate applies equally to the other half.

The top and bottom rails are made in the ordinary way, but the middle part of the gate is made by cutting a board anglewise. The board should be 10 feet long and 17½ inches wide, and is cut from 3½ inches down from the upper edge at one end, and 3½ inches up at the other end. This will form an incline of about one inch to the foot. The pieces when cut are then separated parallel from each other about 6 inches, which will admit of a batten, 1 inch thick and 3 inches wide, being nailed on the lower edge of the upper board, and of a 5 inch roller being inserted for the gate to work on. There are two rollers to each gate, there being one between each pair of posts, and in a line with the opening C. C. To lighten the appearance of the gate, tapering pieces are taken out of the wide ends of the centre-boards, as at D and A. It is very simply made, the battens being all scored into the uprights, and an inch batten is nailed on the face, thus dispensing with morticing.

The gate is made to close itself. A person passing through would simply push it open sufficiently to pass, and the gate will close after him spontaneously. If, however, it is required to open to the full width, to let a vehicle through, it is only necessary to push it to its full extent, when it will stop of its own accord.

The following are the chief advantages claimed for this invention. It cannot be left open by children or careless persons, and therefore is particularly

adapted to dangerous places, or where it is absolutely necessary that the gate should be kept closed. Again, it lifts itself out of the snow in the winter, and further, it cannot easily get out of repair; as it does not swing out in the way, occupies no more space than merely its thickness, and even that will be close to a wall or fence, it takes but little room in a yard or enclosure of any kind. The hangings are cheap and the gate of good appearance.

Many of those gates are being erected in the city of Kingston, and in the counties of Lennox and Addington, and it will be on exhibition at the approaching Provincial Show in Quebec, and most probably also at Hamilton, where parties will have an opportunity of inspecting it and judging for themselves.

We direct attention to Mr. Lewis' advertisement in the present issue.

Soules Wheat.

To the Editor of THE CANADA FARMER:

SIR,—In your last number you notice having received a sample of very fine wheat from Mr. Samuel Berriman, of Stamford. And, from Mr. Berriman's remarks, the inference would be naturally drawn that the Soules wheat was, regardless of the midge, by far more profitable to raise than either the Mediterranean or Midge-proof. Mr. B. may be right so far as his own farm is concerned, which he describes as "a light sandy soil with a subsoil of gravel over one hundred feet deep." I know other localities where the Queenston limestone comes near the surface and forms a natural under-drainage, where they have continued

to raise the Soules wheat with success. But what might apply to these exceptionally favoured localities will not form a rule for those not enjoying the same natural or artificial advantages of underdrainage. And I know from sad experience, that although I can raise straw six feet high and heads six inches long, since the advent of the midge the raising of the Soules wheat has been a decided failure with me, one fine crop of straw on fifty acres not paying for threshing. I know of some farmers in this neighborhood who persisted in raising Soules wheat until it nearly ran them ashore, which they richly deserved for continuing to propagate a pest in the country.

I do not think that Mr. B's comparison in the yield between the red and white wheat is quite right during the present reign of the midge. My two adjoining neighbours have threshed their crops, the one Mediterranean and the other Midge-proof, and in either case the yield was thirty-three bushels to the acre; had it been Soules, and no midge, I should have judged the yield would have been forty bushels per acre. And as regards the price, Mr. Berriman says that when red is \$1.30 white is worth \$1.75, which will not agree with the trade reports, which generally rate red the same as spring wheat, about 12½ cents lower than white. I have made the above remarks for fear that some not possessing the advantages of Mr. B. might be induced to follow his example to their loss.

R. N. BALL.

Holmehurst, August 10, 1868.

Salt.—Phosphoric Acid in Ashes.

To the Editor of THE CANADA FARMER:

SIR,—In your number of July 15th, I notice an extract from Johnstone's Lectures on Agricultural Chemistry on the value of salt as a manure. Some of our farmers in this section of the Province of Quebec have been using it latterly with great benefit to their grain crops, and in conjunction with animal manures there can be no doubt of its good effects, especially on dry soils.

From the same work I extract the analysis of the insoluble matter of birch-wood ashes, which is as follows.

Silica	5 50
Lime	32 20
Magnesia	3 00
Oxide of Iron	50
Oxide of Manganese	3 50
Phosphoric Acid	4 30
Carbonic Acid	31 00
Carbon	100 00

For my own satisfaction I made some experiments to test the quantity of lime present in the ashes of the birch, and found the above substantially correct. The presence of phosphoric acid would show the value of these ashes as a manure for wheat, for Professor Dawson, in an address delivered in Montreal in the beginning of this year, conclusively showed how absolutely necessary to man's health and well-being it was that a certain quantity of this substance should be found in the soil. If it requires, as he then showed, but four tenths of one per cent. to supply wheat with the necessary quantity of phosphoric acid, here is at once a means, too often utterly wasted, of restoring to the soil a part of what has been extracted from it. The unleached ashes of course, from not being deprived of their potash, are more valuable than the leached, of which the above is the analysis.

Trusting the above may be of use to some of your readers, I forward it for insertion, if you think it worthy of a place in your columns.

"GOSFORD."

August 6th, 1868.

Thin Sowing.—Have you tried it?

Do not, pray do so, especially if you are a lover of *£ s d*. No man should venture to say that such a thing will not answer, unless he can prove it has failed. A mere supposition or imagining in such matters has no value whatever. I have often brought color into the cheeks of agriculturists who stated positively that thin sowing would not answer, by mildly asking whether they had ever tried it?

There is nothing more easy than to try (as I have done) half an acre or an acre with a diminished quantity of seed, so as to deduce a comparative result. After some fifteen years of such experiments I have come to the conclusion that thick sowing in wheat, barley, and oats, not only wastes much seed, but inflicts a much heavier loss by preventing the full development of the plant, and thus greatly diminishing the crop in quantity and lessening its quality.

Farmers quite comprehend the necessity for giving ample room for the growth of their root crops, but it does not appear to me that they perfectly understand the nature of the wheat and other grain plants. I have heard many say that they sow thick to prevent tillering and to smother the weeds. Although I do not recommend a general sowing of so small a quantity as a peck an acre, I find that it produces an ample and superior crop, and it especially illustrates the natural habit of our grain plants, as may be now seen on half an acre in one of my wheat fields, the rest of the field, right and left, being a splendid crop, from one bushel per acre my usual quantity. Both thick and thin were sown, or rather drilled and dibbled, on the 20th November, which would be naturally considered much too late for a peck per acre. Well, up it came, a single stem or hodkin from each dibble hole, and we could only see that there was any plant by placing our heads low to the ground and taking a horizontal view. In fact, it looked like a bare fallow from November to April, the rest of the field (one bushel per acre) looking thick and luxuriant.

In April, and early in May, it still looked thin, but the original *boussa* gradually surrounded itself with from thirty to fifty other juvenile hodkins, shooting out horizontally. Well might the able and amusing correspondent exclaim, "Where can the wheat have come from?" Now (on the 20th June) the half acre strip of fallow has become a fine standing crop of wheat, with ears and kernels fifty per cent. larger than its neighbour. I have been amused by saying to my farm visitors, "you will soon come to the peck an acre," and several walked past it without distinguishing it from its competitors on either side. They evidently looked for a thin crop, which is not now to be found. I could, in the course of several years of experiment, have won a small fortune in wagers. But is it not strange that among some 400,000 British farmers, it is Mr. Mechi only that tries and records

these important experiments. Can it be a matter of indifference whether in seed alone we pay ten shillings per acre more or less? The field in which this peck an acre is sown will probably produce six qrs. of wheat, perhaps even more, so that the poor peck has a strong competitor. Which is to be the winner—the peck or the bushel? We shall all know some day. In 1864 and 1865 the peck gave a crop of seven qrs. two bushels, and seven qrs. one bushel—the best on the farm, and the finest sample, for I can distinguish the heap of thin sown grain at once, by its superior size and quality.

It has often surprised me that nearly every kernel vegetates, which is contrary to the opinion expressed by many. As we only put one kernel in each hole, we are enabled to see where any failure takes place. This is the fifth year of the peck an acre experiment, and it certainly promises to be an abundant crop. Farmers who sow two and a half to three bushels of wheat per acre, and five bushels of oats, seem surprised at the level or even appearance of the heads of corn. An up-and-down crop, like a mixture of tall grenadiers and tiny riflemen, is a sure consequence and evidence of a grand battle, in which the weaker have gone to the wall.

Mr. Hallett is doing an incalculable amount of good by laying down rules for the thin planting of his wheat and other grain.—*P. G. Mechi, June 24.*

Fall Ploughing.

Without elaborating the many strong points in favor of fall ploughing, a few of the more prominent benefits may be briefly stated as follows:—

1. August and September is a good time to turn over bound out sod land, and manure and re-seed it at once to grass, obtaining a crop of hay the following year.

2. October and November is an excellent time to break up sod land for planting the following spring.

3. The weather is then cool and bracing, and the team strong and hearty for their work; while the weather in spring is more relaxing and the team less able; and spring work being always hurrying, it saves time to despatch as much of the ploughing as possible during the previous autumn.

4. Soil land broken up late in autumn, will be quite free from growing grass the following spring, the roots of the late overturned sward being so generally killed by the immediately succeeding winter that not much grass will readily start in spring.

5. The frosts of the winter disintegrate the ploughed land, so that it readily crumbles in fine particles in spring, and a deep, mellow seed bed is easily made. The chemical changes and modifications resulting from atmospheric action during the winter, develop latent fertility in the upturned furrows, which, with the mellowing influences, materially increase the crops.

6. Most kinds of insects are either wholly destroyed or their depredation materially checked by the late fall ploughing.

7. Corn stubble land may be ploughed late in the fall, and thus be all ready for very early sowing in spring, thereby going far to insure a good catch of grass; the roots of the new seeding hold well, being well established before the droughts of the summer come on.

8. Most land needs deeper ploughing than has generally been practised. Where the sub-soil is fine grained, unctuous and close, or where there is a hard pan of good quality, deep ploughing may be at once resorted to, with decided advantage. Where the sub-soil is poorer, the ploughing may still be advantageously deepened by degrees, say an inch at each new breaking up. But in by far a majority of cases, deep ploughing may be practised at once—indeed, it may be the rule with safety, while shallow ploughing may be the exception. Plough say nine, ten, eleven, or twelve inches in November. The sub-soil turned up will grow several shades darker by spring. The frosts and atmospheric influences of winter will mellow the soil; the inorganic elements, and all latent fertility, will be made more active for benefiting the crops. In spring, spread the manure and plough it in, or otherwise work it in or mingle it with the soil, to the depth of four inches, or a little more or less, and you have the very best attainable condition for realizing good crops. Deeper ploughing may thus be practised than would at all times be safe, or expedient, if the ploughing is delayed till spring.—*Maine Farmer.*

Treatment of Clay Land.

I had a patch of hard clay land in one of my fields, containing about half an acre; it was so hard that we could not plough it with two horses, and when it was ploughed, it came up in large lumps from one foot long to three; the harrow would bound and bounce

along over it, and you could not see where it had been; we could not plant it for the lumps. It was a source of trouble and vexation to me, and I determined to do something with it; so I went to work. I put a large blind drain through the middle of the patch; this was my main drain. Then I ran from the main drain small ones each way, twenty feet apart, to the outside of the clay patch. I laid in a two inch tile drain. Then I drew on a large amount of corn cobs and coarse manure; then summer fallowed; then in the fall, I drew on a large amount of well rotted manure, and sowed wheat, and it was by far the best wheat that I had in the field, and I never after saw any clay lumps to speak of in the patch. It was the best land to plough that I had, and raised the largest crops, and I am satisfied that if farmers would drain and manure their clay lands heavily, it would richly pay them for the trouble and expense, and be a saving in horse flesh and harrow teeth.—*Cor. Country Gent.*

When to Sell Grain.

The *United States Economist*, after speaking of the abundant grain crops in this country and Europe, and the prospect that, as a consequence, the prices of grain will gradually decline to a certain extent, says:

Our surplus, whatever it may be, will have to be sold in the Liverpool market, and must come down to the prices there current, and the price at which we can sell the surplus will determine the value of our entire crop. The farmers would do well to look these probabilities fairly in the face. If they hold back their produce, in consequence of declining prices, they may delay the shipment of our surplus for a few weeks or months, but ultimately they will suffer from a decline much more extreme than would otherwise have occurred. Year after year has the West adopted the policy of keeping back its supplies until the close of navigation, compelling England to supply her wants from Europe, the result being that in the spring the surplus is rushed to the seaboard, and, under the pressure of receipts, prices fall, and Liverpool is enabled to make its own prices upon the grain we are obliged to realize upon. As a rule, an early market is always the best for the farmer, and especially so in periods of abundant crops.

SHARP IF TRUE.—The latest swindle is a Rochester, (N. Y.) invention. When hay is sold by the ton, a man conceals himself in the load and is weighed with it. While the load is driven to the barn of the purchaser, the man leaves his hiding place and goes back to the hay-market to be sold again. The trick was not discovered till last week, though it is understood that it has been practised for years. *Ex.*

RINGLEADER PEAS.—Our quotation from the *Mark Lane Express*, and remarks on the difference between the English and Canadian ideas of "quick growth," have elicited the following communication from a correspondent in Pickering.—In the *CANADA FARMER* of Aug. 15th, on page 254, there is a short paragraph on the early growth of Sutton's Ringleader Peas in England. For your information I may say that I procured, last year, one quart of the same peas from Mr. James Fleming to grow for seed. The spring of 1867 was wet, and I did not get the ground in a state to please me until the 31st May, when I sowed them, and I harvested them fully ripe on the 24th July. This year I sowed the produce (about one peck) on the 9th May, and harvested them fully ripe on the 13th July. The difference in the time of growth will thus be seen to be rather less in Canada than half that of England."

MEASURING GRAIN IN THE BIN.—The rule and mathematical calculation for measuring grain in the bin will be found in the first volume of the *CANADA FARMER*, page 175. It is in the number for June 15th, to which we refer our correspondent from Hilton. A simpler method, sufficiently accurate for all practical purposes, is given on page 200 of the same volume. It is the method we have usually employed, and as it may be useful to many farmers at the present season, who have not an opportunity of seeing the back number referred to, we here repeat it.—Multiply the length, breadth and depth of the grain together in inches, and divide the product by 2,150 (the number of cubic inches in a bushel), and the quotient will be the number of bushels in the heap or bin.

Canadian Natural History.

Canadian Martens.

Of the Weasel family two species, the Mink and the Skunk, have already been briefly described and illustrated in these pages. The accompanying engraving represents two other members of the same group. The larger animal is known in some localities as the Fisher, (*Mustela Canadensis*); it is also sometimes called the Black Cat, or in other parts it goes by the name of Wood-Shock or Pekan. It is the largest and most powerful of the tribe. The specimen in the University Museum, from which our illustration was taken, measured fully three feet, the head and body being two feet long, and the tail rather over one foot.

The animal possesses in a marked degree all the peculiarities of the genus, in the long agile body, short legs, alert motions, sharp and powerful teeth,

color is more uniform, and deepens into black. There is sometimes a white spot on the throat and traces of a similar spot on the belly.

The Fisher is a large, powerful, and somewhat formidable-looking animal, standing about a foot high. It chooses its abode usually in the neighborhood of some swamp or lake, and feeds, like the rest of its family, on the smaller mammalia, or even on birds, frogs, snakes and other reptiles. It is especially fond of fish, and hence has obtained one of its popular names. It often robs the hunter's traps of the fish used as bait. It breeds once in the year, bringing forth two at a birth. Its geographical range extends across the continent from the Atlantic to the Pacific and between the 40th and 70th parallel of latitude.

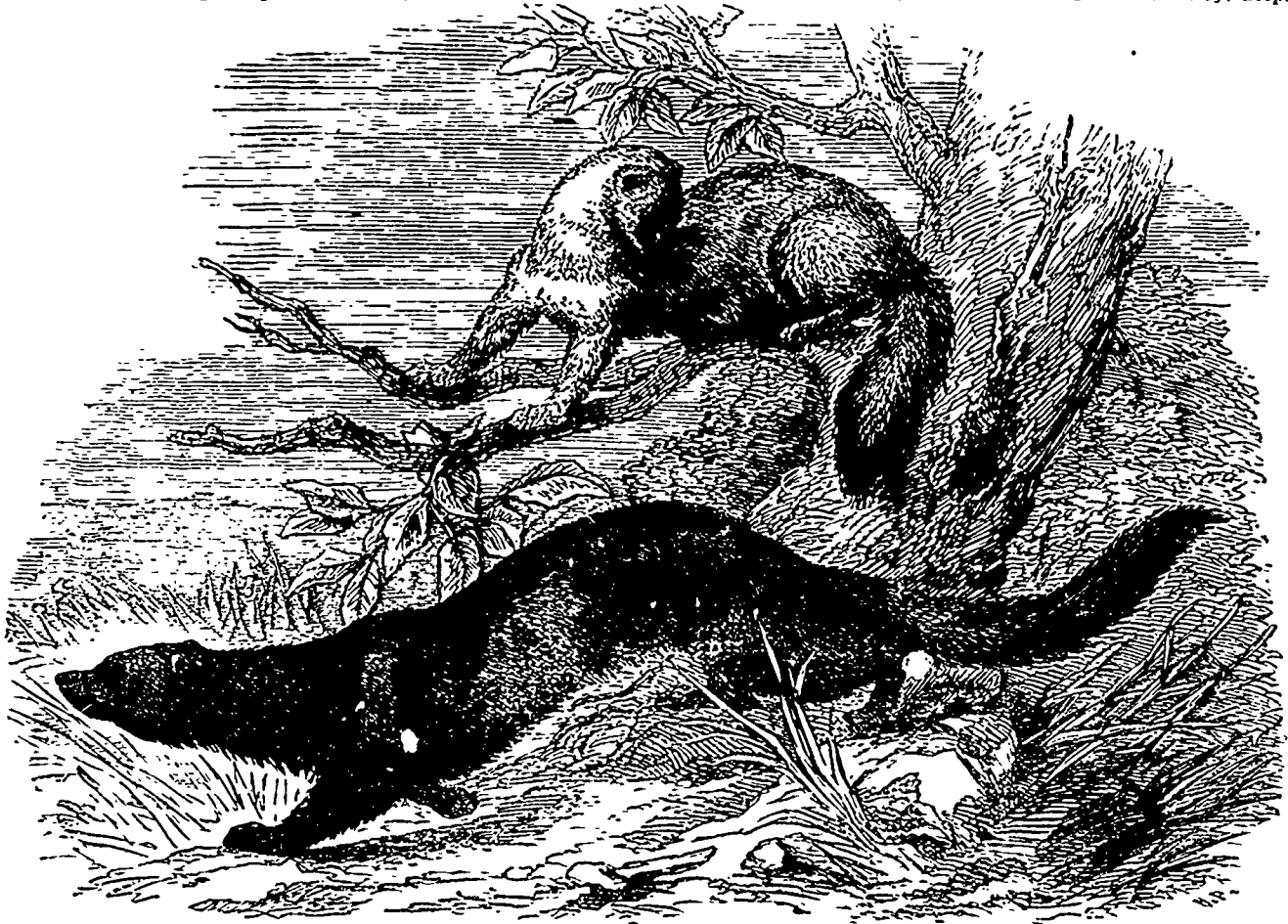
The smaller figure in the illustration represents an animal called the American Marten, sometimes American Sable (*Mustela Americana*) closely resembling and sometimes confounded with the Pine Marten of Europe. The head of this species is long and

natural food, is not tempted by the hunter's bait. Like the preceding species it has a wide geographical range on this continent, extending from the 40th to the 65th parallel of latitude.

Martens are said to be capable of domestication, but they are of very uncertain temper, and can never become very trustworthy pets. Their fur is of considerable value, and destitute of any of that offensive odour which characterises some of the weasel family.

On Skinning Quadrupeds.

When a quadruped is killed, and its skin is intended for stuffing, the preparatory steps are to lay the animal on its back, and plug up its nostrils, mouth, and wounds, if any, with cotton or tow, to prevent the blood from disfiguring the skin. A longitudinal incision is then made in the lower part of belly, in front of the pelvis, and extended thence to the stomach, or higher if necessary, keeping straight



and carnivorous habits. The color is a dark brown verging to black somewhat greyish over the head and inferior parts of the body, but deepening in hue towards the hinder parts. Its general color is indeed so dark, that among hunters it is frequently called the black cat. The head is broad, the nose acute; the ears are broad, round, and wide apart. The canine teeth, especially those of the upper jaw, are long. The fore feet are shorter than the hind feet, which are covered with hair. The toes are partially connected with a short hairy web. The tail is long, bushy, and pointed.

The fur is long, fine, and lustrous, increasing in length towards the posterior parts of the body. It consists of two kinds of hair—a short brown down, and longer and more rigid hairs. These are longer and blacker in winter than in summer. The color is subject to some variation, and there is one variety altogether white except the nose and feet. The general color of the long hairs already spoken of, however, is dark brown. On the head, neck, and upper and fore parts of the body, these brown hairs are tipped with grey, giving a hoary appearance to the fur of these parts, but towards the posterior parts the

pointed; the ears broad, short, and somewhat acuminate. The eyes are small and black, the body elongated, the tail bushy, and somewhat enlarged towards the end. The toes are furnished with long slender, and compressed nails, nearly covered with hair. The color varies considerably according to age, season, and locality. A yellowish brown or fulvous hue predominates in its fur. The head, neck, throat and upper part of its body, are of a yellowish white. The whole length of the animal is about two feet, including the tail.

The American Sable is a pretty and active little animal, inhabiting elevated wooded districts, making its habitation in hollow trees, and supporting itself on the usual fare of its genus. It is extremely prolific, bringing forth six or eight at a litter. At the time when the beech nuts are ripe the hunters say it will not touch bait, and it is supposed by them to feed on this vegetable diet; but the more probable explanation may be found in the fact of the abundance of food attracting to the beech trees at this season the smaller animals that feed on nuts, and who become an easy prey to their quick and voracious enemy, the Marten, who thus profusely supplied with its

if possible. In this operation the hairs must be carefully separated to the right and left, and as few cut as possible. The skin is also turned back to the right and left, putting pads of cotton or tow between it and the muscles as you proceed in skinning. If any oily matter should make its appearance on the skin it must be wiped away. Now remove the skin in every direction as far as the incision will admit of. Each of the thighs must be separated at its junction with the pelvis, that is, by the head or ball of the thigh bone. The intestinal canal is next cut across a little way above the anus, and the tail is separated as close to the animal as possible. After this, the pelvis is pulled out of the skin and the skin separated from the back, with the handle of the scalpel passed between it and the carcass. It is pulled gradually upwards until the operator reaches the shoulders. The whole under parts and trunk of the body being thus out of the skin, the next operation is to remove the fore legs by separating them from the body at the shoulder joint. When the joint of one shoulder has been separated from the body, the leg is again put into the skin, and the animal turned, in order to repeat the same with the other side, the limb of which

s also returned. The skin is then removed from the neck. The next thing is to separate the skin from the head. By the assistance of the knife, it is taken off as far as the nose; while great care must be taken not to injure the eyelids, and to cut the ears as close to the skull as possible; and also to avoid cutting the lips too close. All this having been performed, the head and trunk are separated from the skin. The next operation is to remove the head from the trunk at the upper bone of the vertebrae. The external muscles of the head and face are then cut off, and the bones left as free from flesh as possible. The occipital bones are next opened with a strong knife, and the brain all carefully removed. The fore legs are now pulled out of the skin, by pulling the legs one way and the skin another, as far as the claws of the foot. All the muscles are then cut off the bones, while care is taken not to injure the ligaments and tendons. They are then returned into the skin again. The hind legs are then treated in like manner. The tail is the last part skinned, and this is a more difficult task than the other parts of the body. Two or three of the first joints of the tail-bone are first laid bare by pulling the skin back. They are then tied with a strong cord, which must be attached to a strong nail or hook on the wall. A split stick is then put on the tail-bone and forced to the extremity, and the tail-bones come out of their enveloping skin. The skeleton head having been divested of all its fleshy matter, tongue, palate, external muscles, and brain, is now returned to its place in the skin, which is in a condition for commencing the operation of stuffing.

A. B. B.

A Chicago school marm while giving her class some oral instruction, in natural history, defined an amphibious animal as one that could not live in the water, and that died if you took it on dry land.

HINTS FOR THE MANAGEMENT OF GOLD FISH.—Gold fish may be kept ten or twelve years in vessels, (their average period of existence), by the following precautions: 1. Allow not more than one fish to a quart of water. 2. Use the same kind of water, whether spring or river water, and change it daily in summer: every other day in winter. 3. Use deep rather than shallow vessels, with small pebbles at the bottom (to be kept clean), and keep them in the shade, and in a cool part of the room. 4. Use a small net rather than the hand while changing the water. 5. Feed them with cracker, yolk of eggs, lettuce, flies, etc., rather than with bread, and then only every third or fourth day, and but little at a time. 6. Do not feed them at all from November to the end of February, and but little during the three following months.—*Ed.*

ENGLISH SPARROWS.—In the spring of 1866 four pairs of English sparrows came to the Union Square Park, New York, and there built. Three pairs occupied the trees, one ejected a wren from her little house, the only bird-house then in the square, and took possession; a fifth built in the ivy of Dr. Cheever's Church, facing the square. The industry of these little fellows in devouring the measuring worm (so great a nuisance that most persons avoided passing through the park, preferring to go around during their occupancy; and so numerous were they that they did not leave a leaf on any tree except the *Platanus*), was such that boxes were provided on almost all the trees for them. They were very prolific, those hatched in the spring rearing a brood in autumn, and the old pair rearing four or five broods. In one year they increased from five pairs to a flock of seventy, and they are now estimated at six hundred. Last summer a reward of one dollar a head was offered for worms, but the birds had eaten the last one; they also eat moths, grasshoppers, and many other insects. These birds have extended about forty miles in every direction. The estimate that they destroy in Europe one-half million bushels of grain was probably correct; but how much, more or less, would the insects they devour destroy? The question is, simply, which is the greatest evil, worm or bird, and which most readily controlled?—*Ed.*

Stock Department.

An American's Account of a Canada Stock Farm.

MR. SANFORD HOWARD, Secretary of the Michigan State Board of Agriculture, gives the following interesting details of a visit recently paid by him to Moreton Lodge Farm, Guelph:

"Fred, Wm. Stone, Esq., of Guelph, came from England and settled on land which he now owns, before it was surveyed, upwards of thirty years ago. He has now under occupation, in two farms, about eight hundred acres. Much of the soil of the principal farm, near the town of Guelph, required draining, which has been done with tiles to a considerable extent. It is very productive in grass, barley and oats. A large field of barley on a drained swale or swamp is very promising, and a field of twenty acres of oats, on another part of the farm, is the most luxuriant I ever saw—the oats standing thick and even on the ground to the height of nearly five feet. Spring wheat is grown instead of winter wheat, as being generally a more sure crop. Several large fields of this grain look well. Some fields of winter rye indicated a large yield. Roots, chiefly mangel wurtzel and swede turnips, are largely cultivated, that is, what a "States" man would call so, but not very largely compared with English practice. Mr. Stone usually has fifty acres a year. The crop is stored partly in pits and partly in cellars at the barns. The bulbs are chiefly pulped and mixed with hay and straw, according to the most approved English custom. Mr. S. thinks this much the most profitable mode of feeding roots.

The Stock bred by Mr. Stone consists of Suffolk horses, Short-Horn and Hereford cattle, Cotswold and South-Down sheep, and Berkshire swine.

Of the Horses, there are an imported stallion and three imported mares. The former is only three years old. He was bred by Thos. Crisp, of Butley Abbey, Suffolk, a well-known breeder of this kind of horses, as well as of Suffolk and Essex swine, whose Show stock I have several times looked at with much satisfaction in England. Mr. Stone's horse—or rather colt—is seventeen and a-half hands high, well proportioned, of strong bone, and good action. He has worked on the farm, at the plough, or whatever implement it was most desirable he should draw, every working day since the season opened. He works kindly, has a quick, lively walk, which carries him over a good deal of ground in a day, and does not tire or sweat much. He is in good condition—though doing service as a stallion, besides the work mentioned. The mares also work on the farm, and work well.

The Cattle consist of about fifty head of each of the two breeds mentioned, together with several grades of various ages, which are reared chiefly for beef, though heifers are occasionally selected and kept for milch cows. The origin of the Short-Horn and Hereford herds is so well known that I need not refer to it here. The number of prizes annually awarded to Mr. Stone, at Provincial and other shows, indicates the position which his stock occupies before the public.

Among the Short-Horns is the superb bull Grand Duke of Moreton, 5732, which took the first prize as a three-year old at Kings' on last year—an animal of great weight for his age, and one of the best shaped I have ever seen of the breed. The even balance of his fore and hind-quarters, the obliquity of his shoulders, fulness of crops, depth and rotundity of carcass, the perfect straightness and great breadth of back, combine to make him one of the most majestic animals I ever looked at. Of the young Short-Horn bulls, several are very promising, particularly one about nineteen months old, by Grand Duke of Moreton, out of Duchess of York 3d, by Moreton Duke, 5225. He now promises to equal his sire in beauty, if not in size. Several cows of the Isabella and Margaret tribes maintain their places in the herd, never failing to attract the attention of visitors. I have not space to speak of their respective points in detail.

The Herefords have latterly been increasing in numbers on the farm, and this increase will probably be allowed to continue. After seven years' experience with them, their good qualities have been so prominently displayed that Mr. Stone has determined to adopt them as a permanent stock. They are found to be healthy, hardy, easily kept, fattening rapidly whenever they have a fair chance, and producing the finest quality of beef. They are by no means the inferior milkers which the advocates of rival breeds frequently represent. Comparing them with the Short-Horns kept on the farm, all persons who have had anything to do with them concur in stating that the Hereford cows give, on the average, at least as much milk by the season as the Short-Horns, while some experiments that have been made show that in richness of milk the Herefords are superior.

I think Mr. Stone is entitled to the thanks of the

public for the fair comparisons he is making of the two breeds. We want just such means of estimating their real merits as he presents us. The course too often adopted rests merely on the question of how the most money can be made by *speculating* in cattle. The profits which stock would afford if kept for ordinary products, and disposed of in the legitimate markets, are but little regarded; and we get but little light on the question whether one breed or another would be more profitable under given circumstances.

I have on former occasions spoken of the individual characteristics of some of Mr. Stone's Herefords. I will only remark here that the animals reared from year to year keep up the standard formed by the imported stock; and when it is considered that the original stock was selected from herds accounted among the best in England, this result must be regarded as of much importance in reference to the uniform excellence of the breed.

Many of Mr. Stone's grade cattle are half Hereford, and a few are three-quarters of that breed. They show the leading characteristics of the Herefords very strongly. Some of them are cows, now giving milk, and they are good-sized, handsome animals, with indications of being good milkers. A lot of yearling and two-year old steers are about as promising, in reference to thriftiness and fattening tendency, as any grade animals of their age that I remember to have seen. Some of the steers have been subjected to the yoke, and bid fair to make active and powerful oxen.

The Sheep consist of about five hundred head, three hundred and fifty of which are Cotswolds, and the rest South-Downs. They are all in fine condition. While I was there, Mr. Stone sold fifteen yearling Cotswold rams and two ewes to Mr. E. Whitby, for Dr. B. Bryant, of San José, California. The rams are to be used in crossing with sheep which have been bred from the old Mexican stock and the Merino. The result will be known in due time.

Mr. Stone has about thirty Cotswolds which he proposes to fatten next winter. Some of them would be called "hog-fat" now. If they go to "the States" when they are "made up," we shall probably see some of the fattest and heaviest carcasses of mutton that have been known in the country. Mr. S. informed me that the fleeces of his yearling Cotswold rams (upwards of forty, I think,) averaged this year about eighteen pounds each, unwashed. One weighed twenty-four pounds. The sheep, after being shorn, weighed from 210 to 300 pounds—the weight depending, of course, much on the manner in which they had been fed.

Mr. S. informs me that, when he introduced the Cotswolds, there was nearly as strong a prejudice manifested against them as there was subsequently to the Hereford cattle. The sheep have nearly conquered the prejudices against them, and the cattle will probably do the same, if Mr. S. carries out his plan.

The South-Down sheep are bred from the Webb and other noted English flocks, and many of them are very handsome specimens of the breed.

Some of Mr. Stone's land lies so far from his principal farm steading, that it cannot well be manured in the ordinary way. Very large quantities of rich manure are made, but it is chiefly applied within a distance convenient to haul it. The mode adopted with the out-lying lots, is to feed off successive crops with sheep, until the desired fertility is obtained. First, a crop of rye is sown in the fall. If it gets strong enough before winter sets in the sheep are put on it. The next spring the sheep are turned on at the proper time, and the rye kept fed down as long as it continues to grow vigorously. When the growth of the rye is checked, the ground is ploughed, and sown to oats and vetches, which are fed off, and, when this crop is done, the ground is again ploughed and sown to rape or turnips, which are fed off in like manner.

Mr. S. Has several fields where this course is now going on. His rams, which are intended for sale this fall, are on a field on which the second crop (oats and vetches) is just giving way to turnips and rape. The sheep are in high condition, and the ground is already well manured, though the feeding off of the third crop will enrich it still more. The sheep, of course, have been well fed; when the green crop would not afford them enough to eat they have had peas, or other additional food. The mode of feeding the green crops is that adopted in England, enclosing with hurdles a certain extent, on which the sheep are put from day to day.

This is a practice which I think might be introduced into this country with good results. Our people hear of the English farmers enriching their land by sheep farming. But it is quite a different thing from turning sheep on to the land, to live or die from the grass and weeds that may grow—often to gnaw the grass to its very roots, and starve the sheep besides. The sooner it is found out that this kind of sheep farming does not enrich the soil or its owner the better for the country."

Cotswold sheep are said to be in greater demand in England now than ever before. At a late sale, 55 averaged \$150 in gold.

A Western editor relates a story of a man who bought a lot of hogs in Illinois and drove them slowly to Chicago. He was compelled to sell at a loss of \$400. Returning home he was asked by his neighbours what were the profits of the operation. "Well," said he, "I reckon I didn't make much money out of the trip, but I had the company of the hogs down."

VALUABLE IMPORTED STOCK.—The Montreal News says:—The celebrated stock-beast which Mr. Cochrane daily expects from England, for which he has paid \$1,000, is a heifer, we believe, of not more than two years old. This looks an enormous price, but the seller, far from abating his price, positively refused to sell the heifer unless he was furnished with proof that she would be taken out of the country and never brought back. It was only by binding himself down to fulfil these conditions that Mr. Cochrane was allowed to become the owner of the animal. He paid on a previous occasion \$3,000 for a heifer which he bought in the United States, and the value of the stock on his Compton farm, when the English heifer arrives, cannot fall short of from seventy to eighty thousand dollars."

The Dairy.

Milking Cows before Calving.

I have practised taking it away for four years, in every case but one, which was a heifer that calved unexpectedly in the pasture. Her bag became considerably inflamed, but none of the others became so. A heifer coming four years old, dropped her second calf last night March 20. Four days before the 16th I took three quarts; on the 17th three quarts; the 18th, six quarts; 19th, twelve quarts; 20th, ten quarts, and the milk all right for use now. She had been milked thirteen months, and had been dry thirty-five days previously. She has a very fine and large half Ayrshire calf. In my observation, milk rarely comes into the udder much more than thirty-six hours before calving, but when it does, I think it is better to be taken out, and by so doing have not known any injurious effects to follow.—LACTIS, in N. E. Farmer.

Rennet.

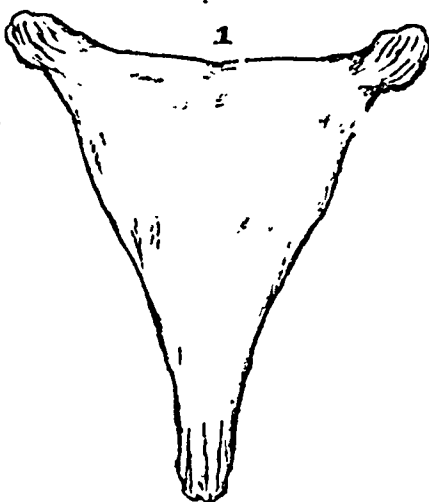
To the Editor of THE CANADA FARMER.

SIR,—I have been much surprised at the wilful ignorance of many who are engaged in the cheese factory business in Canada. As an example of not uncommon mistake amongst them, I may mention that most important article in cheese-making—one indeed that cannot be dispensed with or supplanted by any substitute yet found—namely, the inner coating or membrane of the fourth or true digesting stomach of the sucking calf, and commonly called rennet. It will be plain to any one who will reflect on the subject, that the best article to digest (it is at all events the first stage in digestion) a given quantity of milk is that which is taken from the animal whose natural food is the milk of the cow. The best Rennets (or as they are called in some parts of Britain, *Vells*) are those taken from calves that have not eaten any other food than that obtained from the mother. Such Rennets should not be objected to on account of the small size; for the quality of them is far beyond those taken from animals that are fed on herbaceous food. I do not wish it to be inferred that the large Rennets should not be used, but that to use some of the small with them will be beneficial, and counteract the strong tone of the coarse ones.

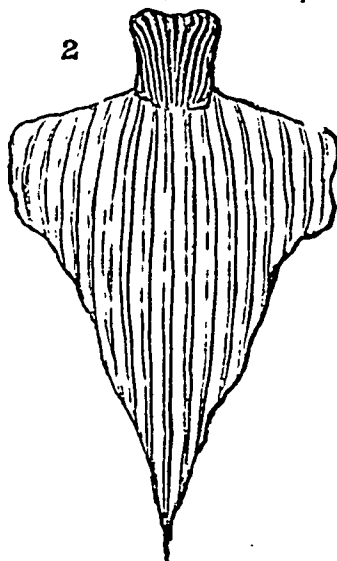
Many persons have been deceived by buying sheep's maws. There is no excuse for such a mistake, as the difference between them and those of calves is very apparent. It is very important for the interests of the cheese business in Canada that in this matter, as well as in regard to cleanliness, and other necessary conditions of success, the manufacture should be carried on only by those who are thoroughly acquainted with all the details, and who will conduct the business with intelligence care, and the strictest integrity. It is not likely to gain anything in the

hands of the inexperienced speculators who take up the business one season and discard it the next.

Any person can discriminate the different kinds of Rennets by a simple inspection. Let him take a calf's stomach, say one week old, that has had only the mother's milk, and when the stomach is empty—a lamb's—say four months old—and a sheep's of two years old—cut open all three, including the manyfold, wash the lamb's and sheep's clean, leave the mucus



on the calf's, a glance will show the difference in colour, shape, &c., the manyfold of the sheep and lamb will be of a palish leaden hue, and the other of a greenish yellow, and the membrane of the calf's maw will be flesh coloured, and uniform throughout, whereas the valves or folds in the lamb's and sheep's maw will be numerous and wide. The manyfold on these is also larger, and the valves deeper and serrated on the edges. That of the lamb of four months will be larger than the ordinary one from calves of one week, from the fact that a larger quantity of herbaceous food is required in the former case. I have prepared one of each, and will leave them with you for the convenience of those who wish to see for themselves, and who may not have the means near at hand for taking the proper observation. There have been hundreds of sheep's and lambs' maws sold in Toronto to unsuspecting parties; few butchers in the city kill at a time so many as a score, yet they have these so-called Rennets to sell by hundreds. Surely that ignorance is wilful, when the requisite know-



ledge is so easily acquired, but persons will not give themselves the trouble to make themselves acquainted with the plainest and simplest facts.

MARTIN COLLETT, Toronto.

NOTE BY ED. C. F.—The annexed illustrations, copied from the specimens left at this office by Mr. Collett, show the difference between the two maws, fig 1 representing that of the calf, and fig 2 that of the lamb, cut open and spread out.

Spots on Cheese.

To the Editor of THE CANADA FARMER:

SIR.—For a time, now, since the water in the well at our factory has been low, our cheese has on its surface dark spots, after standing on the racks from nine days to two weeks. These spots can be easily scraped off. Through the cheese there appear to be dark veins also; and it appears to be a little strong. The water referred to is what is generally termed sulphur water, it having a nauseous taste, and there collecting on the inside of the pump, a dark, slimy sediment, which feels quite gritty to the touch.

Now, what we wish to know is, can that appearance in the cheese arise from only soaking the Rennets, and washing the cloths and vats with such water? We use English Rennets.

J. —

NOTE BY ED. C. F.—We think it not unlikely that the mould, or fungus growth (for such most likely it is), referred to by our correspondent, may be caused by the impurity of the water.

THE LAST MILK FROM THE UDDER.—D. Anderson says he has found by practical analysis in one instance that the last cup of milk drawn from the cow's udder contained sixteen times as much cream as the first one. This separation of cream from milk takes place in part in the udder of the cow, particularly if the cow is suffered to stand at rest for some time previous to milking. If there are people who doubt that there is a difference in richness of milk first drawn from cows and that of the last drawn, their doubts will be speedily removed by milking half a dozen cows and setting the first half drawn from each cow separate from the last half. *Utica Weekly Herald*

Entomology.

Entomological Queries.

To the Editor of THE CANADA FARMER.

DEAR SIR, A few days ago, on looking at my young apple trees, I noticed at the extreme ends of the young wood, (1) a great quantity of small green lice, and a number of ants moving about after them. Curiosity led me to make a closer inspection, and on applying the microscope, I found the ants had an object in view in attending to those gentry. They would brush the lice with their horns and the lice would then eject a small quantity of fluid matter, in appearance like the gum which you will generally find on the tops of cones on balsam trees. I find that after a time those lice get transformed into a small black fly. As my trees are badly affected, I would like to hear from you (through the CANADA FARMER) if the insects are injurious to the trees, and also the best remedy for the evil. (2) I also enclose three caterpillars of which I have found a number this season, I find them very destructive to the young branches, completely eating off all the buds and foliage. I suppose the only remedy for these pests is to search for them and destroy them.

(3) I also enclose a few cocoons on a leaf, the first of the kind I have seen. I found three leaves covered with them on the same tree, and the leaves partly eaten, as the enclosed. (4) On another leaf you will find a number of cocoons or cells very small, and of a brown colour, grouped together in a small circle. By applying the microscope, they have the appearance of a shoe. I would like to have their history and habits. (5) You will also find a nest of insect eggs which are too often found in orchards. I would like to be informed what kind of an insect it is that deposits the eggs, so that it can be destroyed, as the caterpillars or worms the eggs produce are very destructive to the trees.

W. M. H.

NOTE BY ED. C. F.—(1) We gave an account of the very singular habit that ants have of milking the aphides, as described above by our correspondent, in

an article, entitled "Ants and their Cows," which appeared in the CANADA FARMER of Feb. 1, 1867, page 47. We are always glad to find our statements corroborated by the descriptions of independent witnesses, and also to learn that the many strange and wonderful habits and instincts of insects attract the attention of numbers of our readers all over the country. We can assure them that the more they investigate these marvels of nature, the more they will find to wonder at and admire, and the more pleasure they will derive from the contemplation. Plant-lice, or aphides, are of course injurious to any tree that is numerously infested by them, inasmuch as they draw away from it an immense amount of sap—the tree's life-blood. In the case of the apple and cherry, however, we think that where the plant-lice attack only the terminal shoots or new wood, they do more good than harm, as they act as a natural summer pruning, and by checking the excessive growth of the ends of the boughs cause more fruit spurs to be put forth lower down. Where it may be deemed needful to destroy these insects, we would recommend watering with strong soap-suds—a remedy we have found very efficacious ourselves. Our correspondent will find a short account of the natural history of the aphides in the CANADA FARMER of last year (Aug. 15, page 252), and a description with figures of their natural enemies in the same volume (Sep. 2, page 268). (2) These caterpillars were dead and shrivelled up when they reached us, and therefore hard to determine, but we believe them to be specimens of the yellow-humped caterpillar (*Notodonta concinna*), of which we have given descriptions and figures in a foregoing article. This makes another locality for the insect.

(3) This is one of the oddest specimens that we have ever seen: a leaf with great nicks eaten into it, and on its under side seventeen—we hardly know what to call them. They are apparently the dead bodies of caterpillars, killed in the very act of eating, and enclosed in an ashy white silken shroud, through which appear the black warts and spines of the caterpillar's skin, and thus forming rather tough cocoons, fastened to the leaf with silken threads. They are all empty, and have each an irregular hole, apparently eaten through, near one end; inside them are the remains of a brownish chrysalis skin. We fancy the whole is the work of an ichneumon, which has eaten the original caterpillar, formed a cocoon of his skin, completed its transformation inside, and then eaten a hole through when ready to emerge as a perfect winged insect.

(4) This is another curious specimen, differing from anything we have seen before. On the under side of a portion of a leaf are grouped together in an irregular circle, with their tails on the outside and their heads pointing inwards, thirty-two empty chrysalides, probably of some tiny moth. Each one is about one-tenth of an inch in length, of a brownish color, and attached to the leaf by its tail, the head being free. The hole at the head, caused by the exit of the insect, gives them very much the appearance of a shoe or slipper, as observed by our correspondent. The empty condition of these, and the specimens referred to immediately above, prevents one being able to trace out the insect author of the work.

(5) This bunch of eggs is the first stage of the only too well-known tent caterpillar (*Clipeocampa Americana*), to which we have often referred in this journal. Our correspondent will find a full description, with illustrations of the insect in all its stages, in Vol. I. of the CANADA FARMER, 1854, page 237, he will also find a notice of it in Vol. II., 1865, page 31.

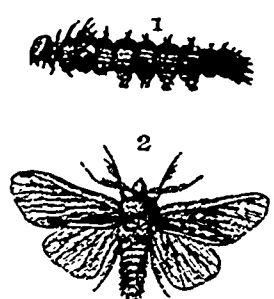
The Red-humped Apple Tree Caterpillar.

"A Subscriber," writing from Whitfield, Township of Mulmur, has sent us some of the above-named caterpillars, which he states "are busy cutting the leaves off his apple trees," and asks for information

respecting their "origin, name, and habits, and how to get rid of them."

Nearly two years ago (Oct. 1, 1866), we briefly noticed the occurrence of this insect at Sidney, Co. of Hastings, but we have not met with it since, nor have we even seen the parent moth; we hope, however, to raise some specimens from the larvæ before us, and thus know for ourselves, and not merely from others, the whole history of the insect. As it has now appeared in such widely distant localities as the Counties of Simcoe and Hastings, it will probably be found in other parts of the country, and may prove a trouble-some as it often has in the neighbouring States. We are inclined to think, however, that it has found its way to the localities mentioned on some imported trees, like many other plagues of our orchards and gardens. Should this prove to be the case, it will furnish another argument for encouraging the many highly satisfactory nurserymen that we have in this country, and buying our fruit trees exclusively from them instead of procuring them from the neighbouring States.

We now proceed to describe the appearance of the insect, that our readers may be able to recognize it wherever it is met with. The specimens before us are about three-fourths of an inch in length, but when full-grown they attain to nearly double the size; their general colour is yellowish-red above and below, and white on the sides, with thirteen narrow black stripes (six on each side, and one on the middle of the back) extending from the head to the tenth segment, interrupted only on the fourth segment, there are also two rows of black prickles along the back, and a number of shorter ones on the sides, each of which terminates in a fine hair, the head is shining red, with black jaws, the fourth segment has a prominent hump of an orange-red colour, on which, as well as on the two preceding segments, the prickles are lengthened into spines, the eleventh and twelfth segments are entirely yellow, with the various prickles, but without any black lines, the last segment is black. The eggs from which these caterpillars are hatched, are laid, according to Harris, in July, in clusters on the under side of a leaf, generally near



the end of a branch. When first hatched they eat only the substance of the under side of the leaf, leaving the skin of the upper side and all the veins untouched; but as they grow larger and stronger, they devour whole leaves from the point to the stalk, and go from leaf to leaf down the twigs and branches." When full fed, they leave the trees and form a cocoon under leaves upon or slightly under the earth, where they remain all winter, the moth coming out the following July. It is called *Edemasia (Notodonta) concinna*, and was first described by Smith and Abbott in their work on the insects of Georgia, where it is said to have two broods in a year. It is described as "a light brown moth, with its fore-wings dark brown on the inner, and grayish on the outer margin, with a dot near the middle, a spot near each angle, and several dark brown longitudinal streaks along the hind margin." It expands about an inch. In the accompanying illustration, fig. 1 shows the Caterpillar, and fig. 2, the perfect Moth.

The easiest way to destroy this pest would be to shake off the caterpillars, by a quick jarring blow on the limb, into a cloth or vessel below, and then put an end to their existence with hot water. When they

are collected on a small branch, it might be cut off and burnt without any injury to the tree.

CURRENT WORMS.

The above correspondent also states that "there is a small green worm, about three-fourths of an inch long, busy cutting the leaves off the red currant bushes, it does not appear to touch the black ones. Please tell us how to get rid of them. I dusted slacked lime over them, which seemed to check them for a few days, but they were soon as bad as ever; they do not touch the fruit, but strip off the leaves and pass on." These insects are the larvæ of either the well-known Saw-fly or the Currant Moth; not having received specimens of them we cannot say which. The remedy that is now acknowledged to be best is a mixture of white hellebore, powdered fine, and alum in water; the worms should be well watered with this when they first appear, and from time to time as fresh broods come out; of course care should be taken not to use the mixture when the fruit is about to be gathered. Soot dusted upon the insects when the dew is upon them, and also placed upon the ground beneath, is highly recommended by one of our American exchanges, but we have not yet tried ourselves.

The Squash Bug.

(*Coreus tristis*.)

To the Editor of THE CANADA FARMER

SIR,—Enclosed you will find specimens of something, I know not what. But this I do know, it is committing fearful ravages on some mock oranges and gourds which my wife planted for ornament. It is extremely prolific. It lays an egg very similar to that of a sheep tick, but not so large. The egg requires but a brief period to hatch. I believe it will live more than a week shut up in a box. I send a good supply because I have enough and to spare. The leaves it infests wither and die. I have killed it until I am sick of the sight, to say nothing of the smell. I find coal oil sufficient for it, provided it can be got on the thing. I should like to know its name, &c.

E. J. YORKE.

Wardsville, Ont

NOTE BY ED. C. F.—Mr. Yorke certainly did send us a good supply of specimens of the disgusting Squash Bug; the moment we opened the box, about a couple of dozen crawled out with tremendous activity, and we had no little ado to get them all disposed of again. Being only too familiar with the insect, and having no desire to re-introduce it into our garden, in which we succeeded in exterminating it, for the present, after a considerable period of warfare we speedily consigned these lively specimens to an ignominious fate. In last year's volume of the CANADA FARMER (June 1, page 173), we gave a short description of this insect. The remedies that we there prescribed were picking off and burning the leaves on which the bugs are collected, examining closely the under side of all the leaves of an affected vine, and destroying any eggs found attached to them, and watering with hot water. The means that we have since found most effectual are picking off the leaves on which eggs are deposited, crushing under foot all the mature bugs, and watering frequently with strong soap-suds. The surplus product—soap-suds—of that domestic nuisance "washing day" we always have kept for us during the gardening season, and find it most useful for destroying a large number of insects, such as these squash bugs, plant lice, slugs on rose-bushes, etc.; it is also a valuable manure for almost any kind of vegetables and vines. Mock oranges or gourds, as well as squashes, belong to the same family (*Cucurbitaceæ*) as melons, cucumbers, and pumpkins; while these bugs abound on the former, we are glad to say that we have never yet met with them on the latter most valuable plants.



Wild Oats—Huron Crops.

A subscriber from Huron County sends us the following, which, though bearing date the 1st August, did not reach us till after the publication of our last issue. "How can a person escape having his farm filled with wild oats if they are in the neighbourhood? Is there any possible means of guarding against their introduction by travelling threshing machines, &c.? By indicating the precautions to be used you will greatly benefit many of your subscribers. The crops in this part of the country look very well, considering the terrible drought and heat which we have experienced. We are now, however (Aug. 1), having most refreshing showers. The early sown spring wheat will scarcely be worth cutting, being completely eaten out by the midge; the late sown wheat as yet promises well. I have also been informed that Platt's midge-proof, when sown early, has not proved exactly midge-proof. Fall wheat (midge-proof) has turned out fair; mostly, however, not a first-class sample. We hear great accounts of the Treadwell. Can it be got in any quantity, pure, and at a reasonable figure? Peas are shrivelled up with the heat—will be half a crop—but oats are probably fully average."

NOTE BY ED. C. F. The only means we can suggest for guarding against the introduction and spread of wild oats is to keep a strict and diligent watch, and pull them up by the roots in the early stage of their growth. They will make their appearance before any other crop, and can be readily distinguished even in a field of oats, by their colour, their ranker growth, and greater height above the surrounding plants.

STUMP MACHINE.—S. G., from Cashmere asks:—"Where can I get a horse-power stump machine, capable of lifting a two foot green oak stump; and what will be the price delivered at Bothwell Station, Great Western Railway? A screw preferred."

REFUSE FROM FLAX MILLS.—A subscriber asks, what is the best manner of utilizing the waste from flax mills for agricultural purposes; whether it should be rotted, and if so, what is the readiest and quickest mode of effecting this object. Can any of our readers give any practical directions in the case?

SEED WHEAT.—Mr. Isaac O'Neil, of Uxbridge, sends us a sample of wheat, which appears to be of good quality. It is a white wheat resembling Soules wheat. The writer says respecting it:—"I enclose you a sample of fall wheat, a quantity of which I have for sale—200 bushels. It is about ten days earlier than the Soules. It will yield thirty-five bushels to the acre this year. It is a new description, first obtained by finding a few heads in a large field. I have sown it for the last two years, and now have the above quantity. It is a white chaff, white wheat. Labour was very scarce this year, and I had to let it stand too long, otherwise it would have been brighter. The price is \$2 per bushel. I reside one mile from Uxbridge Village, Ontario."

DECAY IN THE CROTCH.—**BARREN BLOOMING.**—A. T. G. writes to enquire "the cause of fruit trees (more particularly apple trees) decaying in the crotch and around the limbs. The trees are from eight to ten years old. Also, why some fruit trees continue blossoming during the summer instead of bearing fruit. I have some dwarf pears that are more ornamental than useful on that account." The decay in the fork of branches may be owing to some splitting of the wood in that situation, or to the wet and dirt that have accumulated there. Cleaning out the part and a coating of lime-wash might be useful in that case.

In regard to the second query, some unhealthy condition of the tree is perhaps present, and possibly the drought and heat of the past summer, unfavourable to the proper development of the fruit, may have stimulated dormant buds into unnatural and premature growth. Without further information and personal inspection, we could not form a more definite opinion.

QUERIES.—A correspondent from Wardsville appends to a communication published elsewhere a miscellaneous collection of queries. In answer to some of them, we would inform him that the Secretary of the Provincial Association is Hugh Thomson, Esq., Ontario.—Amongst the successful breeders of Galloways in this Province are Messrs. R. L. Denison, Toronto; Wm. Wood, Guelph; Thomas McCrae, Guelph; and D. Youle, Stanley.—The ordinary horse bean would furnish the best meal for the purpose alluded to. In reference to the Berkshire hog, it would be impossible to give an account of the numerous crosses from this breed—the principal foreign ones are those with the Chinese and Neapolitan swine, made with a view of decreasing the size of the animal, and improving the flavour of the flesh; and the animals thus obtained are superior to almost any other in their aptitude to fatten, but are very susceptible of cold from being almost entirely without hair. A cross of the Berkshire with the Suffolk and Norfolk pigs is also much approved in some quarters; a hardy kind is thus produced, which yields well when sent to the butcher; but even the advocates of this cross allow that, under most circumstances, the pure Berkshire is the best.

The Canada Farmer.

TORONTO, CANADA, SEPTEMBER 1, 1868.

The Season and Crops.

ALTHOUGH the persistency of the wide-spread drought from which the whole continent has so long suffered is at length broken, still comparatively dry weather continues to prevail in most parts of the Province. Occasional showers have visited every locality, but we do not hear of heavy or long continued falls of rain. Root crops, especially potatoes, are nearly everywhere needing moisture, and under any circumstances we must now look for a yield of those products below the average. The temperature has very greatly moderated, and the weather has been mostly fine and delightfully cool. Indeed it would scarcely be possible to have a pleasanter season than has prevailed during the greater part of the month of August. The returns of the harvested crops, so far as we can learn from local papers, are less unfavorable than the severe drought would have led us to anticipate. The results of threshing operations, which have been actively going forward, do not disappoint expectations, and in the case of fall wheat especially show a yield in excess of the returns of any recent year. We hear of crops that have turned out over forty bushels to the acre. The Soules wheat has suffered most from the midge, while the Treadwell and Diehl are both spoken of as having comparatively escaped the scourge, and yielding remarkably well. We expect that a large breadth of land will be sown with these varieties during the present month.

The importance of correct statistical returns in regard to our crops is becoming every year more apparent. We are glad to learn that the Minister of Agriculture for this Province, with a view of eliciting the desirable information, is issuing a circular and list of enquiries to the various agricultural societies of Ontario. If these enquiries are carefully answered by the parties addressed the department will be in possession of very valuable reports, the

substance of which will, no doubt, in due time be given to the public. As this is the first year that any attempt of the kind has issued from this official quarter we cannot expect the returns to be so complete as they should be; but the effort is in the right direction, and will eventually secure, we trust, a yearly statistical report, complete and accurate, of the agriculture of the country.

The crop reports from the adjacent States, which appear to have suffered less from the drought than ourselves, are very encouraging; and if the published estimates are correct, the total yield of wheat will be considerably above that of 1867—indeed, some accounts say of any previous year. An Iowa Editor speaking of the harvest in that State, calls this the "golden year," and pictures the agricultural prosperity of the State in glowing terms. Perhaps some of this congratulatory tone of language and feeling may be the reaction from the fear and despondency which the severe and protracted drought had induced, and the test of the threshing machine may yet correct expectations that have been as much too sanguine as they were previously too doleful. There can be no doubt, however, that we have much cause for thankfulness in regard to the general character of the present harvest, and the result should rebuke the spirit of apprehension and discontent which farmers perhaps more than others are apt to indulge.

Seed Wheat Experimental Farm.

Mr. George A. Deitz, of Chambersburg, Pennsylvania, is engaged in the important work of acclimating and testing foreign seed wheats. Since the appearance of his brief advertisement in our last issue, we have sent for and read with much interest his circular, which describes with considerable minuteness a number of varieties of seed wheat with which he has experimented successfully. We have always felt that this is a department of usefulness which properly belongs to Ministers and Boards of Agriculture, and we thoroughly believe that judiciously managed, as it might be under the supervision of a good practical farmer, the testing of foreign seeds might be made immensely beneficial to the agricultural interests of our own and other countries. In the absence of any such arrangement, it is gratifying to find that private enterprise is doing something in this direction. Mr. Deitz's circular contains details and illustrations of the heads of twenty-one varieties of wheat, that have been tested for from two to ten years, with mention of eight varieties only imported the present year, and therefore not yet tested on American soil. The account given of the several varieties appears candid and straightforward. We know nothing of Mr. Deitz beyond his advertisement and circular, but the importance of obtaining new and good seed wheat is so great, that we do not hesitate to recommend trial of the more promising sorts. It is not yet too late for any who are enterprising enough to experiment, to do so. We have sent for three varieties which, judging from the circular, we think most likely to give satisfaction in our soil and climate. They are the Boughton White, \$5 per bushel; the Weeks' White Bearded, \$6 per bushel; and the French White Chaff Mediterranean, \$7.50 per bushel, American money. The prices are high, but there is much outlay and loss connected with the importing and trial of foreign seeds. In due time we shall give our readers the benefit of our opinion of these wheats.

PROVINCIAL EXHIBITION PRIZE LIST.—CORRECTION.—An error occurs in the above prize list which we are requested to notice and correct. In class 29, section 32, in the "General List" of Fruits, &c., for—"Best collection, not more than six varieties, Pears, correctly named, three of each," read—"not more than twenty varieties," &c.

Stray Notes of Travel in the United States.

[EDITORIAL CORRESPONDENCE.]

NEW YORK, Aug. 26, 1868.

WHAT you see when on a journey, or in a strange place, depends quite as much on your own eye as on the objects that are about you. This is true, not merely in a literal, but also in a metaphorical sense. The artist is on the lookout for scenes of beauty, the merchant has an eye to business, the politician studies the phases of public opinion, and the ladies keep a sharp watch of the fashions. An editor travels with his thoughts dwelling much on his next issue, and his eyes peering sharply around for the material of leading articles. If the journal about which he is anxious be general in its scope, he will have no difficulty, for topics will spring up on every hand. But if his journalistic sphere be a special one, his observations will be less fruitful. Still it will be a barren journey indeed, if it yield nothing to his purpose.

Railroads, it is well known, do not usually pass through the best portions of the farms they cross, and hence it would be hardly fair for an agricultural editor to judge the farming of a region by looking at it from the cars. Taking the evening train from Suspension bridge, there was but a short period of daylight in which to see things. It gave opportunity, however, to observe that Western New York has been passing through the same ordeal of heat and drought with which our own country has been afflicted. Long as the eye could distinguish objects, there was the same yellowness about the pastures and meadows, the same stunted vegetation, the same burnt-up look we had left behind us in Her Majesty's dominions. When morning dawned, however, a very different picture was presented. As our train neared Albany the corn fields on the Mohawk flats rose to view all fair, fresh, and green, as if no pinch of drought had touched them all the season. We saw once more, vegetation glistening with dew and rain, and the earth moist with showers. It was indeed a welcome and refreshing vision, and enabled me to realize, in a measure, how oriental travellers must feel when, after journeying for weeks over the desert, they gain at length the verdant valley of the Nile.

There cannot be a more delightful sail than that in the day-boat from Albany to New York, on the Hudson. This noble river has been not inaptly styled "the Rhine of America." Its ample bosom stretches from bank to bank, a mile or more in width, and on either side it is one panorama of natural and artificial beauty, the scene continually shifting, but always attractive and picturesque. Villas and gardens, towns and villages, wood-crowned heights, mountain ranges, and lovely intervals, diversify the landscape, while the river itself, winding along in stately majesty, and alive with all manner of craft, from the skiff up to the mammoth passenger steamer, is an object of tireless interest. The railway trains thundered along the river side, leaving our vessel far in their wake, though she nobly steamed away at fifteen knots an hour; but the day was only too short, and the trip too like an enchanting dream. As you near New York, many charming residences line the river, their ample grounds reaching to the brink of the stream, and the very boat-houses catching the contagion of the scenery and becoming tasteful, if not elegant. Commend us to a home on the Hudson, when we retire from active toil with an ample fortune!

After the day's charming sail, we passed the night (we were about to say slept) at lower Ravenswood, on East River, opposite Blackwell's Island, and never before listened to such a noisy insect concert as was kept up all the livelong night. Sleep was out of the question. We have been kept awake before this by in-door insects, but never until now, so far as we can recollect, by insects out-of-doors. Such an orchestra of stridulous music would, no

doubt, have put our entomological confrere into ecstasies. We cannot say it had that effect on us. The Katydid was the noisiest of the choir, and weary enough we got of the constantly-threatened-to-be-told tale of what "Katy did," before morning. But though we never before heard so powerful an insect orchestra, it was thrown completely into the shade by the one that performed three nights afterwards at Athens, a village 100 miles up the Hudson, which we had occasion to visit. We have got a vastly enlarged idea of the vocal powers of the Cicada. But though it can be loud, it is far from pleasing, at least in our judgment. It may be, however, that our taste needs educating, duly to appreciate insect music. We thought of the ungallant couplet of old Aristophanes:

"Happy the Cicadas' lives,
For they all have voiceless wives;"

and wondered to what pitch of dissonance the domestic music would rise, if both sexes were but to perform their parts.

Many agricultural items may be picked up in New York, as we begin to find after a few days' sojourn in and near the city. It is interesting to visit the markets. Just now quite a panic exists in reference to diseased beef. Notwithstanding the utmost precaution on the part of the authorities, it is said that cattle affected by the Texas plague have been spirited to this city, and their carcasses vended in the meat markets. Beef-steak, that favourite American dish, is quite out of repute, and, much against their will, the people are taking to mutton, for fear of being poisoned. Fowl are scarce, fish are hardly in season, eggs are dubious, butter is dear, and milk as well as beef may be spoiled by Texan fever; so that the question, what to eat, is not the easiest New Yorkers have to discuss just now. Happily the vegetables are wholesome, and there are plenty of them. The market-gardeners that supply New York have had no cause to complain of lack of rain the present season. If anything, they have had too much. How glad we should have been to relieve them of all they wanted to spare! Potatoes are a fine size here, and they seem to be abundant. Yet they are far from cheap;—two dollars a bushel, American currency. All vegetables bring a high price here, as compared with Canada. The fact is they are grown at immense cost, and must be dear. Land within market distance of New York is enormously expensive, and without the best of tillage and high prices, market gardening could not be profitably carried on. There are plenty of tomatoes, musk and water-melons, lima beans, and green corn in the New York markets just now. Sweet potatoes from the South, a much coveted luxury here, though in our view not to be named the same day with a mealy pink-eye, or Scotch kidney, are abundant, and go at the hotel tables in a galloping consumption. Fruit is scarce, and high in price. A single decent plum costs you three cents, and a good peach from eight to ten cents. Red Astracan apples are from three to five cents, and Bartlett pears as dear as the peaches.

Owing to the dry weather in Britain, the steamers from this port are taking novel freight across the Atlantic. Several shipments of hay, tightly baled, have been already sent, and more are to follow. Some of this hay that we have seen is rascally stuff, coarse, wiry, prairie and swamp grass, that will provoke from British farmers and shepherds curses loud and deep. Why cannot Canada do something in this trans-Atlantic hay trade? All that is wanted is pressing and baling machinery. The utter failure of hay and turnips in Britain, makes it certain that such an export business will be remunerative from now until next harvest. First-class machinery for pressing and baling can be had here, from R. H. Allen & Co., Water Street, New York, and others in the agricultural implement trade. By the way, an inspection of the Messrs. Allen's premises justifies all that we said when giving a synopsis of their voluminous cata-

logue in the CANADA FARMER some months since. It is a very complete establishment, and the implements are of first-class manufacture.

We spent five or six hours very pleasantly in Central Park yesterday. The purchase and laying out of this large tract of what was originally rough waste land, as a vast pleasure-ground, was a magnificent conception. Here are some nine hundred acres, that during the past ten years have been transformed from wilderness to Elysium. We are not sufficiently familiar with landscape gardening to venture the opinion that the plan of these grounds is the best imaginable, but as we surveyed them, we vainly tried to think of something that would be an improvement. There is nothing stiff or formal about the style of adornment that has been carried out. Winding paths, miscellaneous grouped trees, irregularly planted shrubs, and flowers that seem to have come where they are quite by accident; lakes here, fountains there, rustic seats and arbors yonder; rock-work, now on a limited scale, and now in mimic mountain grandeur; with a roomy carriage drive, nine miles in length, smooth and even as though shaped with a housewife's rolling-pin, gracefully curving here, there and everywhere—form a scene of natural and artificial beauty that must be seen to be appreciated. Here pedestrian Five Point poverty and wretchedness is as free to roam as mounted and equipped Fourth Avenue wealth and gayety. The varieties of character and condition to be seen here are quite a study. Beneath you cozy little arbor that shades a seat just large enough for two, are a couple of lovers, telling and listening to "the old, old story" with which Cupid charms his votaries. There on a rise of ground, seated on one of several seats in a large rustic edifice, is a pale-faced student with book in hand, drinking in health and knowledge at once. Near him, on another seat, is an aged and spectacled man reading a magazine. A little farther, a care-worn woman with a babe in arms, and another little one by her side. Yonder in a single-seated lonely recess, is a sorrowful young creature, who looks as if she had grown weary of life and were debating whether or no to renounce all this beauty, and "rashly importunate" go to her death. Fast young men lounge here and there, with misses to match them not far off. But the diversity is well-nigh endless. New York may pour out its millions, and these avenues, walks, arbors, grottoes, terraces and seats will not be crowded. The lake is a curiosity. This whole formation is rocky. Here and there natural rock-work shows itself and gives great boldness to the scene. To form the lake-bed, the rock has been blasted fully a mile in extent, but not all in one large area. There are straits, channels, points, promontories and islands. A fleet of twenty-seven boats equip this lake for voyaging, and for ten cents you may have a sail from end to end of it. Swans of large size and magnificent plumage float on the bosom of the water, and add much to the beauty of the scene. At the upper part of the park you find the highest point. There, on a rocky eminence of considerable elevation, you may see on the one hand Croton reservoir, and on the other New York itself, which owes so much to that reservoir. Croton water and Central Park are fountains of health to this great city, with which it could not well dispense.

But this letter, already quite long enough, must close, leaving us lingering in the loveliest spot we have seen since leaving home. You too, gentle reader, would feel like lingering in Central Park, were you in it, we can tell you.

VICK'S ILLUSTRATED CATALOGUE OF BULBS.—We have received a copy of Vick's Catalogue of Bulbs for the present autumn. The list is full, and accompanied with clear and simple directions for the culture of the several varieties. The name of Mr. James Vick, of Rochester, N. Y., is sufficient guarantee for the excellence of any article advertised by him in this department of Horticulture.

The Texas Cattle Disease.

THE alarm, amounting to panic, caused by the fatal disease introduced into lambs, hogs, and some of the Eastern stock yards, by Texas cattle, has in a measure subsided, not on account of the discovery of any exaggeration in the reported losses sustained, or the virulence of the complaint, but chiefly from the apparent facility with which the spread of the disease can be prevented. It would appear that Texas cattle alone are capable of communicating the disease, and that native cattle, though locally afflicted themselves, do not transmit the virus to others. It is believed also that only during certain limited periods of the year is there any danger from the disorder. If these statements are correct, it is probable that by regulating the periods at which Texas cattle may be introduced, by a system of inspection and quarantine, and by isolating the droves in transit, the future ravages of this terrible scourge may be guarded against.

There is every reason to believe that hitherto we have ourselves escaped the pest. The Canadian Government and the Board of Agriculture have acted in the matter with praiseworthy promptness. By an order in Council the transit of Western cattle through the Province has been interdicted. A special meeting of the Board of Agriculture was convened to take the subject into consideration, and the following resolution, among others, was passed: "That a Committee, consisting of the President of the Board of Agriculture, the President of the Association, Dr. Richmond and Mr. Stone, be appointed to examine into the cattle disease, and report it as early a day as possible; and that Professor Smith, of the Veterinary College, Toronto, be appointed to accompany them." The gentlemen named in the above resolution accordingly proceeded at once to Chicago, intending thence to visit other localities where the disease had been most prevalent and institute a thorough investigation. Up to the present date, Aug. 28th, they have not returned, though we have been waiting in the hope of being able to communicate their report in the present number of this journal. This must now be deferred till our next issue. By that time also the report of the Commissioner whom the Government has appointed to investigate the matter will no doubt be made public.

Since the above was in type the reputation from the Board of Agriculture have returned, and Mr. Smith informs us that it will yet be some days before they can complete their official report. In the meantime we may briefly state that they found the complaint on the decrease in Illinois, partly because in some places a large proportion of the native cattle had died—in Champaign County upwards of 4000 have perished—and also in consequence of the restrictions now in force in regard to Texas cattle. Mr. Smith thinks the prevailing opinion that native cattle will not communicate the disease should be received with caution; that time and further experience are yet needed to determine this point, as well as much more respecting the precise nature of the disease. It has made its appearance in Kansas, also in St. Louis and Sullivan, in Missouri, and in Cincinnati. Under all the circumstances the Deputation are of opinion that it will not be wise to relax the interdict against the admission of Western cattle into Canada.

The Provincial Exhibition.

THE Provincial Exhibition at Hamilton this year promises, in the number of entries, to be fully equal to any of its predecessors. The condition of the crops is looked on as a circumstance favouring a good show, and the entries of grains, especially wheat, have been above the average. As the entries are not all made, and a large number of those sent in have yet to be recorded, no figures to show the aggregate in each class can be had, and it will be close on the Fair week before a correct estimate can be made.

The entries for live stock closed on the 23rd ult., but as all have not yet been registered, we cannot give the exact figures. In the classes of horses,

cattle and sheep, there will be a large exhibition, the show of pigs will be below the average in number, while that of fowls will probably be very numerous. On the whole, there is every reason to expect a large and, we doubt not, a creditable and successful Exhibition.

Book Notice.

A GUIDE TO THE STUDY OF INSECTS AND A TREATISE ON THOSE INJURIOUS AND BENEFICIAL TO CROPS. For the use of Colleges, Farm Schools, and Agriculturists. By A. S. Packard, Jr. M. D. Salem: Press of the Essex Institute. Part II. July 1868. Price 50 cents.

The second part of this valuable work is now before us, and we desire again to cordially recommend it to the attention of our readers. The present portion of the work consists of sixty-eight pages, clearly printed on fine smooth paper, and illustrated by about fifteen wood-cuts, and two full-page plates carefully and accurately executed. It gives first the conclusion of the account of the strange and marvellous transformations of insects throughout their life, from the egg to the winged imago; then follows an outline of their geographical distribution, including a notice of variation of species produced by climate, soil and food, and the remarkable fecundity possessed by noxious insects accidentally introduced into this continent from Europe, of which the wheat-midge and currant-bush saw-fly are notable instances. A somewhat kindred subject, their geological distribution, is next taken up, and notices, accompanied by illustrations, are given of many singular fossil specimens that have been discovered in the coal measure of Nova Scotia, New Brunswick and other northern districts. When the delicate fragile structure of insects is considered, it is very wonderful to find how many specimens have been obtained from the solid rock. The diseases and deformities of insects, a branch of entomology that has been seldom investigated, are briefly noticed; then follows a most useful and valuable account of the best modes of collecting, preserving, and rearing insects, which we would strongly recommend to the attention of all insect collectors; a useful list of the most important works on entomology, and tables of the various modes in which insects have been classified by authors, complete the preliminary portion of the work. A systematic account of the various orders of insects is then begun,—the order Hymenoptera, which includes bees, wasps, ichneumons, saw-flies, etc., being first taken up, as holding the first and highest rank in the insect series. This part of the work well deserves the careful perusal of all interested in the habits and works of bees and their enemies, and therefore ought to be in the hands of every bee-keeper in the country. Of the whole work, judging from the two parts now issued, we may say that it furnishes to beginners in entomology a manual of direction superior to any that we have ever before met with while to the more advanced student it affords a convenient and useful book of reference.

PRIZE LISTS.—We have received, amongst other documents of a similar nature, the list of premiums for the forthcoming Agricultural Exhibition of the New York State Agricultural Society, and also that of the Michigan State Agricultural Society. The former of these, as already announced, will be held in Rochester, from the 29th September to the 2nd October inclusive; and the latter in Detroit, from September 15th to the 18th—the weeks preceding and following the Provincial Exhibition at Hamilton. The premium lists embrace all the usual departments, and are on a liberal scale. Additional prizes are also offered for the best crops of various kinds, and for the best essays and reports of experiments on certain specified subjects. The directors of the New York Society wish especial attention to be directed to their new regulation requiring that all entries of cattle, horses, sheep, swine, poultry, and machinery should be made at least two weeks before the fair.

SELLER CIDER MILLS. We direct attention to Mr. Sell's advertisement of Cider Mills, in the present issue. These well-made and thoroughly efficient presses have gained distinction wherever they have been exhibited, and have given entire satisfaction to those who have used them.

MUSKOKA SETTLER'S GUIDE.—We have received a small sheet bearing this title, and published by the Muskoka District Settlers' Association. We presume it is intended to follow up this first number by others from time to time, as matter accumulates and occasion requires. The present number is chiefly occupied with an account of the origin, objects, history and recent meeting of the Association. It contains the President's address, and a paper on the district of "Muskoka as a field for settlement," full of valuable and interesting details, given apparently in an honest and impartial spirit. We commend the example and efforts of the Association to disseminate trustworthy information concerning a region hitherto little known, and very sparsely settled, but offering by all accounts many inducements to the hardy and enterprising emigrant.

Agricultural Intelligence.

Show at Aberdeen of the Highland Society.

To the Editor of THE CANADA FARMER:

SIR, The forty-first exhibition of this venerable society, which may be regarded as the parent of all British agricultural societies, is just concluded. The good old "granite city" has been full to repletion, and everything appears to have been done that was practicable, both by the directors of the society and the citizens generally, to accommodate visitors and make the occasion what it has proved, a great success.

I may just state for the information of some of your readers that the "Highland Society" was first established by royal charter as far back as 1787, and that its sphere was confined to the more alpine districts of Scotland, as its name denotes. For many years previous a society had existed in Edinburgh for the improvement of land, consisting mainly of the great landholders; but it does not appear that this society attracted much public notice; yet it published its transactions and unquestionably led the way for the formation of the Highland Society. As, by degrees, it became apparent that the Society's operations should not, and in strict practice were not exclusively confined to the Highlands, an amended charter was obtained in 1834, and the name of the society thenceforward has been known as "The Highland and Agricultural Society of Scotland." Under its enlarged charter the Society has not only sustained in a spirited and liberal manner a yearly show of stock and implements, but devoted periodically a large amount of funds to the preparation and publication, by way of premiums, of essays and reports on the theory and practice of husbandry in all its various applications. It was also, I believe, the first British Agricultural Society that engaged the services of a Professor of Chemistry; the late Professor Johnston had the first appointment, who was succeeded by the present accomplished chemist, Professor Anderson. The society also gives aid to local shows, and has of late encouraged the study of the science and practice of agriculture by awarding diplomas to young men, who undergo satisfactorily certain courses of examination. In this way the society has been able to obtain most valuable materials for publication, and the large number of volumes in its transactions shows the talent and liberality with which its proceedings have so long been conducted.

The only thing worth mentioning that I have heard of, disadvantageous to the present show, arose from some unfortunate misunderstanding between the exhibitors of Clydesdale horses and Argyleshire cattle

in the vicinity of Glasgow and the railway managers, relative to the transport of the same to and from Aberdeen. The consequence was that these important classes were but very indifferently represented here, and a show was got up in Glasgow on one of the same days as the Highland, a circumstance liable to an unfavourable interpretation, and in every way likely to be regretted. I am informed by a gentleman who was present that quite a number of animals of very excellent quality was got together at Glasgow, and prizes awarded of equal value to those of the national society. Considering this drawback and the character of the season, the Aberdeen show must be regarded by its friends and patrons with no small degree of satisfaction, if not of pride. About fifteen acres of the "Links," a large undulating space between the city and the sea, were walled in, and it was found only just large enough to comfortably accommodate exhibitors and visitors. The judging commenced on Tuesday morning, and was got through with by two in the afternoon. The public were admitted during the period of judging on the payment of ten shillings; the remainder of the day and the next day, the fee was reduced to half a crown, and to one shilling on the third and last day. By these arrangements there was no overcrowding, and all classes had an opportunity of inspecting comfortably and fully each department of the show.

I could not, perhaps, give your readers so adequate an idea of the exhibition as by stating the aggregate number of animals entered in each class:—

Short-horn Bulls.....	42
" Cows.....	30
" Heifers.....	43
Aberdeen or Angus Polled Bulls.....	40
" " Cows.....	21
" " Heifers.....	25
" " Oxen.....	9
Galloways, Polled Bulls.....	7
" " Cows.....	4
" " Heifers.....	11
West Highland Bulls.....	14
" " Cows.....	17
" " Heifers.....	10
" " Oxen.....	9
Ayrshire Bulls.....	8
" " Heifers.....	6
" " Dairy Cows.....	17
" " Fat Oxen.....	24
" " Fat Heifers.....	11
" " Crosses.....	6
Total.....	373
Horses.....	153
Sheep.....	632
Swine.....	57
Poultry.....	480
Grand total.....	161

The number of machines and implements, and other articles included in that department, amounted to 1158. As the exhibition was open to competitors from all parts of the United Kingdom, the implement department comprised seventy-eight Scotch, twenty-nine English, and two Irish exhibitors; making a total of 106. The number of exhibitors in the live stock departments was 285, and these, with very few exceptions, were Scotch. The distance of Aberdeen, coupled with the fact of the show being held so soon after that at Leicester, will sufficiently account for the small number of English exhibitors.

In a communication of this kind space will not admit of many particulars, most of which would not possess much, if any, interest to your readers. The Short-horns were not only comparatively numerous, but of excellent quality; the bulls particularly, it was said, had never been excelled. Mr. Cruikshank, of Sittyton, in this county, who it is said has the most extensive herd of Short-horns in the United Kingdom, exhibited a splendid old bull, "Forth," the finest handler I ever met with. Though I heard it stated by several parties who had watched his career, that his symmetry was less perfect than formerly, and that high feeding and preparing for shows had produced a deteriorating effect upon him, as it has often

done on too many of our choicest animals. Mr. Barclay's fine bull, "Heir of Englishman," which I saw at Leicester, where it attracted general attention and received from the judges a highly commended, here obtained the first prize. The two-year old bulls, as a class, perhaps were not in point of symmetry equal to the aged class, Mr. Cruikshank's "Grand Prince" was placed first, and a finer looking animal one seldom sees. The yearling bulls were unexceptionably good. Of the cows and heifers it may be said, with some few exceptions, that they contained specimens rarely excelled—all the leading points well and harmoniously developed, that characterize the modern Short-horn. Mr. Ainslie's "Thistle-down," two years, a faultless animal, won the first prize. Several eminent Short-horn breeders in the Lothians were absent; but the young stock in particular was of a high character, indicating progress in the future.

The Polled Angus, or Aberdeen, was after all the breed that gave a decided character to the show. All I can say myself, not having any experience of this breed, is that they are very beautiful animals, having the expression and points that indicate a distinct type. Those who have a practical knowledge of the breed spoke of the specimens exhibited as surpassing all former occasions. In this north-eastern section the Polled Angus has for many years received special attention, and here, if anywhere, perfection, or something approaching it, may be reasonably looked for. Mr. McCrombie, of Tillyfour, whose farm I hope to have the pleasure of inspecting before leaving the country, took a prominent position in this class; his herd is thought to be unsurpassed, both as regards extent and character. The Polled Galloways did not muster in great numbers, and as a class were considered to fall below the Angus, yet there were some very fine specimens of this valuable breed. To the ordinary observer the Angus and Galloway will appear almost identically the same, but the practical eye detects the difference. The former usually attain a greater size, have a less shaggy coat, and are better adapted to a dry climate, like that of the east coast of Scotland. The Galloway is found well suited to the soils and climate of Canada; few have yet tried the Angus, which I have little doubt would be found to endure our dry cold of winter very well. As beef cattle, both breeds are held in very high reputation in Britain, and command high prices.

I naturally felt much interest in the Highland class, a type of animal so very different to the larger breeds one has all along been accustomed to. The West Highlanders, I was assured by competent judges, were quite up to the mark, and they certainly have all the characteristics of a distinct breed, specially adapted to the soil, climate and exposure of the bleak and mountainous parts of the country. The Duke of Athol showed several beautiful specimens, as also did others of less note. As the beef of this hardy race fetches from eight pence to ten pence a stone more than that of the larger breeds, in London and other great markets, more attention has of late years been paid by hill farmers to the breeding, feeding and protection (at least to some extent) of the Highland cattle, the consequences are greater size, earlier maturity, and a more thorough intermixture of fat and lean in the flesh, which becomes thereby greatly improved.

The Ayrshires, for reasons already stated, were poorly represented. There were a few specimens of decidedly superior animals, denoting strict attention to breeding and good management. In Canada they would be considered rather small. While looking at this class, I accidentally fell in with Mr. Laurie, of Scarborough, Ontario, who was inspecting the show yard with a view to procuring something to take back with him. All really good animals for breeding, whether horses, cattle, sheep, or swine, are held at very high prices.

I was not prepared, especially during such hot weather, to find so large and good a display of fat

cattle. The Short horn in weight certainly excelled but the Polled Angus came well up to it, and most animals one need not care to see. The Short-horn bull is commonly employed to cross with the Polled, and even the West Highlanders, and the result is, I am informed, very satisfactory, for slaughter of course not for breeding from. Not a single specimen of a Devon or Hereford was on exhibition, these breeds being hardly known in Scotland.

The show of horses was not equal to former years, mostly in consequence of the large number of Clydesdales from the south-west not putting in an appearance. The cart horses would be considered too heavy in Canada, though some, both mares and stallions, evinced good action in connection with great muscular power. The truth is, heavy horses are only suited for drawing great weights at a certain and comparatively slow pace, and to combine the two opposite conditions of great weight and quickness of action in the same animal is physically impossible. There were some good specimens of thorough-breds, roadsters and ponies; some of the former seemed excellently adapted for breeding saddle and carriage horses. As the roads in the United Kingdom have of late years been brought into so smooth and perfect a state, carriages of all descriptions have become lighter than formerly, and consequently horses for locomotive purposes are less massy.

The display of sheep was not so extensive as I had expected, particularly in the mountain breeds. The Leicesters, on the whole, were decidedly good, the best it is said that have ever been seen north of the Tay. The few Southdowns exhibited indicated a coarseness not pleasing to a Southern eye. They were, no doubt, large and strong constituted animals, well adapted perhaps to the situations in which they were located. The Shropshire Downs were good, and this useful breed seems to be extending in every direction. Both the Cheviots and black-faced sheep were very limited in number, a fault which their superior quality, in great measure, made up. The heather sheep of the mountains I regard as the prettiest specimen that can be found among the various British breeds, and their practical management among the hills and narrow valleys of the Highlands is a most interesting study to a lowland farmer. Their flesh is peculiarly delicate, and commands the highest price. These sheep, like the West Highland cattle, have been much improved of late years by more attention being paid to breeding, feeding and shelter; though yet, I am told, it continues widely the practice to let them in great measure forage for and take care of themselves.

The swine department was also restricted as regards number, which I am told is usually the case in most of the Scottish shows. For quality, however, I never saw better anywhere. Mr. Duckering, of Lincolnshire, and Mr. Findley, of Glasgow, with others that could be mentioned, exhibited a number of animals that could not well be excelled.

In poultry the competition was not great, but there were specimens of high merit in several of the breeds. Some of the ducks were superior, and the Grey Dorking was represented, and is, I should infer, a favourite barnyard fowl in Scotland.

The implement department was much larger than at any show heretofore so far north. The articles were in great measure precisely the same as were shown in very much greater number at the recent English show at Leicester. Fowler's traction engine and ploughing apparatus was exhibited by a Kincardine Company. The machinery was put in motion, but there was no opportunity of doing real work, nor any testing of implements in the field.

At these national shows no grains, fruits, &c., are exhibited; a want that has very long been felt has been partially met, both in England and Scotland, by holding an horticultural exhibition during the same time and adjoining the show yard of the agricultural show. The Royal Horticultural Society of Aberdeen accordingly held a very successful show of flowers and fruits in a capacious tent, and wooden shedding. I was not prepared to see so extensive and fine a display in the various branches of horticulture. The floral tent had a magnificent appearance, and the vegetables and fruits, considering the unfavourable character of the season, were really excellent. Late

strawberries were of large size and rich in quality, having a peculiarly pleasant acid flavour. The gooseberries were the finest I ever saw, and the other small fruits were of excellent quality. This part of Scotland is renowned for its gooseberries and strawberries and yearly sends large quantities of plants to various parts of the world. The pine-apples, grapes, peaches, nectarines, and other hot house fruits, were splendid, indicating, in an unmistakable manner that the Scottish gardener, as well as farmer, has attained to an advanced position both at home and abroad. I have just learnt that the total receipts at the gates of the agricultural show were £1,576, and the amount of prizes offered £1,600.

The excessive heat which has for many weeks prevailed seems now somewhat abated. Showers have more or less fallen in various places in the United Kingdom, and their effects have doubtless been locally beneficial. It may still, however, be said that the drought continues, with no immediate prospect of a permanent change. Water universally is getting scarce, and in some localities it can be obtained only in the smallest quantity. In such situations cattle are suffering as much, if not more, on that account than from want of keep. Pastures being dried up, farmers have to give their cattle and sheep large quantities of grain, oil cake, and other artificial food; even, in some places, the dwarfed sprig, grain has been cut and devoted to that purpose. Considering all these disadvantageous circumstances, it is really surprising to find stock doing so well as is actually the case. The greatest suffering has been among young lambs, from the want of a sufficiency of milk; many ewes soon after lambing having gone nearly dry. I have been surprised to find in various parts of the country how well sheep have done where they could get anything in moderation to eat; and on the richer pastures, although apparently nearly burnt up, the animals have actually got fat. What is now wanting to save the stock is a succession of heavy showers, and the possibility is that pasturage will be abundant during the later portion of autumn and the earlier part of winter.

In the central and southern parts of England the harvest is fast drawing to a close, and here in the northern parts of Scotland it has on the earlier soils commenced. This is almost unprecedented in the annals of British agriculture. Wheat is the only good crop that the British Islands will this year produce, and this remark will more or less apply to many portions of the European continent. The price of wheat is rapidly falling, but I do not, after all, anticipate very low terms for that indispensable article. Spring grain generally must be very deficient, and will command high rates. In this part of the Kingdom oats and barley are extensively cultivated, and where got in early, in good condition, on the richer and cooler class of soils, these crops are very fair, but in general they are miserably bad. What with the inferior grain crops and the great reduction in the price of all kinds of stock, this must prove a very losing year to the British farmer. I am glad to hear such good accounts of the crops in Canada, and our farmers will find on this side a brisk market for their surplus spring grain. Of the potato disease I hear not a word, the drought seems to have annihilated it, at least for the present, but the crop, as also that of turnips, mangels, &c., must be very light. I shall return to the Lothians through the Western Highlands, having received several invitations from hill farmers, whose systems of management will be new to me, and no doubt suggestive and interesting. I have as yet been uniformly received in a friendly manner, and find the people generally well disposed to hear information on matters relating to Canada. Of the anti-colonial feeling, I have as yet seen scarcely a trace of the existence.

GEO. BUCKLAND.

Aberdeen, August 3rd, 1868.

The Crops in the United States.

THE Associated Press of the United States have received reports from almost all parts of that country regarding the harvest. We give them below condensed:-

WHEAT—This crop is larger than last year in West Virginia, Indiana, Ohio, Missouri, Kansas, Utah, Colorado, Montana, Illinois, Iowa, Wisconsin, Minnesota, New York, Pennsylvania, New Jersey, Maine, Massachusetts, Connecticut, and New Hampshire, and the quality is regarded as excellent. In Georgia, South Carolina, Alabama and Texas, the reports are not so good, the yield being indifferent. In Louisiana, Arkansas, Kentucky, Mississippi, Maryland, South Western Virginia, Central Tennessee, North Carolina, Delaware, and Vermont, the crop has been an average one.

CORN—From all sections of the country this crop is very large, and quality remarkably good. The yield this year promises to be fully one-third more than last. This is especially true of the Southern States.

OATS—In Kentucky, Tennessee, West Virginia, Indiana, Missouri, Kansas, Ohio, Nebraska, Iowa, Wisconsin, Minnesota, Vermont, New York, and Illinois, (especially in the latter States), the yield is large, while in Louisiana, Mississippi, Georgia, Florida, South Carolina, and the other Southern States, it will not be more than an average. Late rains have injured the crops in New Jersey, Pennsylvania, Delaware, Maryland, and Maine, and the yield in these States will be less than usual.

BARLEY—Will be an average crop.

HAY—More than the average crop will be realized in Pennsylvania, New York, Indiana, Ohio, New Jersey, Delaware, and Maryland, the yield is very large and of excellent quality.

The potato crop is generally large and good. A heavy mildew and insects have killed hops in Pennsylvania.

The Drought in England.

THE long continued dry weather in England is causing the export from America of an article which we rather think for the first time crosses the Atlantic in any noticeable quantity. Five steamers—the "Colorado," "City of London," "City of New York," "Erin," and "Louisiana,"—have all within a week left New York, freighted with hay for the British market; and all the steamers for a fortnight ahead are bespoken for the same cargo to their utmost capacity. If rains do not come speedily in Britain this must go on for the season. Already hay is commanding very high prices in the interior of England. It is calculated that the sheep alone require as much as 54,000 tons a day; and they are in many districts being fed as much as in the midst of a snow storm in the depth of winter. To what extent this want may be supplied from the continent of Europe of course cannot as yet be determined; but the fact of hay being already exported from America, and at such a price as amply to repay the trouble and expense, gives us a new idea of the extent and severity of the drought. It is not too late yet, if rain in abundance should come speedily, to have the pasture revived, but up to the 6th of August, at any rate, there seems to have been no change, such as all must be anxiously looking for.

Growth of an Australian Colony

ALTHOUGH the first rush to the new Australian colony of Queensland, which was erected as an independent settlement on the 10th of December, 1859, met with some check in 1866, and the country seems also to have been subjected to drawbacks from the fact that the settlers are such as usually throng to a new district about five per cent. of the entire population being annually taken into custody—the progress of the colony has been remarkable. According to a despatch from the Governor, Sir G. F. Bowen, just published, the European population since the date of its establishment has increased from less than 25,000 to nearly 100,000; while the revenue and the trade, including exports and imports, have been almost trebled. The other chief elements of prosperity have advanced in a nearly equal proportion. During the same seven years cotton and sugar have been added to the list of staple products; a line of new ports has been opened along the eastern seaboard from Keppel Bay to Cape York, a distance of 1,000 miles; and settlements have been formed around the head of the Gulf of Carpentaria on the northern coast of the Australian continent and a distance of more than 1,500 miles from the seat of government at Brisbane. Moreover, during the same period, pastoral occupation has spread over the greater portion of the interior of Queensland; that is, over an additional area at least four times larger than the area of the United Kingdom. In 1859 the pioneer settlers had scarcely advanced beyond the Darling Downs to the west, or beyond Buckingham to the north. Now there are stations more than 700 miles to the north and north west of Buckingham.

A new variety of corn, the result of selecting seed and of high culture, has originated in Minnesota. The yield last year was as high as 127 bushels to the acre.

American State Fairs.

THE following is a list of the principal American State Fairs, with the days on which they will respectively be held.

New England....	New Haven, Ct.....	Sept. 1-6
Kentucky.....	Louisville.....	Sept. 8-12
Vermont.....	Burlington.....	Sept. 8-11
Michigan.....	Detroit.....	Sept. 15-18
New Hampshire....	Manchester.....	Sept. 15-18
Ohio.....	Toledo.....	Sept. 21-25
Illinois.....	Quincy.....	Sept. 21-26
Iowa.....	Clinton and Lyons.....	Sept. 22-Oct. 2
Indiana.....	Indianapolis.....	Sept. 23-Oct. 3
Wisconsin.....	Madison.....	Sept. 23-Oct. 2
Minnesota.....	Minneapolis.....	Sept. 23-Oct. 2
Pennsylvania.....	Harrisburg.....	Sept. 23-Oct. 2
New York.....	Rochester.....	Sept. 23-Oct. 2
Maine.....	Portland.....	Sept. 24-Oct. 2
New Jersey.....	Waverley.....	Sept. 23-Oct. 2
Colorado.....	Denver City.....	Sept. 23-Oct. 3
Kansas.....	Leavenworth.....	Sept. 23-Oct. 2
Missouri.....	St. Louis.....	Oct. 3-10.

AGRICULTURAL FAIRS.

Am. W. G. Association.....	Cincinnati.....	Sept. 22-
N. Y. Grape Growers.....	Canandaigua.....	Oct. 7-8

ENGLISH CROPS—The *Agricultural Gazette* furnishes the following tabular statement of over two hundred returns of this year's crops from various localities in England, which show wheat and peas to have been considerably over the average of previous years, while other crops have been mostly below the average:

	Total.			Percentage.		
	Average.	Under Average.	Over Average.	Total.	Under Average.	Over Average.
Wheat.....	67	13	126	200	32	61
Barley.....	54	140	6	199	27	3
Oats.....	37	128	2	177	19	80
Peas.....	35	8	52	145	68	36
Beans.....	12	137	0	159	17	0
Root crops.....	0	192	0	201	5	0
Potatoes.....	93	101	4	198	52	46
Hay.....	22	180	2	204	12	0

A letter from Denmark describes the heat in that country as most intense. The wheat and rye are good, but all other crops are failures. The prospects of the cattle trade are indifferent. Farmer (Scottish).

A large trade in the importation of wheat from California is going on at New York. Eighty-nine vessels are said to be on their way from San Francisco to that city at present, loaded with cargoes of wheat aggregating about five millions of bushels.

FALL SHOWS.—The annual exhibition of Addington Agricultural Society, will be held at Newburgh, on Thursday, the 15th day of October next. The township of Camden Show will be held on Saturday, the 10th day of October next, at Centerville.

THE WOOL MANUFACTURERS' CONVENTION met in Chicago, on the 5th of August, under very favorable auspices. The display of woollen goods, including cloth, jeans, shawls, blankets, flannels, yarns, knit goods, &c., was very good indeed. The wool-growers, with few exceptions, seem to have given this exposition the cold shoulder. The states of Illinois, Indiana, Iowa, Wisconsin, Michigan, Ohio, Kentucky, New York, Rhode Island, Massachusetts, Pennsylvania and Connecticut were represented. Gov. Oglesby, of Illinois; Mayor Rice, of Chicago; Hon. J. B. Grinnell, and other distinguished gentlemen addressed the Convention.

THE PARIS EXPOSITION.—The honours awarded to exhibitors from this Province, at the International Exhibition last year in Paris, have been received by the Secretary of the Provincial Agricultural Association and distributed to their owners. The diplomas accompanying the medals are now gracing the shop windows in more than one place through the city, the possessors evidently attaching some value to their mark of pre-eminence. Recently we were shown a bronze medal awarded to Mr. Francis Barclay of Innisfil, for a sample of wheat, the same wheat which took the Canada Company's Prize here in 1866. The ornament is naturally very much prized by its owner, and although not the highest awarded, still reminds us that Canada can stand comparison with wealthier communities in the staple product.



Hybridizing and Crossing the Grape.

A REPORT FOR THE DIRECTORS OF THE FRUIT GROWERS' ASSOCIATION OF CANADA.

GENTLEMEN.—There is no practice more fascinating and instructive in the whole range of horticultural experience, than that of producing new varieties of fruits by the art of hybridizing. It brings the operator into very intimate relation with those laws which govern the production of new being. He learns that nature, in her great laboratory, contains unlimited material for the development of man's skill; it makes him comprehend that beautiful liturgical expression,—“As it was in the beginning, is now, and ever shall be.” He sees the strongest analogy between the vegetable and animal kingdoms; he acknowledges, with a subdued spirit, the harmonious relation of forces; and with a thoughtful, inward, voluntary praise, worships the ACTION.

That the mode of operation may be clearly understood, he should examine the flowers of the grape at different stages of development with the microscope. He will see that the whole cluster contains many distinct flowers, each one of which is capable of self-fertilization, and has a cap composed of five petals cohering, which is raised up and thrown off by five expanding stamens contained within the cap; each stamen holds a small cup, called an anther, at its summit, containing the pollen, or male essence, beautifully surrounding the stigma, the terminal point of the pistil or female organ—the crown of the fruit in embryo; this apex contains a viscid substance to which the pollen adheres when brought in contact by the air or insects; when the grains of pollen lodge here they cannot get away, they penetrate and are absorbed by the stigma, and pass down through the pistil to the ovules or undeveloped seed. These beautiful organs, so suitably adapted to an intelligent end, command our attention. The process of fertilization goes on without our assistance; and it is a startling fact that in a short period the compass of this earth would not be sufficient to contain the reproductive force of a single species, were there favorable conditions to sustain the life of every germ.

When we wish to produce a new variety, by crossing, we place the pollen of one variety upon the stigma of another. Let me proceed to explain intelligibly how the whole process is performed. The operator must secure a magnifying glass, sufficiently powerful to see each separate grain of pollen; a delicate pair of pincers and scissors; a camel's hair pencil; a very small clean and dry vial, with a large neck; a sheet of white, smooth, glazed paper; a thin paper bag to enclose the cluster when finished; and a label to mark the parentage. He must then on a clear dry day take the glazed paper, and with it surround as many clusters as required of any desired kind, in full flower, when scattering their pollens bounteously; snap the paper several times with the finger, it will then contain the pollen; open it carefully, gather the powder with the pencil, twirl it in the vial, and thus proceed until he have sufficient; then cork tight and put in a dark, cool place, labeled for future use. It is necessary that the flowers to be fertilized should be the last to bloom; when these are ready, which will be indicated by some of the caps being thrown off, then, with the scissors, remove two-thirds of the flowers in the cluster, with those already opened, and from the balance, with the delicate pincers, gently remove the caps; this any one will be able to do by a little skilful practice without

injury to the stigma. Cut away the stamens, with their anthers, and with the magnifier observe the viscid surface of the stigma; should there be one with a grain of pollen adhering, cut it off; if not, take the hair pencil, introduce it in the vial, great quantities of pollen will adhere, place it upon the viscid stigma of each. Take the glass again and look; if the points are covered with pollen the work is good; inclose the cluster in the paper bag, tie the mouth and label it with the parent's names; this should all be done in the morning, after the dew is gone; let the bag remain till the surrounding flowers, have set their fruit and commenced growing—so as to avoid insects and stray pollen. This practice with the grape will enable the hybridizer to operate with other flowers and fruits; but he must always bear in mind that the success of this undertaking depends much upon the proper selection of the most suitable parents for a desired result; this will always be open to the judgment of each operator; and also that beside the variations of seasons, the different modes of cultivation will perpetually produce varied results. For these reasons I would recommend all those who are trying their hands in this direction, to continue their operations from season to season. It will be found also, in the course of practice, that the difference in sexual conformation prevents certain kinds from hybridizing; but I have no doubt that this disparity will be overcome by first breaking the habit of these by more mutual crosses.

Mr. William Saunders, of London, Ontario, has, with much skill and labour, produced this season the following results in hybridizing, and has kindly permitted me to lay them before you.

FEMALE OR BEARING VINE		
Counton—with Syrian pollen	Set 18	Berries.
“ Muscat Hamburg, 2 bunches	“ 0	“
“ “ 1 laid, the other set	“ 1	“
“ Buckland Sweetwater	“ 30	“
“ Muscat D'Avut	“ 8	“
“ Black Hamburg	“ 5	“
“ Grizzly Fontignan—failed	“ 0	“
“ Black do	“ 0	“
“ Chasselas Musque	“ 5	“
“ Royal Muscadine	“ 22	“
“ Victoria Hamburg	“ 19	“
“ Rose Chasselas	“ 13	“
Total	121	
OF GOOSEBERRIES		
Houghton's Seedling with Warrington pollen	Set 6	Berries.
“ “ Roaring Lion	“ 2	“
“ “ White Smith	“ 1	“
“ “ Brown Girl	“ 5	“
“ “ Ashton's Seedling	“ 2	“
“ “ Crown Bob—failed	“ 1	“
Total	16	

Eight or ten flowers were operated on in each case, excepting Crown Bob, which was used on five only. He also operated on six or seven flowers of the Philadelphia Raspberry, with the Brinkles Orange; such were his results. Mine were as follows: I was unable to fertilize the Delaware with either the Black or Muscat Hamburgs, while one took readily with the Diana.

MALES.	FEMALES.	CLUSTERS SET	BERRIES.
Black Hamburg	Delaware	2	0
Muscat Do	Do	1	0
Chasselas de Fontainebleau	Do	1	6
Rose Chasselas	Do	1	1
Do	Diana	1	13
Chasselas de Fontainebleau	Do	1	24
Do	Do	1	0
Do	Rebecca	1	0
Do	Isabella	1	0
Muscat Hamburg	Diana	1	26
Bowood Muscat	Hog's No 4	1	27
Delaware	Do	1	17
Total		114	

Mr. Saunders' total 121—235
So slow and tedious is the process, it will be observed that only a limited amount of labour can be performed by one person during the time of flowering. Mr. Saunders exceeds me by seven berries. Now to test the quality of only a portion of these which may survive the vicissitudes of germination and other mishaps, it will take from six to eight years. I know no reason why the Government should not protect, by patent, the production of new fruits; they are in point of fact quite as worthy as any other production of science and skill.

Yours respectfully,
WM. H. MILLS.

Hamilton, 21th August 1868.

Garden Seeds.

FARMERS are sometimes apt to be dependent on the salesman for their yearly supply of garden seed; whereas a little forethought and attention at the proper season, would not only save them annually the sums expended in purchasing seed from the store, but would ensure the required article of the proper age and quality, and would also give better opportunity of making improvements in the different varieties. To do this, however, care and judgment are necessary. It will not answer to adopt the principle of setting aside the last-ripe, or the smallest products of either garden or field, for the next year's sowing. Potatoes too small for use are unfit for planting, and late ripened seeds of any kind will probably yield a late maturing plant the next season. Let the farmer make his selection from known varieties, the qualities of which he has tested. Let him set aside early in the season a single plant or two of promising appearance, for the special object of growing to seed, and bestow on these plants special attention. He will thus secure germs that will probably yield more luxuriant growth and better quality in the succeeding product. He will certainly save himself the disappointment of obtaining old seeds instead of new, or a different variety from that which he expected. Having secured his seed, he must of course be careful to place it in security from damp or the depredations of mice, and must not omit to label each parcel with the correct name, and the date of the contents. These are simple matters, scarce calling for notice, yet in how many instances does failure come from inattention to them. We know not a few who make a point of saving seed in the fall, and yet have invariably to purchase their supply in spring. Mice, or damp, or want of care in labeling, or some other equally trifling cause, have defeated all their pains.

Gathering Fruit.

THE appearance and the value of fruit depend very much upon when and how it is gathered. Strawberries, if picked carefully, with half or quarter of an inch of stem attached to each berry, and laid carefully in the basket, will carry better, and sell for a greater price, than when pulled hap-hazard, some with hulls and stems on, and some with them off. Again, if they are gathered when they are perfectly dry, they will keep longer and retain a better flavour than if gathered while wet. A little water not only hastens decay, but it rapidly destroys the flavour of many delicate soft varieties. After being gathered, they should never be allowed to stand out exposed to the sun, as with many varieties, it takes but a little while of exposure to a hot, clear sun, to destroy their brightness of color.

Peaches should be left on the tree until they are fully ripe, and then gathered carefully with thumb and finger, and at once laid in the basket or box in which they are to be marketed. If the bloom is rubbed off the peach by rough handling, its beauty of appearance is injured, and it will decay much sooner than if untouched. Formerly it was supposed that the peach must be gathered before being fully ripe, in order to ship it any distance, but practical experience has proved that ripe fruit, not quite soft, will carry quite as well as unripe, and command a much better price.

Pears and apples should never be picked from the tree by breaking the stems. Unless the stem will separate freely from the tree, the fruit is not ripe; it will neither eat nor cook good, and is only fit for those who want a touch of the cholera morbus. Apples, as gathered, may be sent directly to market, but nearly every variety of pear is improved in appearance and quality by keeping in close dark drawers, wrapped in flannel or soft paper, or packed in bran for a few days.

For profit, and in order to obtain the highest price, all fruit pays to be assorted into two or more grades. A few scattering large berries, apples, or pears in a quart or bushel, do not assist in advancing the price; but if carefully packed by themselves will bring the highest price, and often induce the dealer to buy the small fruit in order to get the large.—Horticulturist.

The Vineyards of the Islands of Lake Erie.

THE Kelley's Island correspondent of the *Ann Arbor Courier* says:—"The whole secret of grape culture here is all explained in the peculiar mildness of the climate. The large body of water surrounding the islands becomes so heated during the summer that the frosts do not come until December, not even severe enough to injure the tomato vines. The cost of raising grapes is moderate; one man can easily cultivate five acres—one horse, a plough cultivator, and a hoe is all that is needed. The grape roots are placed in rows, six by eight feet apart, and the vines are held by three rows of wires, strung on posts. In the spring, all the wood of last year's bearing is cut away, and from two to three vines of last year's growth are allowed to grow, being cut back from three to four feet from the ground. To secure a good crop, the vineyard must be well ploughed, cultivated and hoed, keeping it free from all weeds and grass. The price of grape land is \$300 per acre, and when a vineyard is in full bearing, after a three years' growth, it is worth \$1,000 an acre. The average net profit from one acre of grapes is \$300, but as high as eight tons to the acre has been raised—which, at the low figure eight cents a pound, brings the snug little sum of \$1,280. I have visited the vineyards on Middle Bass Island, and I find a great difference in the cultivation of the grape, some neglecting and others taking the utmost pains to keep them clean, in order to secure a good crop. W. W. Wicker and Capt. Atwood have the best prospect of a good crop of any I have seen—although not much over one-half a crop is expected, owing to the rot and mildew. The Concord, Delaware, and Catawba, are the best grapes raised here. One thousand acres of grapes are now in training, mostly on North Bass, Middle Bass, or Put-in-Bay and Kelley's Island, which together contain about 6,000 acres. Immense quantities of pure native wines are also made on these islands; the amount last year was 100,000 gallons. The Catawba wine is of an excellent quality. At the Paris Exposition, where all the noted wines of Europe were on exhibition, the American wine took the premium. It is a singular fact in this wine-making, that the wine always undergoes two fermentations; one when pressed from the grape, and the other the next spring, when the leaf and blossom of the vine appear. Large wine-cellars, capable of holding from 8,000 to 80,000 gallons, are built in the solid rock, arched over with stone or brick, in which the wine is stored until fit for market."

Evergreens in August

THE latter end of August is one of the best seasons of the year to transplant evergreens. The young growth of the past season has got pretty well hardened, so as to permit of but very little evaporation—and the earth being warm, new roots push with great rapidity, and the tree becomes established in the ground before cold autumn winds begin. The chief difficulty is, that the soil is usually very dry, which prevents much speed with the operation; and the weather being usually very warm, the trees have to be set again in the ground almost as fast as they are taken up; so that it is not safe to bring them from a distance. It is as well, therefore, to make all ready in anticipation of a rain, when no time may be lost in having the work pushed through. Should a spell of dry weather ensue—which in September and October is very likely—one good watering should be given, sufficient to soak wet through the soil and about the roots. A basin should be made to keep the water from running away from the spot, and to assist its soaking in. After being well watered, the loose soil should be drawn in lightly over the watered soil, which will then aid in preventing the water from drying out soon again.

Towards the end of the month, and in September, evergreen hedges should receive their last pruning till the next summer. Last spring, and in the summer, when a strong growth required it, the hedge has been severley pruned towards the apex of the cone-like form in which it has been trained, and the base has been suffered to grow any way it pleases. Now that, in turn, has come under the shears, so far as to get it into regular shape and form. It will not be forgotten that, to be very successful with evergreen hedges, they ought to have a growth at the base of at least four feet in diameter.—*Gardener's Monthly.*

• A farmer in Oneida, N. Y., raised seven thousand quarts of strawberries on a single acre this year.

The Apiary.

Cause of Bees Robbing.

THE principal cause of bees robbing is want of forage. Bees will seldom, if ever, rob when they can find plenty of flowers to work upon; but when flowers cannot be found, and the weather permits them to fly, their great anxiety to labor causes them to seek for honey even in the neighbouring hives. Hence, in the spring and fall, or before the honey season commences, and after it closes, bees are much inclined to rob each other, and sometimes, for want of a little attention, cause the apiarian much trouble and loss. It frequently happens that a stock of bees, becoming overpowered by robbers, join in with them and assist in carrying away all their stores, and the bee-keeper very unexpectedly finds his hive minus bees and honey.

As a rule, however, stocks that are attacked by robbers are defective in some way; that is, if a stock is being robbed in "right good earnest" we may conclude that it is queenless or has a drone-laying queen, or from some other cause is very weak. Robbers may, and not unfrequently do, attack strong stocks; in such instances they are generally handled rather roughly, and soon leave.

Every bee-keeper will have noticed in the fall, after the honey harvest is over, on the lighting boards of his hives, or some of them, a single bee surrounded by others. The bee surrounded is a strange bee, or robber; they hold it a prisoner; some are biting its legs, some its wings, while another is ready to take what honey it has—for by the continual biting of the bees it is forced to give it up. If the stock is queenless, or otherwise weak, these robbers increase until they will come and go in a perfect swarm, and sometimes in a few hours carry away all the honey in a hive.

To prevent robbing, the entrances to all hives should be contracted, as soon as the honey harvest ceases, to a very small opening, especially if stocks are weak. When it is discovered that a stock is being robbed, and contracting the entrance does not stop the robbing, it must be removed to a dark cellar or out-house for a day or two,—then bring it out and examine it, and ascertain the cause, and apply the remedy. If queenless, or possessing only a drone-laying queen, give them another, or join them to another stock that has a queen. If not queenless, but very weak in bees, exchange places with some strong stock. If it is discovered that one stock in the apiary is robbing another, put the stock of the one that is being robbed in the place of the one that is robbing; in other words, exchange places with the two stocks, and the robbing will generally cease. This should not be done, however, unless it is clear that the robbers are getting the advantage. But the best preventive of all is to keep strong stocks, and be sure they are not queenless.

Swarming Extraordinary.—Queenless Stocks.

To the Editor of THE CANADA FARMER:

SIR,—On the fourth day of this month, I took an artificial swarm from one of my hives of bees, and cut out all queen cells but one. On the twenty-third that same hive cast a natural swarm, and on examination I found that same queen cell open at the lower end, but no other in the hive in any stage, and no eggs. I returned the swarm to the hive, and they are doing well.

On the twenty-third of this month, one of my hives swarmed, and the bees returned to the hive without clustering. I examined and cut out all queen cells but two. Soon after I found a queen on the ground, with one wing gone and a part of the other. I placed her on the alighting board, but the bees attacked

and killed her. She might have come from another hive, which swarmed and returned the same day. Yesterday, this hive from which I had cut the queen cells on the twenty-third swarmed again, and the swarm clustered in two separate clusters, some distance apart. On examining the hive, I found the two queen cells open at the lower end, and no other in the hive, nor any young brood or eggs. I returned both clusters to the hive, and this morning found one, and only one, queen thrown out. Both stocks were in the "Thomas" hive.

I would like Mr. Thomas or anyone else to explain these phenomena. It seems to me that we have here a way of accounting for queenlessness which I have not seen mentioned by any writer on the subject.

THOS. C. HILL.

NOTE BY ED. C. F.—A swarm issuing under the circumstances as related in the first instance is not a common occurrence; yet sometimes it is the case, and may be accounted for in this way. The excitement caused by the queen leaving the hive on her bridal tour, causes the bees to rush out after her, and cluster as in other cases.

The second instance related is a more common occurrence. It not unfrequently happens that all the queens in the hive hatch about the same time, say during a night; the result is, the next day, when the bees swarm, all the queens leave the hive, and there being no eggs, the stock is queenless and unable to raise another.

Swarms issuing under similar circumstances have been known to contain four and five queens. Sometimes the bees will all cluster together, and sometimes separately, as in the instance related by Mr. Hill. When returned to the hive, all the queens will be destroyed, except one, as in this case. The queen found, probably issued from the stock out of which Mr. Hill cut the queen cells, or it may have issued from some other, as suggested by Mr. Hill.

More stocks become queenless from all the queens swarming out than is generally supposed.

• An Ohio exchange says something is the matter with the bees this summer. They refuse to send out swarms, or make any honey.

BEES EARLY SWARMING.—Most of our writers on the honey bee say look out for swarms from nine a. m. until four p. m., and being an amateur in bee-keeping, I was surprised on Sunday morning, July 5th, at a quarter past six, a. m., to see a fine swarm issue from one of my hives, and another swarm from another hive at half past seven. I think it would be advisable for your bee-keeping readers to keep a look-out next season a little earlier than usual in the morning, and perhaps save some swarms of bees by so doing.

WM. M. H

Township of Kingston, Aug. 6, 1868.

TREATING BEES WITH COLD WATER.—Bees in swarming have been known to alight upon persons and animals, stinging them severely, and in some instances causing death. The *American Bee Journal*, in referring to an instance of the kind, where a swarm of bees recently settled upon the head of a horse standing in front of a church, and the owner, who went to its assistance, was stung senseless, says that all the difficulty could have been obviated by the use of cold water.

In such cases the *Journal* advises a prompt application of a few gallons of cold water sprinkled from a common watering pot directly on the clustering bees. It remarks that "a little knowledge, presence of mind and calmness would have been serviceable here; for nothing is more apt to rouse the ill temper of bees than to come in contact with a sweaty horse; and a horse is a most helpless animal when attacked by bees."

During the extreme hot weather of July we had several swarms come off that were extremely irritable, and we treated them to a sprinkling of cold water, after which they became quiet, were easily handled, and were hived without the least trouble.

The Household.

Citron Preserve

SOME of our readers, observes *The Farmer* (Scottish) may have felt a little puzzled, at hearing friends from Canada or the northern United States descant on the excellence of the citron preserves which they were in the practice of making when at home, and that, they will affirm, from veritable citrons grown by them in their own gardens there, and out of doors too. What! Citrons grown in the open air, where the winters are even much colder than in Britain! A well grow oranges also, for wherever citron trees will grow, orange trees will grow equally well, and often better. But citrons do not grow on trees, the transatlantic friend will reply, for they grow upon vines, like those of cucumbers or vegetable marrows. Here, then, there must be some mistake; and that there certainly is, which, however, is cleared up by a little further explanation, when it appears the fruit of the so-called citron is not the fruit of the true citron, *Citrus Medica*, from which the preserved citron peel of the shops is made, but that of the citron gourd, or citron water-melon, a variety of *Cucurbita Citrullus*, for the cultivation of which, and the preserving of its fruit, the following directions are given in Messrs E G Henderson & Son's Seed List for the present season :-

"This is a truly valuable, and highly-interesting esculent fruit, and constitutes a true variety of the hard-fleshed water melon, which, though not edible in its raw state, is now approved and strongly recommended for its valuable adaptation in making a very delicious preserve. It requires the same treatment by seed as the common ridge cucumber. The following directions are given as a successful method of preparing the preserve :- Pare the fruit, and let out the seeds, taking out the soft pulp for after use, and weigh the remainder, cutting it into convenient lengths and thicknesses. To every 14 lb. of the firm fruit, apportion a lemon and 1 lb. of the finest double refined loaf sugar, with 1 1/2 pints of spring water; then pare the lemons thin into a basin, and squeeze the juice to the rind, and let it stand to get out the flavor. Put the fruit and most of the water into the preserving pan, and stir it till it is soft and transparent, which will be from three to four or even five hours, adding the remainder of the water, if needed, from time to time, until the opacity of the preserve gives place to transparency in the flesh. When boiled soft, add the sugar and skim it; and when the syrup is well formed, strain the lemon juice to it, and by the time this is well incorporated, the preserve will be done. It ought to be of a transparent clearness, and of a fine apple-green colour, and citron taste. If duly prepared, it forms a most valuable addition and equivalent as a sweetmeat, and a delightful change from the rich aroma of the raspberry, or the pleasant acidity of the marmalade; and if boiled somewhat longer than the directions given, it assumes a guava-like flavor which tastes excellent; the soft pulp will also form a good preserve with the same preparation as above. If used before the fruit becomes over-ripe the pulp is tolerably solid."

On submitting the above recipe to a lady who had frequently made citron preserve in Canada, we were informed that it was somewhat different from the mode she had practised, which was as follows, the fruit being used before becoming over-ripe, or prior to the inner portion becoming pulpy or soft :- Quarter the fruit, then pare and cut in slices, each rather more than one inch in thickness, pick out the seeds, cut in pieces about one inch square; boil slowly for several hours in water, till the pieces are quite transparent, strain and throw away the water, make a syrup in the usual way, using 1 lb. of crushed lump sugar to 1 lb. of fruit, adding half a lemon, sliced, with the rind on, and a quarter of an ounce of ginger for every 1 lb. of sugar. Put the pieces into the syrup, and boil for twenty minutes, then dish in small jelly pots, as it is apt to candy if long open.

CLARK'S EXCELSIOR WASHING COMPOSITION.—In our last issue we noticed this newly patented article. We spoke of it then only on the testimony of others who had used and found it efficient and economical. We have since procured the requisite instructions from Mr. Clark, and had a trial made at home. We are now authorised to say that the experiment was perfectly satisfactory; that the scrubbing board was dispensed with, a slight amount of hand-rubbing being all the labor of the kind required; that the clothes were thoroughly cleansed, leaving them, when dry, of an excellent colour; and that much

time as well as labor was saved in the operation. Less soap also was required than in the usual method; so that, in addition to the foregoing advantages, a saving is effected in expense. Domestic are not usually over ready to adopt any "new-fangled notions" and modes of proceeding in their own special department; but this invention has given such satisfaction, that in our family Mr. Clark's patent will in future be used, and we have much pleasure in adding our favourable testimony to the many commendations which his improved process has already received.

TO REMOVE THE SKIN FROM PEACHES.—Every one knows that there is a great loss of pulp in pearing peaches with a knife; to obviate which an exchange suggests the following method of treating them: Make lye as strong as possible of wood ashes and soft water. Fill a kettle with the lye, and when boiling rapidly, drop in twelve or eighteen peaches and take out again almost immediately, and immerse them in a pail of cold water. Take one in your hand, and you perceive that the rind will slip off entirely, leaving a round beautiful yellow ball; throw it immediately into another pail of pure water, and so proceed till all are done. This process will not injure the flavor of the finest peach, and once tried, the old-fashioned way of peeling with a knife will not be again adopted. If the lye is not strong enough, put into the kettle two dipperfuls of clean wood ashes. This is an excellent way to rid small onions of their jackets preparatory to pickling them.

Advertisements.

Paxton, Tate & Co., Port Perry, Ont.



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MARSH HARVESTER!
AGRICULTURAL IMPLEMENTS
OF ALL KINDS,
STAVE & SHINGLE MACHINERY,
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MADE TO ORDER.

Repairing of all kinds promptly attended to.
WARRANTY.

We warrant the Marsh Harvester to be well made, of good material, and when properly used, not liable to get out of repair; to be a good grain-cutting machine upon which two experienced binders can bind in average grain, on suitable ground, from eight to twelve acres in twelve hours, and that it will work on as rough ground as any other Reaper.

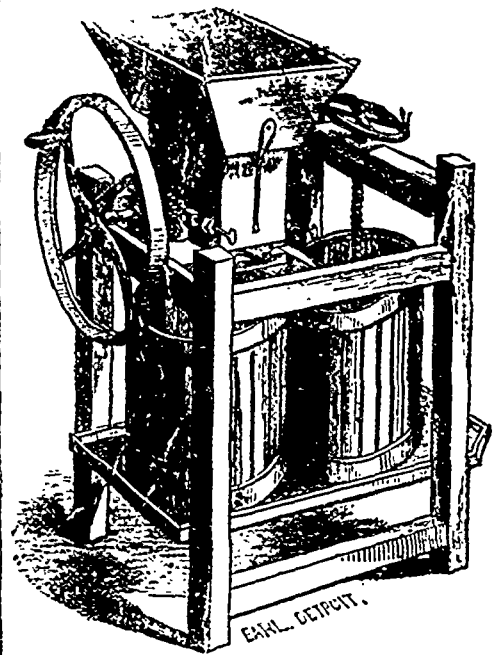
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A SPLENDID LOT OF
LEICESTER AND COTSWOLD RAMS
FOR SALE. Shearlings and Two-year olds of first-class quality and purest blood; heavy weights and heavy fleeces.
J. J. SNELL, EDMONTON.
v5-17-68

DURHAM BULL CALVES,
FROM FOUR TO TEN MONTHS OLD, sired by the famous 1850 Bulls "Baron Solway" and "Duke of Pombou," for sale at REASONABLE PRICES. Catalogues with full particulars sent on application.
JOHN SNELL, EDMONTON.
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DIEHL WHEAT.
THE Subscriber has for sale a quantity of DIEHL WHEAT at \$2 per Bushel.
LEWIS SPRINGER, Hamilton, Ont.
v5-15-68

NEW PATENT CIDER MILL.



H. Sells' Patent of 1866.

THIS MILL first CUTS and then CRUSHES the apples perfectly fine, making a saving of more than one eighth of the cider over any other Mill. It NEVER clogs owing to its novel discharge, and is very substantial. It carried off the first prize at the Provincial Fair held at Kingston, 1867, and also was awarded a diploma the same Fall at the N. Y. State Fair, held at Buffalo. Hundreds of these mills are now in use in Canada and the United States, giving the best of satisfaction. We have in the Mill and Press complete, with two urbs, for \$20. Double Mill of the same principle for \$35. (about twenty) both are equally adapted to hand or other power.

Farmers, send in your orders early, stating your Port or Station, and Post Office address. All orders will receive prompt attention.
Agents Wanted all over the Dominion.
Address H. SELLS & Co.,
August, 1868. VIKONA, Ont.
v5-17-68

AYRSHIRE BULL FOR SALE.

THE Subscriber will offer for sale at the approaching Provincial Exhibition, to be held in Montreal, A PURE BRED AYRSHIRE BULL, 17 months old, from his imported cow "FRED," by the County of Beauharnois Agricultural Society's imported Bull "Marquis."
J. M. BROWNING,
BEAUHARNOIS, P. Q.
15th August, 1868. v5-17-68

THE FINEST STRAWBERRY

FOR AMATEUR CULTURE.—NAPOLEON III, of LARGE SIZE, HIGHEST FLAVOR, GREAT PRODUCTIVENESS, AND EXTREME VIGOR AND HARDINESS. We offer a splendid stock of young, thrifty plants of this valuable new French variety. Illustrated Descriptive Circular mailed to applicants.
Price of Plants, (by mail, Postage paid.) \$3.00 per doz.
EDWARD J. EVANS & Co.,
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Duncan's Improved Hay Elevator.

PATENTED April 13th, 1867.
THE cheapest and simplest constructed Fork in use in the Dominion of Canada. County or Township Rights for the manufacture of the above Fork may be obtained from the undersigned.
JAMES W. MANN,
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TICK DESTROYER FOR SHEEP!

DESTROYS the TICKS; cleanses the skin; strengthens and promotes the growth of the wool, and improves the condition of the animal.
It is put up in boxes at 37c, 50c, and \$1, with full directions on each package. A 35c. box will clean twenty sheep.
HUGH MILLER & Co.,
167 King Street East, Toronto.
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WE are turning out from five to ten Threshing Machines per day, and can fill orders PROMPTLY. Our machines are not equalled in Canada, nor excelled in the United States.

August 28, 1868.

(5-17-11.)

F. W. GLEN, EXECUTOR, OSHTAWA, ONT.

LEWIS' INCLINE OR SELF-CLOSING GATES.

THESE GATES are cheap and easy of construction, and are not liable to get out of order. Being self-closing, they are especially adapted for dangerous places, stock pastures, or wherever it is necessary to keep gates closed.

For particulars and Rights apply to RICHARD LEWIS, MELBOURNE, Province of Quebec.

FRUIT AND ORNAMENTAL TREES FOR FALL OF 1868.

WE have the pleasure of announcing that we are prepared for the Fall Trade with an unusually large and well grown stock, embracing

Standard and Dwarf Fruit Trees.

Grape Vines, new and old sorts, strong open ground plants. Currants, Raspberries, Blackberries, and all the small fruits.

ORNAMENTAL TREES AND SHRUBS, Roses and Flowering Plants of every description.

Nurseriesmen, Dealers, and others, purchasing largely, will be dealt with liberally, and all orders, however small, will receive prompt and careful attention.

ELWANGER & BARRY, MOUNT HOPE NURSERIES, ROCHESTER, N. Y.

THE BEST SHEEP MARK YET INVENTED.

It is made of tinned wire stamped with name and number. Is cheap, does not wear out, and looks well. Price three cents each.

ARCHIBALD YOUNG, Jr., Sarnia, Ont. N. B.—AGENTS WANTED.

STERLING ALGUIRE'S MILK AGITATOR, PATENTED APRIL 15, 1868.

STERLING ALGUIRE PATENTEE, FARMERSVILLE, ONT.

For particulars address J. B. HARRIS, ASSIGNEE, Belleville, Ont.

The attention of factory-men is respectfully called to the following testimony from one of the best factories in Oxford County:

J. B. HARRIS, DEAR SIR.—Your Agitator needs no recommendation, it will recommend itself, and every cheese manufacturer can become convinced by giving it a fair trial.

Respectfully yours, H S LOSEE.

Markets.

Toronto Markets.

"CANADA FARMER" Office, Aug. 28th. 1868.

The flour and wheat markets during the past fortnight have been very dull. There has been little or nothing doing in produce of any kind except in Barley; that grain has been offering freely.

FLOUR AND MEAL.

FLOUR—The market has been very dull; holders are asking \$6.50 for No. 1 super., but can find no buyers at that price; there is little or no demand; extra has been in fair demand for small lots at from \$7.25 to \$7.50; superior is altogether nominal, there being no lots in the market.

Oatmeal—In good demand for small lots at from \$6.50 to \$6.75. Cornmeal—Small trade doing at \$5.

GRAIN.

Wheat—New wheat has not yet begun to come into market. There is very little old wheat offering. Spring wheat and midge-proof are nominally worth \$1.35 to \$1.40, and Fall \$1.45; on the street market a few loads sold as follows:—Spring wheat \$1.35; midge-proof \$1.32 to \$1.35.

Oats—The market is dull; holders are asking 50c. for car lots; on the street market 50c. to 62c. has been paid for a few loads lately.

Barley.—The past week has been an active one with Barley buyers; as much as 60,000 bushels has already been shipped from this port to Oswego since the season commenced; the daily receipts by teams are considerable, amounting to from 10,000 to 15,000 bushels per day, the receipts by cars have averaged 3,000 to 5,000 bushels per day during last week. Prices remain steady at from \$1.05 to \$1.06. There are only two or three buyers in the market, the majority of operators being afraid to "go in" at present prices. Every bushel offering is, however, eagerly bought up at the rates named. It is generally thought that prices are higher than the state of foreign markets warrant, and a decline is therefore looked for by not a few. We think it not unlikely that rather lower prices will soon rule, and advise Farmers to take advantage of the present rates and at once bring their crop into market.

Peas.—There has been nothing doing during the past week. Prices are altogether nominal. On the street market there is none offering. Loads from farmers would bring 95c.

PROVISIONS.

Pork.—There is no change in the market. The few lots in holders' hands are held firm at quotations, and the demand is good.

Bacon.—Trade very limited. We quote 11c. to 12c. for Cumberland and Canadian.

Butter.—The market has ruled firm at our figures for the past week. Shippers refuse to advance, as prices are supposed to be dangerously high. We quote really fine for city use, 20c. to 21c.; ordinary ground lots taken by shippers, at 17c. to 19c.; rolls on the market, 23c. to 26c.

Eggs.—Freely supplied at 10c. to 11c. for fresh.

Cheese.—Scarce and wanted, at 11c. in lots.

THE CATTLE MARKET.

Beef.—The market has been well supplied during the week. Some five or six car loads were purchased for the Montreal market. First-class cattle are still scarce and in demand; second and third-class cattle are in good supply.—We quote per 100 lbs. dressed weight:—1st class \$6 50; 2nd, do. \$5 50; 3rd, do. \$4 50.

Sheep and Lambs.—The market has been well supplied. There have been large arrivals by rail, principally from Seaforth. We quote:—Lambs, 1st class, \$3 each; 2nd, do. \$2 to \$2 25 each; 3rd do. \$1 to \$1 25 each. Sheep—1st class \$4 to \$4 50 each; 2nd, do. \$3 to \$3 50 each; 3rd do. \$2 to \$2 25 each.

Calves.—Veal being out of season very few are coming in; selling at from \$4 to \$6 each.

Hides and Skins.—Hides, green, rough per lb., 5c. to 6c.; do. green, inspected, 7c.; do. cured and inspected, 7c. to 8c.; Calfskins, green, 10c.; do. cured, 12c.; do. dry, 18c. to 20c.; Lambskins, green, 50c.; Pelts 40c.

HAY AND STRAW.

Hay—There has been a large quantity offering, and the demand is brisk. Prices have ranged from \$12 to \$15 per ton.

Straw—Not much coming in. Selling at from \$8 to \$14.

London Markets, Aug. 25.—The attendance and amount of business transacted on the Market Square to-day was perfectly satisfactory. The grain receipts were large, quickly taken up at fair prices, and wheat, both fall and spring, remained steady throughout. Barley and peas were in good demand, competition for peas, however, towards the close, was less keen, barley keeping unusually stiff. Other reasonable products were well represented and met a fair demand. Butter is much inquired after, and from recent appearances will rule high this winter. For other articles see quotations; red fall wheat, per bushel, \$1 25 to \$1 27; old spring wheat, \$1 25 to \$1 30; new spring, do. \$1 20 to \$1 25; barley, 92c. to 96c.; peas, 85c. to 86c.; oats, 30c. to 37c.; corn, 89c. to 85c.; buckwheat 64c. to 70c.

Galt Markets.—Our market is unusually crowded to-day. Fall wheat quoted at \$1.24 to \$1.30; feed fall wheat \$1.39 to \$1.56; spring wheat, \$1.20 to \$1.25; potatoes \$1.40 to \$1.50; tomatoes \$1.50 to \$2.00; butter 17c. to 19c.; eggs 10c. to 12 1/2c.

Hamilton Markets, Aug. 25.—White wheat per bushel \$1.25; do. red winter, \$1.23; do. spring \$1.25; barley, 95c. to \$1; peas 90c. to 95c.; oats, 48c.

Milwaukee Markets.—Aug. 26, noon.—Wm. Young & Co.'s report.—Wheat—Receipts, 44,000 bushels; shipments, 7,000; No. 1 wheat, firm at \$1 75; No. 2 wheat, at \$1 64. Flour quiet and unchanged. Pork firm. Freighters at 15c.

Chicago Markets, Aug. 26, noon.—William Young & Co.'s report.—Wheat—Receipts, 106,000 bushels; shipments, 26,000 bushels. No. 2 wheat active at \$1 65. Corn at \$1 01 1/2; receipts 152,000 bushels; shipments, 182,000 bushels. Pork firm and unchanged.

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