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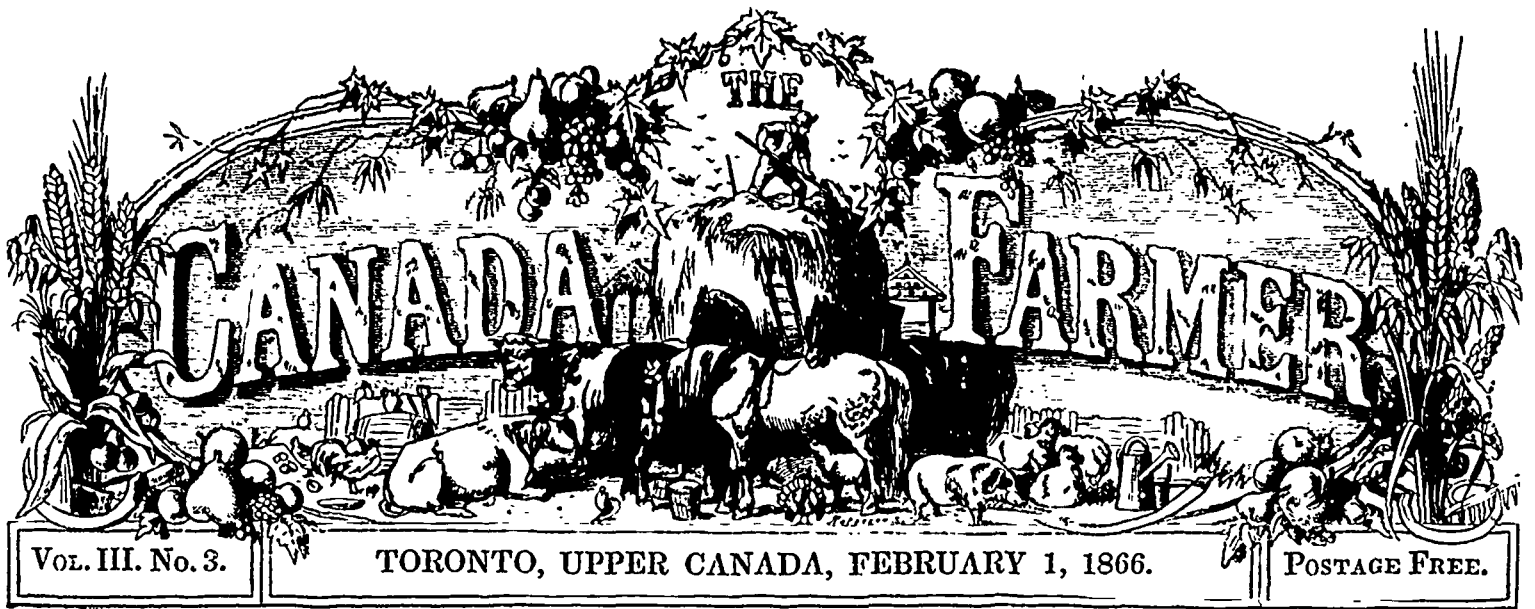
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VOL. III. No. 3.

TORONTO, UPPER CANADA, FEBRUARY 1, 1866.

POSTAGE FREE.

The Field.

Hedges at the Toronto Nurseries.

DURING the past autumn we paid a visit to the Toronto Nurseries for the special purpose of examining the live fences, for which Mr. Leslie's grounds have become famous. We need scarcely say that we thoroughly enjoyed our visit. Of Mr. Leslie and his very complete establishment, we may have something to say on a future occasion, but at present we shall confine our remarks to the subject of the hedges, which we then had the privilege of inspecting.

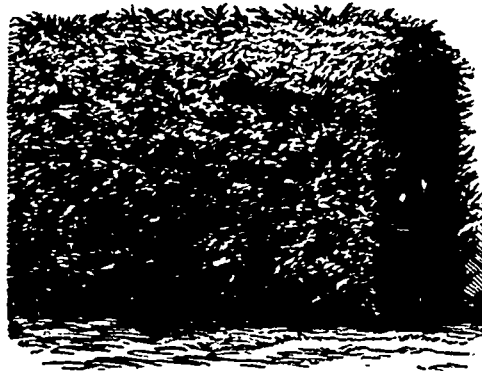
We must first premise, however, that we are indebted to Mr. A. Pontey—Mr. Leslie's zealous and intelligent manager, and President of the Gardeners' Improvement Society of this city—for much of our information respecting the habits and growth of the hedge plants in question. The small cuts accompanying this article, have been prepared from sketches made by our artist, at the time of our visit.



NORWAY SPRUCE.

NORWAY SPRUCE.—This is a particularly fine hedge, as well in a utilitarian as in an ornamental point of view. As most of our readers are aware, it is an ever green, is perfectly hardy, and, we were assured, stands the use of the clipping shears, admirably. The plants are generally imported from Europe when they are about twelve months old. They are afterwards transplanted in the nursery several times, so that when they have attained sufficient size to be sold—from three to four feet—they have an abundance of fine fibrous roots. As the tree naturally is of a hardy habit, the plants seldom fail to live and do well, when ordinary care is observed in planting them out. In addition to its desirability as a hedge plant, it has a beautiful appearance when planted singly on a lawn, or elsewhere. When well grown, its under branches sweep the ground, and the tree rises in perfect symmetry to one bold, straight shoot at the top.

HEMLOCK.—The unique hemlock hedge in Mr Leslie's grounds was planted nearly twenty years ago. It



HEMLOCK.

still retains all its beauty, vigour and gracefulness, and forms altogether one of the most charming objects that we ever remember to have beheld. It is over ten feet in height, and has been so trimmed as to leave a flat surface at the top, measuring eight feet across. The Hemlock, although one of the finest of our Canadian evergreens, will probably never be much in demand for hedging purposes, owing to the difficulty of raising the young plants. It rejoices in a moist, sheltered spot, and when planted in an exposed situation—as it must often naturally be, when used for a fence—a large proportion of the plants fail to grow. Unlike Spruce or White Cedar, it does not form a mass of roots, so as to be lifted with a ball of earth attached. It is also of slow growth, and has a tendency to develop itself in any direction rather than upwards. In spite of these drawbacks the graceful weeping of the shoots, and the bright, silvery appearance of the under side of the leaf, delight the eye of everyone beholding it; and we were assured that would be purchasers of ornamental hedge plants, are always sure to make the Hemlock their first choice.



WHITE CEDAR.

WHITE CEDAR. This tree is so common in this Province, that it requires no description. It is perfectly hardy, admits of being readily transplanted, costs a merely nominal price, and is a general favourite. Plants of the White Cedar may be seen in the Nursery

in every stage, from a few inches in height up to the perfect hedge, eight or ten feet high. To any professional or amateur horticulturist who desires to make a good winter screen about his forcing plot, the white cedar stands unrivalled. Its capacity for affording shelter is, perhaps, not superior to the Norway Spruce, but to those who must study economy in effecting improvements, it has the great attraction of cheapness.

BUCKTHORN.—As a hedge plant, this undoubtedly demands the first place in the estimation of the Canadian farmer. In localities where timber is becoming scarce, it is well deserving the attention of the agriculturist. It is perfectly hardy, vigorous in its growth, of a sturdy crabbed habit, free from mildew, and makes a stout fence in a short time. It is a native of the Rocky Mountains, and partakes somewhat of the character of the Blackthorn,—of Irish notoriety. An astringent flavour, peculiar to this plant, repels the attack of any insect, and also renders it distasteful to cattle. It bears a strong thorn at the extremity of each shoot, which presents an almost invulnerable barrier to any intruder. The plants require to be



BUCKTHORN.

placed in the earth in a single line, at the rate of about three to a foot. For the first two or three years, it is cut down to within five or six inches of each season's growth, in order that the bottom may become well filled out. Afterwards an annual top-clipping will suffice to make it a fence capable of turning anything. We were shown specimen hedges of this plant by Mr. Leslie, from three to eight years of age, and they all bore sufficient evidence of utility to warrant us in stating, that the Buckthorn appears, to our mind, the most desirable hedge plant grown for general purposes in Canada. The roots of some of the plants that we saw removed, resembled a perfect mass of horse-hair—a peculiarity which would seem to ensure the rapid growth of the plant under almost any circumstances. While, however, it will grow anywhere and under any treatment, it is like any other tree or shrub—improved by careful cultivation. There can be no doubt but that the planter who keeps his hedge-bottom free from grass and weeds, and gives it an occasional mulching, is well repaid for his extra trouble.

Owing to the great demand there has been for this hedge plant for the last few years, together with the difficulty of obtaining an adequate supply of seeds—from which these plants are raised—Mr. Leslie has been quite unable to supply all the orders, which have poured in from all parts of the Province. Indeed the demand is not limited to Canada. Orders have been received from several of the Western States, where the Buckthorn is gradually but surely taking the place of the Osage Orange. The latter is not found to be sufficiently hardy, except in favoured localities.

We regret that owing to the late season of the year at which our observations were made, much of the foliage of the Buckthorn had fallen. The artist was therefore unable to represent the hedge to such advantage as it would have appeared, had his sketch been made when the plant was clothed in its summer verdure. Some further notes respecting the Berberry and Privet hedges of Mr. Leslie's nurseries, we must reserve for a future notice.

Things a Farmer should not Do.

A farmer should never break up more land than he can cultivate thoroughly; half-tilled land is always growing poorer, while well-tilled land is constantly improving. A thrifty and prudent farmer will not devote his sole attention to the improvement of certain fields on his farm, because the land is "easy to work at," and let other portions of his premises go uncultivated, and grow nothing but brush, bogs, briars, and stones.

A farmer should never have more cattle, horses or other animal stock than he can keep in good order. An animal in good order at the beginning of winter is already half wintered. Nor should he let his cattle endure the chilling storms of winter in an open yard or field, whilst a few dollars expended in the way of making comfortable stables would amply repay him in saving of fodder, and afford a greater amount of milk.

A farmer should never depend too much on his neighbours for what he can by careful management produce on his own land. He should not make it a common practice to either buy or beg fruit while he can plant trees and cultivate them on his own ground—nor annoy his neighbours by borrowing tools to work with, while he can make or buy them. "The borrower is servant to the lender."

A farmer should never be so immersed in political matters as to neglect doing his various kinds of work in due season, and to snug up matters and things for winter; nor should he be so inattentive to politics as to remain ignorant of those great questions of national and state policy which will always agitate more or less a free people.

A farmer should not be continually borrowing his neighbour's newspaper, while he can easily save money enough, by curtailing some little extravagance, to subscribe and pay for one or more of his own.

A farmer should never refuse a fair price for anything he wishes to sell. I have known men to refuse a dollar and a half for a bushel of corn, and after keeping it five or six months they were glad to get a dollar for it. I have known farmers to refuse to take a fair marketable price for their dairies of butter, and after keeping it three or four months they concluded to sell the butter for only two-thirds of the price which they were first offered. "A bird in the hand is worth two in the bush."

A farmer should not allow his wood-pile to be reduced down to the "shorts," merely drawing a little by piecemeal, and green at that. He must expect to encounter the sour looks of his wife and family, and perhaps be compelled (in a series of lectures) to learn that the man who provides green wood to burn in the winter, has not mastered the first rules of domestic economy. Nor should he employ some "botch" mason to build his chimney "upside down" so that his family will be nearly smoked out of the house, and the walls of the room become as yellow as saffron.

A farmer should not let his buildings look as old as the hills, and go to decay, while he can easily afford the means to keep them in good repair; nor should he allow tattered clothes and old hats to be stuffed in the windows, in place of glass. If he does, he not be alarmed if he acquires the reputation of a mean man, or one who carries long where liquor is sold by the glass.

A farmer should not be contented with dilapidated looking fences on his farm, so as to tempt his cattle to become unruly and destroy his crops, while he has plenty of opportunities and materials to make or keep them in repair.—*Cor. Working Farmer*

Familiar Talks on Agricultural Principles.

THE ASHES OF PLANTS.

It was observed in our last that if a plant be consumed by fire, the greater part of it "burns away," and only a little ash is left. The portion that "burns away" was explained to be of a gaseous nature, and some account was given of the several gases which form the combustible or organic part of plants; viz, carbon, oxygen, hydrogen, and nitrogen. That portion of the plant which will not burn away, but which forms the residue or ash, is called the inorganic part of the plant; and we now propose to say a little more about this kind of material that plants are made of. If we take a stem of wheat, or a turnip, and weigh out 100 grains, then put it into an iron ladle, upon a hot fire, and let it remain until everything has burned away that will burn, we shall find a little ash left. Until very recently, chemists took scarcely any notice of this ash, because it bore so small a proportion to the rest of the plant, and seemed so insignificant. But more careful examination led to a different view of the matter. The investigations of Liebig, Lawes, Gilbert, and others, have shown that this ash contains most essential elements of plant substance, and that good crops cannot be obtained, unless there is an adequate supply of them within reach. What is left in the ashes of plants has been found to consist of the several mineral substances mentioned in the list of inorganic matter given in our last. These constituents of plants are obtained only from the soil, and their presence or absence has much to do with making a piece of ground fruitful or barren. The proportion of ash to the bulk of vegetable substance, varies from one to twelve per cent. Some have supposed that the mineral substances found in plants act as stimulants, but it is far more probable, if not absolutely certain, that they are a part of the true food of plants, and that they supply to vegetable fibre, material similar to what forms the bony structure of animals. The following table shows what chemistry has ascertained in regard to the inorganic elements of plants:

Table of the Composition of the Ashes of several Cultivated Plants.

	Wheat	Wheat	Wheat	Rye	Oats	Potatoes	Turnips	Hay	
	Straw	Stalk	Chaff						100.0
Potash.....	23.2	3.8	0.1	17.5	0.1	0.8	0.3	40.2	4.5
Soda.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Lime.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Magnesia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Oxides of Iron and Manganese.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Silica.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chlorine.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sulphuric Acid.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Phosphoric Acid.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Carbonic Acid.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Charcoal in Ash and loss.....	4.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The above table will not perhaps be fully understood at this stage of our "talks" by those wholly unfamiliar with the subject, but it will serve to give an idea of the various component parts of the ashes of plants, and if carefully studied, will be found of great use as we proceed. It may be as well to observe to prevent confusion of ideas, that the mention of carbonic acid in the table, refers to unconsumed charcoal,

and not to the gas known by that name, and which more properly belongs to the other class of plant material.

A few brief explanations of the terms used in the foregoing table may now be given.

POTASH is obtained from wood ashes, and the ashes of plants in general, by burning and other processes. It is an alkali, will dissolve in water, has a caustic taste, will combine with acids to form salts, and with oil to make soap. The quantity of potash they contain, renders wood ashes a valuable manure.

SODA is chiefly obtained from two sources, the burning of sea-weed and other marine vegetables, and the decomposition of common salt, the chemical name of which is chloride of sodium. It also is an alkali.

LIME is one of the most abundant substances in nature. It is composed of a peculiar metal called calcium and oxygen. It forms a constituent part of all vegetables, and is the principal ingredient of shells and bones. It is found in nature in great masses as carbonate of lime. Marble, limestone, and chalk are examples of it in this form. Gypsum, or Plaster of Paris, is the sulphate of lime.

MAGNESIA is not so abundant as lime, and is usually found mixed with other earths, and combined with acids. The calcined magnesia which druggists sell, is this earth in its unmixed state. The medicine called Epsom salts is sulphate of magnesia.

OXIDES are formed by the combination of oxygen with metallic substances. This gas has a tendency to penetrate everything, and is especially attracted by iron, copper, lead, and most of the other metals. The formation of oxide of iron was explained in our last talk. The oxide of manganese is formed in a similar manner. The oxides of iron are found only in very small quantity in the ashes of plants, and oxide of manganese in still smaller quantity.

SILICA is the substance of which quartz, rock-crystal sand and flint are composed. In its pure state it is a white, gritty powder, without taste or smell. It is oxygen combined with a metallic-like substance called silicon.

CHLORINE, when pure, is a poisonous and suffocating gas, heavier than common air. In the ashes of plants it is not found in a pure state, but in combination with soda, forming chloride of soda, or common salt.

SULPHURIC ACID is a compound of sulphur and oxygen. It is found in the ashes of plants combined with lime and potash.

PHOSPHORIC ACID is formed by the union of oxygen and phosphorus. In its pure state, phosphorus is a waxy-looking substance, and has such a tendency to combine with the oxygen of the air and burn, that it must be kept under water. Phosphoric acid enters largely into the seeds of plants. Without it a grain of wheat would have no skin. It also forms in combination with lime, the principal bulk of bone.

The above explanations, in addition to the remark made about carbonic acid, will suffice for the present, by way of simplifying the above table, and giving an idea as to the nature of those inorganic substances which enter into the composition of plants.

It will help to show the bearing of all this upon farming operations, if it be stated that various classes of plants have been named POTASH PLANTS, LIME PLANTS, and SILICA PLANTS, from the fact that they consist largely of these substances. The potash plants include potatoes, turnips, beets, Indian corn, &c. Clover, beans, peas, tobacco, &c., are lime plants. The silica plants include wheat, oats, rye, and barley. Upon these differences in the nature of plants, the practice of a rotation of crops is chiefly based, and the constant growth of one particular crop is objectionable because it exhausts one sort of plant material. This is why the too frequent growth of wheat impoverishes land.

The Planters' Banner of Louisiana, says:—"Some of our young men are making arrangements to unite in bodies of ten or a dozen to cultivate land and make sugar the coming year."

The Dairy.

London Cow-Houses.

A London cow-house may be, and often is, a piece of ill conditioned, rather rickety old stabling, with a sor. of brick-built manger on the floor, the length divided by short and scanty stall divisions, 7 feet or 7½ feet apart, furnished with ropes or straps or chains, with running rings, so as to tie up two between each pair. This floor is roughly causewayed, and there is a gutter lengthwise down it, parallel with the manger, and a little more than a cow's length from it. The house may be only wide enough for a single row of cows, or there may be one on either side, with the gutter between them for the drainage of both. I am now referring to the average style of the smaller and inferior cow-houses of the city; and in the poorer districts of the metropolis, you come upon one from some street of third-rate houses through an archway, perhaps under a dwelling house, which leads you into a small back yard, half-filled with this poor shedding. There may be a small pit for the dung, a store of some sort for the grains; and the small quantity of hay and roots which are kept on hand are stowed away in any convenient corner—at present there is room enough—for a full cow-house, even of this small class, in London now is a very rare exception. The roof is rather low, with plenty of ventilation through its loosely-lying tiles, or if higher, there is a "tallet," or floor overhead where hay and other food is placed, and in which wide spaces are left next the walls and over the heads of the cattle, and then the space of this upper room is measured into the 1000 cubic feet per cow, which is the rule that must be observed (for instance, in St. Pancras) if the cowkeeper wishes to avoid being opposed for a renewal of his license. There are window places, which during winter are closed, perhaps with a bit of sacking nailed over them.

This is the ordinary style of a small cow-house—such as the majority of them are. You find in them six or eight or ten capital shorthorn cows, or perhaps here and there occasionally along with them, a few black and white Dutch cattle. It is either a clean and tidy place, where both the cowmen and their stock are clean and dry and comfortable, everything in its place, the animals all lying down, having comfortably fed, and the air with no other perceptible smell than that of the chloride which the careful owners sprinkle once or twice a day along the gutter—or, it is a filthy hole. In some cases the dung pit is boarded over with a loose slab, to be replaced after every fresh addition to its contents; and the yard is clean and orderly and sweet. In others, you will find the dirty straw, originally purchased after use in a neighbouring stable, spread abroad to dry and clean itself over poles and hurdles for repeated use as litter. In some, fresh grains, good mangolds, and the best hay, with oilcake and peasmeal—the very best of cow-food—are kept tidily, and served out regularly and neatly, and the whole management is punctual, clean, and systematic. In others you will find a bin of some distillery wash, and a heap of stinking turnip tops and cabbage refuse, and the whole place dirty and offensive. In general, the accommodation—limited as it is—is quite apart from the dwelling-house, but there are exceptions even to this.—J. C. MONROE, before the Society of Arts.

Outlines for Establishing a Cheese and Butter Factory.

A CORRESPONDENT of the *Country Gentleman*, writing from Sandy Springs, Maryland, asks for information in regard to a Cheese and Butter Factory. He says: "We live in an improving neighbourhood, about 20 miles north of Washington, D. C., and as hay and grain are not selling at war prices, would like to know something more about making cheese and butter. Could you send some enterprising men with capital sufficient to start a cheese and butter factory of, say 200 cows, as a beginning, with every prospect of enlargement? The only knowledge of a factory that I have is from the Co. GENL, from which I do not find the size of building necessary, &c. I know of a farm near, with fine springs, building materials, and, so far as I know, every requisite for a suitable location, and would be very glad to see some suitable persons engage in it, hoping that it would be to the advantage of all. Any light that can be thrown on this matter will be gratefully received," &c.

Mr. X. A. Willard of Utica, N. Y., replies as follows:—It is not considered profitable to carry on a cheese factory when the milk received is less than from 300 cows. The help, and general expense account, would be nearly the same for a small factory as for one receiving the milk of 500 cows. For a small factory, say of 300 cows, a building 25 feet by 50 feet, two stories, would perhaps be large enough—the lower story to be divided off into manufacturing department and press room, and the upper story, the dry-house for storing cheese. Ralph & Co. of Utica, N. Y., have a very good vat and heater, which serves a good purpose for cheese-making, and could be fitted up at less than half the expense of steam apparatus. If butter was to be made in connection with cheese, a spring-room should be connected with the main structure, with vats sunk even with the floor, in size about 9 feet by 12 feet, 2 feet deep, and arranged so as to be filled with water—the water constantly flowing in and out. The temperature of the water should not be above 56°. Long tin pails, 20 inches deep and 8 inches in diameter, have been found of desirable shape to receive the milk, which on being filled within 4 inches of the top, are immediately plunged in the water. The milk in the pails should never be higher than the flow of water. Adjoining the main structure also, and running back forming an L, should be erected a churn-room, cellar, and ice-house. The churn-room may be 20 feet by 30 feet, and leading out of it a broad alley, on one side of which is the ice-house. This broad alley may be constructed large enough to serve as a cellar or place for storing butter and cream in summer, so arranged in connection with the ice-house that it may always be kept cool. A building or buildings like those above described, cost here in the dairy region, when properly fitted up with apparatus and in running order, about \$3,000.

The labour required to keep a factory of this kind in running order, could not well be less than three hands, in addition to a good superintendent. We hardly think any one North would be willing to invest the amount of capital required for a factory, without the prospect of a large number of cows from which milk was to be received, together with good assurance of ample remuneration. We should advise our correspondent to join with his neighbours, send here for a carpenter who understands cheese factory buildings, and erect a factory on the joint stock principle. After it is erected, employ a first-rate superintendent from the dairy region, who is well posted in all that pertains to butter and cheese-making, and then there will be no doubt of its proving a success. The general plan North in the management of cheese factories is to form a company to build and fit up a factory. The company then employ a superintendent to manufacture the cheese, paying him a salary or a certain per centage on the product manufactured. Patrons, or those delivering milk at the factory, are charged from 1½c. to 2c. per pound for making up milk into cheese. We suppose a good superintendent could be employed at a salary of about \$800 for the season, including board. This would be for his own services, and would not include any expense on his part for other labour. A first rate manufacturer or superintendent could doubtless get along in a small factory by taking raw hands, and directing their operations at the factory.

How to Make Milkers.

No matter what breed you have, something is necessary to reach the highest success in raising good milkers. It's a great thing to have good blood, whether it be Ayrshire, Jersey or Shorthorn grades. But apart from this important advantage, the course of treatment in raising a milker is somewhat different from that in raising a beef animal, or an animal for labour. The calf should be well fed and petted while young. Well fed, to induce a rapid growth, so as to enable the heifer to come in early; petted, to make her gentle and fond of the presence of her keepers. Fondling helps to create a quiet disposition, so important in a dairy cow, and this education must begin when young. For a milker we would have the heifer come in at two years old, and if she has been well kept, so as to have attained a good size, she is then old enough to become a cow. She will give more milk for coming in early. It forms the habit of giving milk, and habit, you know, is a sort of second nature. An older bull is better. We use too many young bulls. A three or four year old is far better as a stock getter than a yearling, and many prefer a five or six year old to any other. After the heifer has come in, let her feed be regular. Clover is preferred to all others for the stall feed. A little oatmeal induces a large flow, Indian meal is rather fattening. In bad weather, give her a clean, airy stall.—*Massachusetts Ploughman.*

Entomology.

The Hessian Fly and Wheat-joint Fly.

In a former number of THE CANADA FARMER (vol. ii, p. 371), we published some extracts from the "Practical Entomologist," referring to our notice of a supposed wheat-joint fly (C. F., vol. ii, p. 297), specimens of the pupæ of which we had received from a correspondent at Cobourg.

Mr. Walsh, of Rock Island, Illinois, to whom the investigation of the matter had been committed by the editors of the "Practical Entomologist," earnestly requested that a quantity of specimens might be sent to him, in order that he might be able to judge whether the insect were a true joint-fly or not. This our correspondent very promptly did, and he has since kindly favoured us with Mr. Walsh's reply, from which it will be seen that it was no joint-fly after all. He states that "the insect is the common Hessian fly (*Cecidomyia destructor*, Say), in what is commonly called the 'flax-seed state.' It is, in reality, a brown cocoon enveloping the larva, and at this time of year you can find the larva inside it, as it does not change to the pupa state till towards the spring. You were mistaken in supposing that these pupæ (so called) occur inside the straw; they lie between the straw and the shank of the leaf that enwraps the straw above every knot, though there is often a very deep depression in the straw, at the spot where the insect lies." It is very satisfactory to have the question thus settled by so experienced and competent an entomologist as Mr. Walsh. Our supposition that the insect was a joint-fly, arose from the pupæ being (in the two little bits of straw sent us), apparently inside the straw and not between the straw and the shank of the leaf, which is always the position of the Hessian fly larva and pupa. Out of our scanty materials it was impossible to determine, with any precision, to what genus or species the insect should be referred.

While upon this subject, we take the opportunity of begging those of our correspondents who are desirous of information in this department of THE CANADA FARMER, to send us a good supply, in fact as many specimens as possible and convenient, of any insect they wish identified or described, and also to pack them carefully. It is often nearly impossible to make anything out of one or two specimens only, and those frequently injured in transmission. A similar request is made by Mr. Walsh in the "Practical Entomologist." We cannot do better than quote his words: "Let me impress once more upon the minds of the farmers, that when they send specimens they should enclose them in a stout paste-board box—a gun-cap box, for example—and put in enough cotton-wool, or some other such substance, to prevent their rattling themselves to pieces in the mail-bags. For lack of these precautions, I have often received specimens pressed as flat as a pan-cake, or broken into a hundred pieces. A farmer would stare if he was asked to determine the particular variety of wheat—whether Mediterranean, or Tea, or Club, or whatever else it might be—from examining a handful of bran. An orchardist would smile if he was asked to determine the particular variety of peach, from inspecting a sack of the dried fruit. And yet they often expect entomologists to decide from inspecting a mass of shapeless fragments, to which of the 30,000 species of insects, that inhabit the United States, these shapeless fragments formerly appertained."

THE CUT WORM.—Dr. Fitch, Entomologist to the New York State Agricultural Society, recommends ploughing or digging late in the autumn for killing cut worms. The worms burrow beneath the soil at this season, and lie dormant till spring.

"They can be killed by thawing and freezing them. Gradual thawing in the earth does not hurt them; if they are exposed so that the sun thaws them rapidly, they are destroyed. With this object, late ploughing in the fall is beneficial. Early ploughing in the spring, if we have freezing and thawing weather afterwards, would be useful."

Canadian Natural History.

The Wolf.

(Canis occidentalis, Rich.)

THERE are several varieties of the Wolf, differing in size and strength, but all alike ravenous, daring, and destructive. Few animals have gained so wide and so unenviable a notoriety. It is associated with the original settlement of most countries as a dangerous enemy to man, and is, accordingly, woven into the tales, ballads, legends, adventures, and fables, which enrich the early literature of most nations. Fiction, poetry, and history alike teem with thrilling incidents of the fierceness and voracity of these dangerous animals. The story of "Little Red Riding Hood," which has peopled the minds of half the children in Christendom with vague and shadowy terrors, is a familiar example of the impression which these creatures have made on the popular mind.

The Wolf was formerly common over the greater part of Europe, but, in the old world, it is now principally confined to the unfrequented districts of Sweden, Germany, and Russia, and the mountainous regions of Asia. From the fact that the Anglo-Saxon name for January is "Wolf-month," it may be inferred that this animal was formerly very common in Britain; and more than ordinarily bold and destructive in that month. The structure of its bones and its general anatomy are nearly identical with those of the dog; while the period of its gestation is the same. On this and other grounds, it has been deemed probable by naturalists that some of the partly domesticated races of the dog have been derived from the Wolf. It is not so intractable as is generally supposed, and, when captured young, it has been so tamed as to exhibit unmistakable signs of affection for man. A species of the animal is represented with the dog on Egyptian monuments, and is figured on tombs forty centuries ago.

The colour of the Wolf varies with the climate in which it is found. In Sweden and Siberia it becomes almost white; but in most countries the prevailing hue is grey, mixed with a slight fawn tint—the lighter coloured fur being usually interspersed with black hairs. In this country, there are two well defined sections of wolves. In the smaller varieties, to which the Prairie wolf belongs, the skull is slender, and the muzzle is elongated and fox-like. In the other kinds, which include the large wolf, the skull is higher, with a broader muzzle, and relatively smaller orbits. The North American, or Common Grey Wolf, figured in our illustration, is usually from 3½ to 4½ feet in length, with a tail of from 17 to 20 inches. It varies from the generic colour, we have just described, to nearly white, and is hence called *Canis variabilis* by some naturalists. It was formerly abundant over the whole of this continent, and the depredations of its hungry and destructive bands, have formed the subject of many a thrilling tale of frontier life. The first settlers of Boston were compelled to fence round their

cattle at night, to protect them from the wolves; and in the far west, they may still be seen following the trail of the buffalo, and joining together in packs, to hunt down the deer. The appetite of the Wolf is almost insatiable, and when furious with hunger, it will not hesitate to attack animals considerably larger and more powerful than itself. It has even been known to enter the lists against such a formidable opponent as the bear. An instance of this audacity is recorded by Mr. Lloyd:—"During a bear hunt, when the hunting party was led by a dog that was following the footsteps of a bear, a small herd of wolves, few in number, suddenly made their appear-



ance, pounced upon the dog, and devoured it. They then took up the trail, and when they came up with the bear entered into battle with him. The fight terminated in favour of the bear; but not without much exertion and great danger to both parties, as was proved by the quantity of bear and wolf fur that lay scattered about the scene of combat. So severely had the bear been treated that his fur was found to be quite useless, when he was killed by the hunters after the conflict."

The wolf has a most unscrupulous palate, and will eat the flesh of almost any living animal. It is said to be particularly partial to the flesh of its own species, and does not hesitate to indulge its cannibal propensities on the carcase of a sick or wounded companion.

"There is something remarkable," says the Rev. J. G. Wood, in his admirable work on Natural History, "about the bite of a Wolf. Instead of making its teeth meet in the flesh of its antagonist, and then maintaining its hold, as is done by most of the carnivora, the Wolf snaps sharply, fiercely, and repeatedly at its opponent or its quarry, delivering these attacks with such furious energy that when it misses its mark, its jaws clash together with a sound that has been likened to the sudden closing of a steel-trap. These sharply snapping bites, so rapidly delivered, are of terrible efficacy in destroying an enemy, or bringing down the prey."

Like most blood-thirsty assassins—whether bipeds or quadrupeds—the Wolf is a suspicious and arrant coward. Any object to which its senses are unaccustomed, creates in this wretched, craven the most abject terror. The carcase of a slain buffalo is per-

fectly secure from its attack, if a stick with a piece of fluttering cloth attached, is planted beside the animal. When wolves are trapped or surrounded, they become most dastardly and spiritless animals. If a large yard forms their prison-house, they will crouch shyly into the corners; and if a human being enters the same enclosure they do not make even a show of resistance. Audubon relates a singular instance of their cowardice, of which he was an eye-witness:—A farmer had suffered greatly from the wolves, and determined to take his revenge by means of pitfalls. He had dug several, eight feet in depth and wider at the bottom than at the top, within easy reach of his residence. Into one of these traps five wolves had fallen. The farmer at once got into the pit, pulled out the hind legs of the wolves, as they lay trembling at the bottom, and with his knife severed the chief tendon of the hind-limbs so as to prevent their escape. The farmer thus repayed himself for the damage he had suffered, by the skins of the captured wolves.

THE PRAIRIE WOLF (*Canis latrans*, Say.) is intermediate in size between the fox and the animal we have been describing. It combines the sharp muzzle of the former with the shape and tail of the latter; and is the American representative of the jackal of the old world. It lives and breeds in burrows, hunts in packs, and is remarkably fleet. It is found principally on the vast plains of the Missouri and the Saskatchewan. Flocks of these animals generally hang

on the outskirts of a herd of bisons, and find their subsistence by attacking the weak and wounded members of the herd. Although the prairie wolf is of comparatively small size, it becomes a powerful assailant when backed by numbers. They seldom fail to bring to the earth any unfortunate animal that they attack; and in a remarkably short space of time complete their savage banquet.

A flock of wild geese kept pace with a train of cars on the Hudson River Railroad, going about thirty miles an hour, the other day, for ten miles, when they changed their course.

MEETING THREE BEARS.—We learn from the *Courier of St. Hyacinthe*, that a Mr. Drolet, of Roxton Falls, while hunting, was confronted by a she-bear with two cubs. He first fired upon the mother. She was not killed, but sufficiently disabled to allow his despatching, without danger, the cubs. After this he had to fire six times before he could finish the mother. He has sold the skins of the three animals for \$20, and retailed their flesh at sixpence per pound.

MATERNAL INSTINCT OF BATS.—In June 1823, the son of Mr. Gillespie, the keeper of the City Square, caught a young red bat (*L. noveboracensis*), which he took home with him. Three hours afterwards, as he was conveying it to the museum in his hand, while passing near the place where it was caught, the mother made her appearance and followed the boy for two squares, flying around him, and finally alighted on his breast, such was her anxiety to save her offspring. Both were brought to the museum—the young one firmly adhered to its mother's teat. This faithful creature lived two days in the museum, and then died of injuries received from her captor. The young one, being but half-grown was still too young to take care of itself, and died shortly after.—*Godman's Nat. Hist.*

Stock Department.

Cautions for those having Sheep.

We copy the following excellent suggestions about sheep, from a circular issued by F. C. D. McKay, Esq., the general agent of the American Emigration Company. The Company have already over 10,000 sheep scattered among the farmers who purchased land of them, in flocks ranging in size from fifty to two hundred head:

1. Keep sheep dry under foot with litter. This is even more necessary than roofing them. Never let them stand or lie in mud or snow.
2. Take up lamb bucks early in summer, and keep them up until Dec. 1st, following, when they may be turned out.
3. Drop or take out the lowest bars as the sheep enter or leave a yard, thus saving broken limbs.
4. Count, every day.
5. Begin grazing with the greatest care, and use the smallest quantity at first.
6. If a ewe loses her lamb, milk daily for a few days, and mix a little alum with her milk.
7. Let no hogs eat with the sheep—by no means in the spring.
8. Give the lambs a little "mill-feed" in time of weaning.
9. Never frighten sheep if possible to avoid it.
10. Sow rye for weak ones in cold weather, if you can.
11. Separate all weak, or thin, or sick, from those strong, in the fall, and give them special care.
12. If any sheep is hurt, catch it at once wash the wound, and if it is fly time, apply spirits of turpentine daily, and always wash with something healing. If a limb is broken, bind it with splinters, tightly, loosening as the limb swells.
13. Keep a number of good bells on the sheep.
14. Don't let sheep spoil wool with chaff or burrs.
15. Cut tag-locks in early spring.
16. For scours, give pulverized alum in wheat bran—prevent by taking great care in changing dry for green food.
17. If one is lame, examine the foot, clean out between the hoofs, pare the hoof if unsound, and apply tobacco, with blue vitriol boiled in a little water.
18. Shear at once any sheep commencing to shed its wool, unless the weather is too severe, and save carefully the pelt of any sheep that dies.
19. Have some good work by to refer to at least; this will be money in your pocket.

The Cost of Cattle Feed.

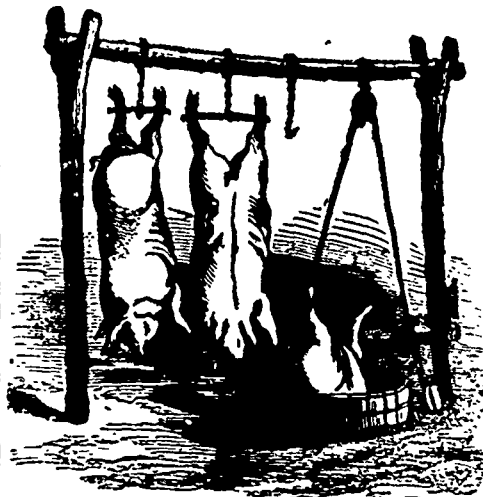
H. E. Mosely, Springfield, Mass., gives the following estimate of the weekly expense of feeding four cows—three milk and one dry—during the winter of 1865-5.

84 lbs. cut corn-stalks and straw at \$15 per ton	.....	\$0 63
42 " cut hay at \$30 per ton	.....	63
21 " Indian meal at 6 cents per pound	.....	84
42 " rye bran at 3½ cents per pound	.....	1 47
140 " long hay at \$30 per ton	.....	2 10
252 " uncut corn-stalks at \$15 per ton	.....	1 58
6 bushels turnips at 25 cents per bushel	.....	1 25
5 " carrots, or 225 pounds, at \$25 per ton	.....	2 81
Total	.....	\$11 69

The average cost of each cow per week lacks a fraction of \$2 80, and of each cow per day, 41½ cents. The three cows gave 22 quarts of milk a day, or an average of 7½ each, or 154 quarts a week; worth at eight cents a quart, \$12 32. The margin of profit is small, without reckoning the care and labour and interest on investment, but it is believed higher than herds will average.

His plan of feeding was to give corn-stalks twice in the morning before milking, after which 12 quarts turnips and carrots, cut and mixed. After watering, long hay is given, and at night cut feed, consisting of corn fodder, oat straw and hay, cut and wet, with warm water, and sprinkled with rye and corn meal. Major George Taylor, a noted feeder of fine bullocks, says regularity in feeding is indispensable. His regular ration to each animal is eight quarts a day of meal made of corn, rye and oats mixed. His

usual practice is to feed coarse hay first in the morning, then dry meal, add then two or three fodderings of finer hay and rowen. After the cattle are well filled, and about 11 a.m., they are turned out to water, and while out, the stalls are regulated, cleaned and strawed. They are immediately stabled again, as they gain faster shut up, and are expected to lie down and rest till feeding time again. About 3 p.m., dry meal is given, then one or two fodderings of hay, and lastly stalks, which answers for the night. Every leaf and straw unconsumed is removed from the mangers between the feedings. Only such quantities and qualities are fed as are likely to be eaten entire and clean. The hay is mostly pulled with a hay hook, in order to draw from different layers of the mow, and thus secure greater variety.—*Springfield Republican.*



Killing and Scalding Hogs.

J. COMFORT, writing from Cumberland Co., Pa., to the *American Agriculturist*, gives his process of killing and scalding hogs, which has much to recommend it, as follows:—

"I have frequently thought of writing a word on the easiest, quickest and most humane manner of slaughtering hogs. I take any kind of gun that will go 'loose,' load with, say one-third charge of powder, and a plug of hard wood, about an inch long and the thickness of the ramrod. This I shoot directly into the centre of the forehead of the hog, and he drops at once. The head is not injured, as to meat; there is no danger of the hog biting you. You have no hard tugging and lifting to catch and throw them, both of which are hard and dangerous work, and the hogs will bleed out better, as the nervous system receives so sudden a shock, that they are not able to draw the blood into the lungs, in case the wind-pipe should be cut in sticking. It is easy to picture laying hogs on their backs, but try it one year and try shooting next, and my word for it, your pen will ever afterward be free from squealing on butchering day.

"Now, as to our method of scalding hogs. We set two posts about twelve feet long, including two feet in the ground, and about twelve feet apart, and connect them by a beam on top. Under this beam, and near one post, I sink an ordinary half-hogshead in the ground, and place a pulley on the beam directly over it, and another pulley on the side and near the bottom of the adjacent post. A rope is passed through these and attached to the hog's hind leg, and then he may be easily hauled up and dropped into the tub, then taken out to air and clean; and lastly he may be hoisted up and hooked on to the beam by chains to hang. Such beams may be arranged to hang as many hogs as you may wish to slay. A common barrel kettle kept boiling will keep the water in the scalding tub hot enough, by adding hot and taking out cold, to continue scalding an indefinite time; all with little cost, little fuel, little lifting, and the killing with little suffering to the animal. All things considered, this is the best mode I ever saw or used for killing and scalding hogs."

The Reproductive Powers of Domesticated Animals.

(Concluded from p. 22.)

MANY animals are condemned as barren, which are only temporarily so, in consequence of injudicious feeding and management, or relatively so, in consequence of the male being united, from too close proximity of blood, or from both animals being deficient in constitutional vigour. Examples of each of these cases are frequent. Heifers, owing to confinement and high condition, have been rendered incapable of breeding; but after being put on high and inferior pastures, or worked like oxen on the farm, they have been made, by thus lowering their condition, to breed with facility. It is stated that the late Jonas Webb, purchased of the late Lord Spencer, an exceedingly handsome cow, for a trifling sum, as she had been condemned as barren. After driving her from Wiseton to Babraham, a distance of some 120 miles, and putting her on a different diet for a short time, she came into season and bred. 'Dodona,' the cow in question, produced, when a heifer, twin calves, and subsequently a single calf; when, ceasing breeding, she was sold. But a change of climate and treatment again brought her into breeding condition, and at the time of her death, no less than 160 valuable animals could be traced to this cow, which had been twice sold as barren. 'Celia,' another well known cow, owned by Mr. Webb, after being condemned as barren, became exceedingly fruitful by similar treatment, and had a progeny of over 180 traced to her at the time of her death. Exercise and reduced diet tend, of course, to diminish those fatty accumulations which impede generation, and a mere change of climate has often been found to exercise a decidedly beneficial influence.

Animals are frequently rendered unproductive by too close relationship, or a similarity of temperament; a difficulty that may in general be overcome by judicious selection. A male animal, when pampered and confined, will be sure to become fat and sluggish, a condition often accompanied by the want of constitutional vigour, rendering him inefficient as a stock getter. Such bulls have sometimes been rendered serviceable by subjecting them to rigorous exercise, or labour, and to less stimulating diet. There can be no doubt that breeders have these matters more within their control, than is often imagined. It is the excessive artificial treatment of animals that, in most cases, occasions both disease and barrenness. In a climate, however, like that of Canada, we should be careful not to run into the opposite extreme, as is sometimes done, for, by too much exposure and in-nutritious food, the best bred animals will become weak and liable to disease, and produce a sickly progeny.

Our author, who in conjunction with two eminent physiologists, very carefully examined the ovaries of several heifers, condemned and killed as barren, says:—"I have every reason to believe that by far the larger proportion were naturally quite competent for breeding, and that, in the majority of cases, non-impregnation arose from the seminal fluid never reaching the ovum, which was ready for fertilisation, and from that fluid not being of a healthy character. In some cases, in which the ovaries were, to all appearance, perfectly healthy, the tubes—whereby the seminal fluid should have been conveyed—were so over-charged with fatty matter, that impregnation was rendered impossible. In other cases the ovaries were in an unhealthy condition, either one, or both, having to a great extent wasted away. Sometimes one of the ovaries had been suffering from atrophy, and the other in such an irritable and sensitive condition that it might almost be described as inflamed; and under such circumstances the formation of a healthy ovum could scarcely be expected. In other instances, the ovaries had become considerably enlarged, in con-

sequence of a fatty degeneration of their organs having taken place. I have not sufficient data before me to trace the several results to their respective causes, except in some of those cases in which a fatty degeneration of the ovaries had taken place."

The researches of our author and his coadjutors have led to the conclusion that food rich in saccharine matter, when taken in large quantity by animals, acts injuriously on their reproductive powers. Among other instances may be mentioned that of a well known breeder who, with a view to the improvement of the condition of his herd, added molasses to the dry food he gave. This soon improved the appearance of his animals, rendering their skins supple, and increasing their weight; but it was accompanied by an influence he had never expected; for his stock, which had always realized high prices as breeding stock, now, with very few exceptions, proved to be valueless for that purpose, male and female being alike sterile. Such of the herd as had not been copiously supplied with molasses continued to maintain their character for breeding, while it was thought that others, even after the molasses had been withheld, that their procreative powers continued to be seriously impaired. It has long been known that saccharine substances are excellent food for fattening purposes, and it is probable that the injurious tendency of sugar among breeding stock arises from the fatty degeneration of the ovaries which it produces. It is said that similar results occur among human beings; and that the negroes in the sugar plantations lose all power of reproduction during the sugar harvest, and are permanently influenced, though in a lesser degree, by the juice of the cane, which they are so fond of chewing. It is also affirmed that the reproductive power of the negro increases as the area and growth of sugar diminish.

The moderate use of salt is well known to be beneficial to stock on this continent, especially in parts remote from the ocean, and by some it is held to have a powerful effect on the breeding power of animals. Boussingault, the eminent French agricultural chemist found that bulls, which in their food receive a large addition of common salt, show a greater inclination to cover; and Roulin states that the females of our domestic animals are rendered less productive by want of salt. Large quantities, however, of this substance must not be given, especially to animals giving milk, as in that case it would impair the power of secretion. The formation of milk is intimately connected with the reproductive powers. Its secretion is dependent upon the activity of the mammary glands; and these are either under the direct influence of the breeding organs, or else they sympathize very closely with them. Those animals which breed with the least difficulty yield generally the best supplies of milk, and produce the most healthy and vigorous offspring. However much we have succeeded in improving the symmetry, aptitude to fatten, and early maturity of animals, it must be confessed that we have done so, in very many instances, at the expense of constitution, breeding capability, and milking properties. To check these injurious tendencies, which among pedigree stock seem to be increasing, we must have recourse to a more natural system of feeding and management.

"The general system of diet must be looked upon as taking its share in influencing the reproductive functions. When the fall of rain has been small, and the herbage more than usually parched, we find unusual difficulty in getting ordinary farm stock to breed. A dry dietary is very unfavorable for breeding animals, and very much retards successful impregnation. * * * Little is as yet definitely known as to the comparative influence of different kinds of food upon breeding animals, but the information we possess leads us to desire further evidence. We know that the healthy secreta of such animals, with few (if any) exceptions, contains a large proportion of albuminous matter, in the form of vitellin and albuminate of soda; and it follows as a natural consequence, that unless these bodies are present in the food, although they may be supplied for a time by exhausting the animal system, still his career cannot long be maintained without prejudice to the animal and disappointment to the breeder. The presence of phosphorus is also essential, and it has been observed that food rich in phosphorus, such as the leguminous seeds,—peas, beans, vetches, &c. are especially valuable in promoting the fertility of breeding animals. It may also be stated that although a moderate supply of fatty matter is desirable in the food, still it should be limited, so as to prevent any unhealthy accumulations of fat in or about the breeding organs, and it should always be accompanied by food rich in albuminous matter. There are many curious and important points of enquiry involved in matters forming this interesting paper (of which the above is only an outline), that it is hoped will receive due attention both from practical and scientific men.

Poultry Yard.

Roup in Fowls.

THERE is a disease which is alike the bane of the poultry-keeper and the poultry-editor, in fact we hardly know which of the two suffers the most severely from its ravages, but are inclined to think the latter, is almost the worst off, inasmuch as roup is not always present in any particular poultry yard, but the editor of the poultry department is perpetually opening letters asking for the remedy of frothy eyes, swollen faces, and all the other symptoms of this disease. We have therefore thought it desirable to devote a certain amount of space to the consideration of the roup, its causes, its consequences, and, we wish we could add, its cure. Roup is essentially a disease affecting the lining membrane of the nostrils and the passages communicating with them. It commences with the symptoms of an ordinary cold. The fowl sneezes, and at each shake of the head a small drop of fluid is jerked from the nostril.

If the disorder goes on unchecked, the discharge from the nose assumes a thicker character, and the bird, not possessing the luxury of a pocket handkerchief wipes it away on its feathers at the base of each wing. As the discharge thickens, it is apt to become purulent and offensive, and from its tenacious character it is unable to escape through the nostrils; consequently it distends the nasal cavity, causes the sides of the face to swell, and forces its way through the tear duct to the front angle of the eye, which also becomes swollen and affected by the acrid character of the discharge, which in this stage becomes exceedingly offensive. From the peculiar conformation of the nostril of the fowl there is but little opportunity for the discharging discharge to escape, and the internal swelling sometimes goes on to so great an extent, that the animal becomes blind. In the purulent or offensive stages of the disease we have but little doubt that it is infectious, but do not regard it as being so in the earlier stages.

At first roup is only a severe cold, and may be induced by any causes which give rise to that complaint. Exposure in an open show pen; travelling in an unsheltered basket; roosting in a cold, damp house; especially if these causes are combined with deficiency of good wholesome food. In the earlier stages warm housing conjoined with good feeding, especially if the food be rendered a little stimulating, will soon effect a cure. The condition of the fowls may be improved by a little green vitriol put into their drinking water.

In the advanced and purulent cases roup is the most troublesome of poultry diseases in the way of treatment. The bird may be strengthened by good living and a little iron administered as a tonic, but medicine seems to have little influence on the disease. We have tried injecting a solution of sulphate of copper and other lotions into the nostrils, but without much effect. Some persons have given the fowls capsules of the balsam of copaiba, as this medicine has a peculiar specific effect on mucous membranes, such as those that line the cavities of the nostrils, and good effect has followed from its employment, a capsule being given twice or thrice a day. Unless a fowl be very valuable, we should strongly advise its being killed, if very roupy, as it will never pay for the trouble attending its treatment, to say nothing of the risk of its infecting the other fowls.

In, roup, as in all other diseases, prevention is better than cure, and it so happens, that when fowls are warmly sheltered, fairly fed, kept in clean houses, and not overcrowded, roup seldom or never makes its appearance, except in one or two breeds that certainly seem more subject to it than others. The Black Polish and Silver-pencilled Hamburgs seem more liable to contract it than most other varieties.—*The Field.*

WHAT AILED THE CHICKENS.—A subscriber of the *Agriculturist*, says that he lost several valuable chickens in a mysterious manner. One after another drooped and died. Their rumps appeared much inflamed, and a post mortem examination disclosed the cause. The chickens had swallowed kernels of Indian corn, which had swollen so large that they could not pass off. The obstruction of this passage caused inflammation and death. Young chickens cannot mash kernels of grain in their gizzards. Their feed should be fine.—*Id.*

NATURAL HATCHING.—The hens of all kind of gallinaceous fowls sit for 21 days; ducks of the usual kind, such as Aylesbury, Rouen, and others 28 days; Muscovy ducks, 30 to 35 days; geese, 30 to 35 days; Guinea fowls, 28 to 30 days; turkeys, 28 days; pea hens, 28 to 30 days. With a view of obtaining more eggs in a given time from a fowl, many writers suggest to prevent the hen from sitting by cooping her up in a dark place on a low diet. Nothing can be more cruel than to force nature without giving that necessary rest which overwork requires. Already the domesticated fowls lay many more eggs than wild ones between their hatchings, and, by a judicious housing and feeding, can be made to lay still more; but then it is absolutely necessary to allow her to recruit her strength by a rest of 21 days on her nest, and a liberal poulaceous diet, as the laying of eggs, and more particularly of large ones, is attended with considerable pain, as is evidenced by the difference of sound hens utter before and after their laying, also from their uneasiness whilst on their nest. Besides, domesticated fowls are naturally of a sociable disposition, and to separate a hen from her companions, and to keep her on a low diet when she requires rest and nourishing food to recruit her strength after she has become exhausted from the pain of laying and the drain on her constitution, by the rapid formation of eggs, is the height of cruelty, and would surely not be practiced were breeders aware of the injury they do the health of their hens. *Geyelin's Poultry Breeding.*

The Apiary.

Management of the Apiary for February.

BY J. H. THOMAS.

THE management this month should be about the same as for January. Stocks that require feeding should be constantly attended to, for if neglected a day or two after the usual time of feeding, they may perish, as it frequently happens that all the honey stored by stocks that require feeding, is consumed by this time, and they depend wholly upon what is fed them. They should, therefore, not be neglected. Stocks that are not housed, should be visited occasionally, in order to keep the passage for ventilation free from snow or ice.

From communications received from all parts of the Province, both east and west, we learn that many more are housing their bees this winter than formerly. This is a move in the right direction. Those who intend to make bee-keeping profitable must winter their bees in comfortable quarters. The winter has been favourable so far, and the prospect is fair for early swarms. Those who have hives to make would do well to attend to it at once, especially if moveable comb hives are to be used. They should be well and correctly made.

—♦♦♦—
The only wax work that's of any account is got up by the bees.

VENTILATION IN BEE HIVES.—Bees in winter do not apparently suffer from cold even when many degrees below the freezing point. Their great enemy is damp. I have known hives from which the bottom board had fallen and which were fully exposed to the air, winter well, while others carefully tended lost thousands of bees, and yet both had sufficient stores. Hives made of thin boards are bad quarters for bees, unless well ventilated, and for the simple reason that when such are exposed to the weather, they part rapidly with their warmth in cold weather, and unless carried off by currents of air, the moisture from the bees condenses on the inside and then congeals, and this process will go on until the comb next the sides is involved, and the bees are consequently huddled together in an ice-house. When combs are thus frozen or kept steadily exposed to an atmosphere of moisture for some time, they will mould whenever the weather becomes warm. It often happens that the principal portion of the honey is laid up in the outer combs, and if these are frozen, the bees cannot get their food, and may thus starve with food abundant, but locked up by frost.—*Ohio Farmer.*

British Cleanings.

The foreign crops having been unusually good during the past season, wheat is now selling in France for less than one dollar per bushel, and it commands only about one dollar and nine cents in Great Britain.

CHOLERA IN THE HAIR.—A barber in England, during the prevalence of the cholera, expressed his opinion to a customer, on whom he was operating, that after all the cholera was in the hair. "Then," was the answer, "you ought to be very careful what brushes you use." "Oh, sir," said the barber, laughing, "I don't mean the air of the head, but the hair of the atmosphere."

ANIMALS SUBJECT TO THE CATTLE PLAGUE.—We learn from an English exchange that "the Rinderpest has now been finally expelled from the Jardin d'Acclimatation in the Bois de Boulogne. Thirty-five animals have died of the disease. It appears from the observations and experiments, made by medical men while the disease was in progress, that the following animals are liable to it: the zebra, the buffalo, the gazelle, the goat, the stag, and the wild boar."

THE TRICHINE DISEASE.—Berlin correspondents of the English papers record the prevalence of a panic in the Prussian capital, second only to that caused by the appearance of the cholera. The trichine disease, a new and terrible malady, is ravaging Prussia, and of those attacked by it, at least 25 per cent. die a horrible death. Surgeons trace the origin of the malady to a species of worm that attacks pigs, and as the Germans are especially a pork-eating people, and prefer their food only partially cooked, the new scourge has utterly disarranged their habits, and caused a feeling of intense alarm to pervade all classes.

A HITCHING MONSTROSITY.—A Dublin correspondence of *The Field* relates the following singular circumstance: "My turkeys ran in the same field as a Dorking cock and hens. A sitting of turkey eggs hatched, amongst others, a bird with four legs—a perfect turkey chick with the two practicable and undoubted turkey legs, but with two hinder perfectly defined legs, thighs, and five-clawed, and corresponding in every respect with those of the Dorking chickens. The Dorking legs were not nearly as long as the others, and consequently hung down useless. The chick lived for two days, and fed with the others."

EXPORTATION OF IRISH HORSES.—In the recent return of the Registrar General, it is shown that the number of horses in Ireland has considerably decreased during late years. The report says:—"In 1862, there were horses to the value of £31,975 exported from Great Britain and Ireland to Belgium; in 1863 the value exported to the same country alone was £60,915, showing an increase of £28,940 in one year's exportation, as compared with the previous year. A foreign demand still continues, for at the last great Munster (Limerick) fair, a buyer on the part of the French Government was present, taking animals fit for troop horses at from £24 to £30 a piece."

POLLUTION OF RIVERS IN IRELAND.—We learn from *The Farmer* (Scottish) that "in consequence of the introduction of gas for lighting the College at Maynooth, and the refuse being allowed to flow into the river Rye, which runs close to the town of Maynooth, and through the demense of the Duke of Leinster at Carton, emptying itself into the river Liffey near Lucan, the fine breed of trout formerly existing, and which was carefully preserved by his Grace, is nearly extinct; and it is greatly to be feared that, unless measures are adopted to put a stop to the nuisance, the numerous fish in the lake at Carton will ultimately share the same fate."

A STAG AT SEA.—We learn from a British exchange that "the crew of the smack Gainsbro' Lass recently picked up a fine stag in the White Booth Roads, in the Humber. Though nearly exhausted when taken on board, and consequently very quiet, he soon came round, and after being refreshed with carrots, cabbages, &c., he took it into his head to knock everybody down who went near him. They managed, however, to keep him till next morning, when, meeting a smack bound for Hull, they transhipped him, glad to get rid of such a passenger. The captain, when he arrived at Hull, handed him over to Mr. S. Fern, who, after securing his legs, put him into his cart, and, rightly guessing to whom he belonged, drove him to Burton Constable, where he is now browsing in the park, none the worse for his trip to sea. It appears that Sir Clifford Constable's stag-hounds met on the 29th, at Hedon, and the stag, being pressed, took the Humber, and was picked up as described."

A PRACTICAL JURY.—The clip the following from *The Field*:—"At an industrial exhibition recently held at Vienna (Isère) a variety of artificial legs, constructed on an entirely new principle, were exposed to view. The jurymen, whose duty it was to decide on the comparative merits of the instruments, were much perplexed. At last they bethought them of assembling half a dozen Crimean and Mexican amputees and starting them over a half-mile course equipped with the rival legs. The prize is stated to have been won by an invalid, both of whose legs were taken off at the knee, but who, nevertheless, went over the distance in nine minutes."

DREAD OF CATTLE PLAGUE INFECTION.—A correspondent of the *Irish Farmers' Gazette* writes to that journal, as follows:—"I fear, from the great number of Connaught-men now coming from all parts of England to spend Christmas at home, that some of them will convey the cattle plague. Can you adopt any precaution regarding them?"

The reply of the editor is as follows:—"We regret to say that cattle dealers persist in going backward and forward to England, and never think of changing their clothes. There were more than one of those persons in our market this week, and although remonstrated with, still continue the cruel practice. Those dealers or jobbers may have some other means of living should the cattle plague be brought into this country; but we cannot too strongly condemn their conduct, which is monstrous. If they don't change their habits, we will publish their names, and hold them up to public condemnation. It looks to us like defying Providence."

HYDROPHOBIA.—A remarkable case of this mysterious disease is related by a correspondent of *The Field*. He says:—"In the month of March last a dog, apparently mad, found its way into the grounds of a gentleman residing in Hertfordshire. It bit the game-keeper and several dogs. The part bitten in the keeper—the wrist, I believe—was immediately excised. The bitten dogs were sent to the Veterinary College, London, and kept there for some time. Appearing healthy, they were taken home and regularly shot over. About three weeks ago, one of them, a valuable retriever, showed decided symptoms of hydrophobia, and died mad. The virus had, therefore, lurked in this animal for eight months! As the history of the case is now being thoroughly investigated at the Veterinary College, with the presumed view of a properly scientific description of all the facts by competent authorities, I offer no remarks of my own on its remarkable features."

THE ECONOMY OF STEAM.—In a recent issue of *The Field* we find the following:—"Enough has been written from time to time to convince the most sceptical that steam cultivation, as an economical process, is an established fact; and we are, accordingly, surprised that anyone who has weighed the evidence, and examined carefully into the subject, could have written such a letter as appeared some twelve months since in the *Times*, in which it was stated, 'That the question was as yet in too elementary a condition to be adopted by tenant-farmers.' Why, is it not a fact that the most successful employers of steam-tackle are rent-paying farmers? and, what is more, not one of those men who have once given it a fair trial would be without its assistance on any account. No doubt we have not arrived at perfection—improvements may from time to time be made; but we have mastered the great difficulties. Steam cultivation has been taken from the realms of theory, and fairly started on the sober roadway of practice; and of all the improvements with which the present age has been fruitful, this undoubtedly demands the first place."

THE "PEELER" AND THE ELEPHANT.—The *Morning Post* gets off the following:—"On Monday week a menagerie left Manchester for Dundee, between one and two o'clock. The elephant was ridden down Market-street by his keeper, and such an unwonted sight at that hour of the night so frightened some pedestrians returning from a party, that they ran screaming into one of the side streets. A constable of the A division thereupon remonstrated with the keeper for riding the elephant in the street at such an hour, and after some high words, sought to exercise his authority; but the elephant distinctly intimated his disapproval of such a proceeding, and the policeman narrowly escaped a blow from the animal's trunk. Nothing daunted, the policeman obtained the help of some brother constables, and they proceeded to the Victoria Station. The elephant and his keeper were by this time in the box about to start by the two o'clock train, and the police endeavored to get at the keeper. He called "Charley, Charley," and the intelligent creature at once struck at the police with his trunk, but fortunately missed them, and the police, convinced that the elephant was too much for them, retired discomfited."

THE HONEYGUIDE.—Says Dr. Livingstone, "The honeyguide is an extraordinary bird; how is it that every member of the family has learned that all men, white or black, are fond of honey? The instant the little fellow gets a glimpse of a man, he hastens to greet him with the hearty invitation to come, as *Mbia* translated it, to a bees'-hive and take some honey. He flies on in the proper direction, perches on a tree, and looks back to see if you are following; then on to another and another, till he guides you to the spot. If you do not accept his first invitation he follows you with pressing importunities, quite as anxious to lure the stranger to the bees'-hive, as other birds are to draw him away from their own nests. Except while on the march, our men were sure to accept the invitation, and manifested the same by a peculiar responsive whistle, meaning, as they said, 'All right, go ahead; we are coming.' The bird never deceived them, but always guided them to a hive of bees, though some had but little honey in store."

POISONOUS PLAYTHINGS.—Mr. W. B. Tegetmeier writes to *The Field* as follows:—"Some time since I directed attention to the new chemical toys known as Pharaoh's serpents, and described the poisonous properties of the sulphocyanide of mercury of which they are composed. My friend, Professor Church, informs me that he has tested the vapour given off by these fiery serpents during combustion, and that he finds it contains a very considerable quantity of mercury, sufficient to amalgamate with and decolorise a piece of goldleaf very rapidly. As the vapour of mercury is very inimical to the human constitution, too much caution cannot be used in playing with these poisonous toys."

"My immediate object in writing is to caution the reader against a still more poisonous compound, which is likely to come into very general use. It is described in the following paragraph, taken from the *Standard* of Tuesday:

"A bright light, possessing very high actinic power, is produced by the combustion of a mixture of twenty-four parts of well-dried pulverised nitrate of potash with seven parts of flowers of sulphur and six of the red sulphide of arsenic. This mixture can be sold at 3d. a pound, and its light is therefore much cheaper than that of magnesium, to which it is said to be only very slightly inferior in actinic energy."

"I will only add to this account, that this compound could not be used in any enclosed building or room, without the arsenic, which would be volatilised during combustion, imperilling the life and certainly injuring the health of every person who inhaled the slightest amount of vapour produced by the burning."

THE EFFECTS OF CLIMATE ON ANIMALS.—The following recently appeared in the Paris correspondence of the *London Times*:—"In a remarkable work, 'L'Espace Celeste et la Nature Tropicale,' by M. Emmanuel Liais, the well-known traveller and astronomer, there occurs an interesting disquisition on the effects of climate on the organic world. The author's opinion, founded on personal observation during a long sojourn in tropical countries, is worthy of notice. The great diversity of vegetable and animal productions on the globe, according to climate, shows that the climate exercises some influence on them, but this influence, according to M. Liais, is only indirect. Certain beings, it is true, can only live in certain climates, and if transported to another will die; but, on the other hand, those that can bear emigration constantly retain their generic and specific characteristics, whence it is to be inferred that, even before moving, their nature was such as to permit of their being acclimatised elsewhere. In the case of man, it was formerly supposed that difference of colour proceeded from climate, but it is now proved that under the equator the European still preserves the characteristics of his race: while the black, whether transported to America or Europe, still remains as black as before. M. Liais denies that domestic animals ever return to a supposed primitive wild type, for he has seen in the *campos* of Brazil oxen and horses as diversified as our domesticated breeds, and which, nevertheless, can only be caught by the lasso. Animals of different colours have different degrees of strength. The parasites that destroy so many horses and oxen in America do not attack, in all colonies, all varieties with equal violence; and yet no variety or breed seems to have, for all that, predominated over the other, and therefore led to any uniformity. Nor do epidemics attack all races alike. In 1850, at Rio de Janeiro, yellow fever raged simultaneously with cholera; but the former only attacked the whites, while the latter almost exclusively fastened upon the blacks. It has often been said that in tropical regions sheep lost their fleece, which was replaced by hair. M. Liais denies this, stating that it is their wool which prevents their spreading all over the country, because certain troublesome parasites abound; for instance, in the Brazilian *campos*. These parasites get into the thick wool and torture them so that they at last decline in health."



TO CORRESPONDENTS. We are in receipt of quite a large budget of communications—many of them of an important and interesting character—which, owing to the date of their arrival and pressure of other matter, it was impossible to publish in our present issue. We trust that those of our readers who have not seen their contributions in print, or had their enquiries unanswered in our columns, will accept the assurance that they will receive our earliest possible attention.

FOR EARED RABBITS WANTED. Rabbit-Fancier writes from Toronto, as follows:—"Could you or any of your correspondents inform me of whom I could purchase a pair of thorough-bred lop-eared rabbits, of tortoise-shell colour? I have made a great many enquiries for some, but unsuccessfully, and have met with half breeds only."

Ans.—We cannot give the desired information, but perhaps some of our readers can.

TOOK HIM AT HIS WORD.—"A. G. F." of Toronto communicates the following:—"A bee-loving farmer of Toronto township, the other day, took two of his neighbour's little girls—one thirteen and the other fifteen years of age—to see his bees, and offered to give them a hive if they would carry it home. Immediately they accepted the challenge, and when the evening came, having selected the best one of thirty or forty hives, they with great toil and perseverance succeeded in carrying their sweet treasure home,—a distance of nearly a mile, greatly to the surprise of the household. And on the following morning, they assured the donor's son that they did not get a single sting!"

CHURCH PLANS.—"Clericus" writes from Brant Co. on this subject:—"I am glad you have begun to take up Church Architecture in THE CANADA FARMER. There is great need of it. The country is disfigured with unsightly structures, devoted to public worship, which the very heathen would be ashamed of. The plan in your last is a pretty one, but I would beg to suggest whether another style of building would not be more suitable in many parts of Canada. A Gothic building, to look well, should be in stone. To me a clap boarded or plastered structure affecting the Gothic always looks like aping what cannot be carried out. At any rate, I am sure there are many places where lumber and lime are cheap, while stone is scarce and dear, and where the ordinary local workmen at hand might put up very neat buildings at much less cost, of some other style, if a good plan were furnished. Will you not give us, before long engravings of a country church to be built of lumber—clap boarded or plastered on the outside, set on a good solid foundation of stone, with square headed windows, Venetian blinds to keep out the hot summer sun, tower strong enough to carry a bell, and tinned spire?"

Ans.—We will endeavour before long to comply with the request of our correspondent.

LARGE VS SMALL BREEDS OF PIGS. C. A. JORDISON, of Wellman's Corners, Hastings Co., writes thus:—"From several articles published in THE CANADA FARMER, I have judged you have a prejudice against the large breeds of pigs, in favour of the smaller Suffolks and Essex. I should be sorry to say one word against those breeds, but where the large breeds (Yorkshire, for instance,) are selected with due regard to smallness of bone and fineness of skin and hair, their produce will mature at as early an age and attain greater weight, at that age, than any small breed. I send you a clipping from a local paper, showing the weights of three pigs from a common sow and a Yorkshire boar, as follows:—"

"Mr Felix Graham, 2nd con. of Thurlow, slaughtered three spring pigs on the 26th ult., weighing respectively 292, 297 and 308 lbs. They came on the

15th of April, 1865, thus making them eight months and thirteen days old when killed. They were got by Mr C. A. Jordison's imported Yorkshire boar."

Ans.—We beg to assure our esteemed correspondent that we have no "prejudice" against any of the improved breeds of pigs, though we acknowledge to a liking for the smaller breeds, especially the Essex. Notwithstanding our preference, we have a very high opinion of the breed of Yorkshires, for which our correspondent has long been famed; and if he will turn to our issue of March 15, 1864, he will find in a long illustrated article a fine engraving of his favourites, of which, among other things, we said:—"They are equally valuable for making either large or small bacon, that being only a matter of age. We also said of the breed, "it is widely diffused, has attained a permanent character, and is deservedly celebrated." In the article referred to, Mr. Jordison's name is mentioned among the breeders of Yorkshires in this country. We are glad to find from the above clipping that even a cross is found to be so improving and successful, and we ask those who pertinaciously continue to keep the "natives," to match the foregoing, or even make an approach to it, if they can.

Bound Volumes.

The Second Volume of "The Canada Farmer" is now ready, consisting of 24 numbers, and comprising 384 pages of reading matter in a bound form. The binding will be charged 30 cents in addition to the subscription price, making \$1 30 in all for the volume. Parties desirous of having their Nos. for the past year bound, will please send them to us, securely packed, with their name and address, together with 30 cents in stamps or otherwise, and we shall return them bound, free by post. Vol. 1, containing the numbers for the year 1864, may also be had at the same price.

Subscribers will please notice that it is not necessary to pay postage on numbers of The Canada Farmer returned to this Office for binding,—but 30 cents must be remitted to the Publisher, to defray binding expenses.

The Canada Farmer.

TORONTO, UPPER CANADA, FEB. 1, 1866.

The Law Relative to Dogs and Sheep.

IMPORTANT changes were made in the law relative to dogs and sheep by an Act passed at the last Session of the Provincial Parliament. The existing statute goes much farther than the old one did, and if it be properly carried out, will do much to protect the sheep interest from the injury it has heretofore sustained through the depredations of dogs. The following is a summary of the dog and sheep law as it now stands.

It is provided that there shall be levied annually, in every municipality in Upper Canada, upon the owner of each dog therein, an annual tax of one dollar for each such animal. The assessor is required, at the time of making the annual assessment, to make lists containing the names of all owners of dogs in the municipality, the number of dogs owned by each, and the amount of tax due. The owner of every dog liable to taxation shall, when required by the assessor, deliver a description in writing of every such dog owned or possessed by him. For every neglect or refusal to furnish such a description, and for every false statement made in any description furnished by him, the owner shall be liable to a penalty of \$5. The assessor is required, within the time allowed for the completion of the assessment roll, to furnish the collector of the municipality with a duplicate of the list of owners of dogs liable to taxation, and the amount payable by each—attaching thereto a direction to the collector to collect the money. The collector proceeds in collecting the dog taxes just as in the collection of other taxes imposed by the municipality. The moneys so collected and paid to the clerk or treasurer of the municipality "shall consti-

tute a fund for satisfying such damages as may arise in any year from dogs killing or injuring sheep in such municipality," and the balance, if any, goes into the general fund of the municipality.

The owner of any dog that shall kill or injure any sheep or lamb, shall be liable to the owner of the sheep or lamb for its value, without proof or notice to the owner of the dog, or of knowledge by him that his dog was mischievous or disposed to kill sheep. The owner of any sheep or lamb that may be killed or injured by any dog, may apply to two justices of the peace, who shall inquire into the matter. They shall view the sheep injured or killed, may examine witnesses on oath in relation thereto, and if satisfied that the sheep or lamb was killed or injured by dogs, shall certify the facts of the case, together with the amount of damages sustained by the owner. Such certificate shall be *prima facie* evidence of the facts therein stated, in any suit that may be brought against the owner of any dog, provided it shall be shown that due notice was given him of the intended application to the justices of the peace. If the party injured cannot discover the owner of the dog by which his sheep was injured or killed, or fail to recover the value of the sheep from him, he may apply to the clerk of the municipality, producing the certificate by the justices of the peace, and an affidavit by himself that he has not been able to discover the owner of the dog, or that he has failed to recover from him. The clerk shall lay this application before the Council at its next sitting, and the Council on being satisfied of the failure to discover the owner of the dog, or to obtain the damages from him, shall issue an order upon the treasurer for the amount of damages certified to have been sustained—such order to be paid out of the fund constituted under this Act, and from no other fund whatever. If the owner of the sheep afterwards recover damages from the owner of the dog, he must refund the same to the treasurer of the municipality.

Any person may kill any dog which he may see chasing, worrying, or wounding any sheep, unless it is done by permission or direction of the owner of the sheep or his servant. The owner of any dog, to whom notice shall be given of any injury done by his dog to any sheep, or of his having chased or worried any sheep, is required within forty-eight hours, to cause the dog to be killed. The penalty for neglecting to do so is \$2 50, with a further sum of \$1 25 for every forty-eight hours thereafter until the dog is killed. But it must be proved, before these penalties can be recovered, that the dog had chased, worried, or injured sheep; and no penalties shall be enforced when it shall appear to the satisfaction of the court that it was out of the power of the owner to kill the dog. When complaint is made to the clerk of any municipality that any of the penalties imposed by this Act have been incurred, it becomes his duty to sue for them; and all moneys recovered shall be added to the fund for the satisfaction of damages sustained by owners of sheep. Every person in possession of any dog, or who shall suffer a dog to remain about his house or premises for twenty days previous to the assessment, or to the time at which any damage is done by the dog, shall be deemed its owner for all the purposes of this Act.

Agricultural Products and Markets during 1865.

A FEW notes in regard to the above will, doubtless, interest our readers and be found useful for future reference. The past year has been one of prosperity and progress. It opened amid general gloom, consequent on a succession of bad crops, and the depressed condition of trade all over the Province. Through the favour of Providence every cause of depression has been removed, and the present year has dawned amidst evidences of contentment and hopefulness. A most abundant harvest, and a continuance of brisk, high markets, have operated almost magically

in completely reversing the aspect of things. We shall briefly review the history of the year, so far as it relates to the leading products of the farm.

GRAIN AND FLOUR.

The grain crop of 1865 has not only been a heavy one, but it has also been of excellent quality. White wheat in several of the old townships was good, although somewhat smutty, but in the new townships it was of very superior quality. From Cobourg east the crop was a partial failure. West of Cobourg, however, especially west of Stratford, it was very heavy and the sample of wheat, excellent. Spring wheat in the front townships was a light crop of average quality, whilst in the rear townships the crop was splendid. Peas were also a first-class crop. There was more barley grown in Canada during the past year than ever before, probably more than double the quantity grown in 1864, almost all of which found a market in the United States. During the past year not less than 2,992,432 bushels were shipped from Canadian ports to Oswego alone, of which nearly 700,000 bushels were from Toronto. The shipments to Chicago from Toronto were, during the past season, 375,010 bushels, and to Toledo 67,532 bushels.

The total shipments of barley from Toronto by water were 1,107,241 bushels, being largely in excess of the shipments of wheat, our great staple, there having been but 779,692 bushels of wheat sent away during the same period. These figures do not include the quantities that may have been taken by railroad. Large quantities of peas have also been shipped, principally to Montreal, to fill English orders. The price of barley at this port, has fluctuated between 53c and 80c, these being the lowest and highest prices of the season. The previous season 52c and 85c were the lowest and highest prices given at this point. Peas, during 1865, have fetched from 56c to 90c. In 1864 they brought from 50c to 63c. Wheat has ranged in price as follows:—Fall wheat, from 90c to \$1 55; Spring wheat, 80c to \$1 15. The previous year the prices stood—for fall wheat, from 84c to \$1 05; and spring wheat from 76c to 90c. For the first three months of the past year, prices kept pretty low and steady, but towards the close of navigation they took a start and went rapidly up. It then began to be feared that there would not be enough grain in the country to feed us until the new crop was ready for use, and some speculation, therefore, ensued. Prices consequently kept advancing, till they reached a point at which it became profitable to import flour and wheat from Milwaukee and other western markets. A large quantity of their best wheat and flour was so imported, and being at once put into competition with our own, checked all tendency to any further advance. Prices were well maintained until harvest, which was an early one. From the very first appearance of new grain and flour in the market prices took an upward turn, and kept steadily advancing during the greater part of September and October. As the season for shipping by water, drew to a close, business very sensibly languished, a reaction set in, and to effect sales considerable concessions had to be made. Stocks were light, however, and the few who had any on hand preferred shipping on their own account, to taking the prices offered by buyers on the spot.

The flour market has fluctuated greatly during the past season, as the following table, giving the highest and lowest prices of three usual grades, will show:—

	No. 1 Super.	Extra.	X. X.
Lowest prices. . . .	\$3 78	\$4 22	\$4 50
Highest prices. . . .	\$5 87	\$7 50	\$7 75

It is almost impossible, with the means at our disposal, to arrive at any definite or correct estimate of the quantity of grain still to be brought into market. A few weeks of good sleighing will probably solve this problem, which at present occupies the thoughts of dealers, and about which very diverse opinions are entertained. Farmers are this year in a better position to hold on to what stock they have

yet have on hand than they have been for many years past, and they are not seemingly disposed to accept much lower prices than they have already obtained. Under such circumstances, it is difficult to express any opinion as to the amount of business likely to be done during the remainder of the winter. The largest quantities of grain not yet marketed are in the counties of Huron, Bruce, Grey, Simcoe, Peterborough and Victoria, where a large stock of sound spring wheat and oats yet remains. Want of sleighing has doubtless had much to do in keeping the grain yet in hand from finding its way to market. Comparatively little has been done by shipping; to England during the past year, the bulk of our business having been with our neighbours across the lake, who this year have absorbed all our best samples and nearly all our higher grades of flour, and a great part of our farm produce of every description.

Much inconvenience and loss have resulted from the—as it appears to us—mistaken policy of our great leading railway, in neglecting local interests for the sake of the through traffic. Produce dealers are entirely at the mercy of the railways, more especially of the Grand Trunk. The power of the leading officials of that line over the produce market is little understood or appreciated by the general public, and the mode of its exercise is a matter of sufficient importance to justify legislative action.

The uncertainty which prevailed as to whether the Reciprocity Treaty will be renewed or not, has withheld speculators from joining in any very large operations, and every effort will doubtless be made by dealers to get their purchases across the line before the 16th of March. Should the treaty not be renewed, there is not much apprehension among traders that the interests of the country will materially suffer. Agriculturists will adapt their productions to the change of circumstances, and soon fall into another path equally lucrative, and perhaps more advantageous, because more independent of foreign influences.

PORK.

Considerable change has taken place in the pork trade during the last commercial year, and unprecedented activity has characterised this branch of business. Purchases here were mainly made for shipping in the hog, although packers for city and back country use, reaped the largest profits. It is estimated that the "whole hog" exports of last season would average 200 hogs per day, throughout a season of some ten weeks, the majority being consigned to Montreal. The value of the pork bought, shipped and retained for the home market, is variously estimated at 1,600 to 2,000 tons, worth from \$320,000 to \$400,000. But little barreled pork was put down, so that Chicago was the chief source of supply for our summer demand. Prices ruled high; June delivery, Mess, \$18 to \$20; August and September, \$21 to \$25; Prime Mess retaining its price at \$3 per barrel less. Messrs. Wm. Davies & Co. are the most extensive packers in this city. Last year they packed and shipped over 400 tons of bacon to the English market, besides a large quantity for home consumption. This year the same firm are heavily engaged in the trade. Owing to the high prices commanded by all kinds of provisions and the reported scarcity of hogs, it was generally anticipated that pork would open at, and maintain, a very high rate. The droves of hogs bought by Americans, the high price of peas, and the light stock of old barreled on hand, all concurred in the public estimation, to fix figures, having \$10 for an average. The season opened, however, at about \$8 50, advanced to \$10, and since that has eased off to from \$7 to \$7 40, at which rates packers are slow to take hold, believing from Western indications, successive declinations, and reports of dullness in the English market, that the maximum has been reached, and that a further decline of at least \$1 may reasonably be expected. Receipts, so far, have been small; but, as the season advances, are expected to increase. The quality of the pork already brought to market is remarked by all to be much superior to that of any former year, the effect evidently of "hard feed."

BEEF.

It is now some years since the stock to any extent had to be imported into Canada. On the contrary, we have had to notice each year the increase of our exports, but especially can we call attention to the great increase of the past season. Almost double the weight of cattle, at nearly double the price, has found its way across the Bridge in the year 1865, over any former year. The operations in this trade evi-

dently were stimulated by the requirements of the American commissariat; but the war being over, the army necessities have vanished, and another year so successful cannot be reckoned upon, unless, indeed, the cattle disease abroad is sufficient to affect the markets. The condition of live stock is, on the whole, scarcely so favourable as last year, which is attributable to the parched pastures caused by the dry weather. The marketable stock in the hands of farmers is now small, and a similar drain next season would become dangerous. There is, however, judging from present appearances, but little prospect of this. The cattle prohibition order, issued by the United States government, has put a complete stopper on this branch of trade, and the expected repeal of the Reciprocity Treaty will effectually check, if not wholly destroy it. It is altogether probable that in the form of fresh beef, ice-packed, and of corn-beef, barreled, a remunerative market will present itself in Britain for all our surplus.

BUTTER.

We are glad to observe that the season's operations in this staple have yielded a good return to all engaged—farmers and dealers. Canadian farmers, or rather their wives, are, however, only learning to make butter, for each successive season a decided improvement in quality is perceptible. While the quality has improved, the quantity has increased, dairies being now found by farmers to be as remunerative in proportion as cereal crops—if not more so. The extensive canvas of our country by American cattle buyers has considerably thinned the stock of milch cows, nevertheless it is estimated that the yield of butter will this year exceed that of any former one by some thousands of firkins. In reference to the system of making and packing, some changes are especially desirable, in order to enhance the value of Canadian butter in foreign markets. Among the improvements, we would suggest uniformity of package in regard to size, weight, and shape, the less frequent use of hot water in churning, the absence of the slightest variation in colour, and the use of a finer quality and less quantity of salt, and in no case more than a spritz on the top of the clean white cloth. More working prior to packing would also enhance the value of Canadian butter. We will venture to state that 25 per cent. of the butter brought to this market, if not rancid, tastes cheesy, or of buttermilk. Differer parts of Canada are noted for different and distinct classes of butter. Brockville butter, for instance, has a provincial reputation, and commands anywhere and at any time four cents per pound more on its own merits than that of other towns. Many country storekeepers deserve censure for the negligent manner in which they receive and pack butter. Every hue, from sicklied buttermilk to glowing orange, is received by them at one price, and heaped promiscuously on bins in their cellars, there to remain until enough has been collected for a general packing. The exposure of butter to the air is very injurious, as is also the indiscriminate mixture of colours and qualities. Many storekeepers, however, we are glad to see, are beginning to reform their method of butter packing, taking a practical lesson from what has been to some of them, very dear experience.

The present season presents a gradual rise in prices, commencing in spring and extending to 1st November. Then, as navigation was about to close, freights to advance, and the Southern markets became nearly supplied, a decline was experienced, which has since continued as steadily as did the advance during the summer. Speculation throughout the summer months ran high, carrying up prices to a point which we believe was never surpassed in Canada. Exportation to Britain was suspended early in the season, as the state of the market would not warrant a margin, and the superior inducements of the American markets led our shippers to make their consignments in that direction.

Prices ranged as follows:—In June, 12½ cents; July, 14 cents; August, 16 cents; September, 19 cents; October, 21 cents to 24 cents.

CHEESE.

The usual imports of cheese have decreased materially since last year. Canadian factories are increasing in capacity, and improving in quality, supplying a want long felt among us for good Canadian cheese. The South Riding of Oxford is fast becoming the Herkimer of Canada, and in a few years it is anticipated, if factories continue to increase among us at the same rate as of late, that our import will be

changed to an export trade. In sympathy with other products, cheese has commanded good figures all the season. In August and September prices were 9½c. to 11c. On the setting in of cool weather, an advance of 3c. was experienced, leaving the market still in favour of the seller.

WOOL.

We have a cheering report to give of this article, now rapidly assuming an important place among the products of Canada. Sheep-husbandry, stimulated chiefly by the high price of wool, has increased largely, and the highly satisfactory results which have followed will, we hope, encourage farmers to still further exertion in that direction. The quality of the crop is yearly improving. Canada wool has always, and does now command the highest price in the American market. The great bulk of the Canadian wool—nearly all of that pulled in the early part of the season—finds a market in the United States, and last year very high prices were realized in consequence of the scarcity of cotton, and the great demand for coarse cloths for military purposes. The demand from our neighbours for wool to manufacture woollens and army clothing has, since the war began, been considerable. This demand, coupled with that for our own rapidly increasing home manufactures, had the tendency to increase the number of sheep in the country, and making its culture and growth an item of great importance to agriculturists. At the close of the American war, it was thought that prices would decline; owing, however, to an increased amount of worsted machinery going into operation in the Eastern States, and there being comparatively little combing wool grown in the United States, our market suffered no material decline, but continued throughout the season to be largely resorted to by American buyers. It is supposed that wool will not decline to the old level of prices for some years to come, on account of the high price of cotton, notwithstanding the probability, if not certainty, that a prohibitory tariff will exclude this article from the American market. Prices opened at from 33c to 35c in the latter end of May, and advanced to 42½c to 43½ in the latter part of June, and although several American orders were withdrawn, prices kept remarkably steady throughout the season. In the fall the market was left bare of fleece wool, and manufacturers of Canada tweeds were forced to a great extent, to supply themselves with pulled wools, a new feature in the trade. We hope manufacturers will find it to their advantage to use more of these wools in the future. We would urge upon farmers the great necessity of keeping their wools free from burrs, and having it properly washed before shearing. Buyers now use more discrimination in their purchases, and the best handled wool may be expected to bring the best price.

The gradual and satisfactory progress of the wool trade will be seen from the following figures, which show the total exports of wool from this port for the last seven years, within which time the trade has grown from almost nothing to its present very considerable proportions:—

Total exports of		
Wool in	Ibs.	Value.
1859.....	7,101	\$1,372
1860.....	32,472	8,867
1861.....	152,954	36,480
1862.....	129,833	41,458
1863.....	205,846	76,596
1864.....	165,618	68,959
1865.....	about 300,000	138,000

The total quantity of wool purchased at this point during the present season is computed at 350,000 lbs., which, at the high average price of 40½c per lb., represents the large sum of \$157,500, paid into the pockets of our farmers for this branch of agricultural industry alone.

Chicago "Union Stock Yards."

SEVERAL of our American exchanges have detailed accounts of a mammoth undertaking recently carried out by Western stock men, for the accommodation of the vast herds of cattle, that congregate at Chicago for shipment eastward. The *Prairie Farmer* contains an engraving and description of the buildings and pens. We give an abridged and condensed outline of the gigantic enterprise. A company was incorporated for the purpose, with a capital of one million dollars; a location, comprising 345 acres, five miles southward from the city Court House, was purchased and thoroughly underdrained—nearly thirty miles of drains and sewers being required, 500 yards and pens, from 20 by 35, to 85 by 112 feet, were built, all of them, as we understand, with plank floors, some covered, and many provided with gates, so that several can be opened into one. These pens are laid

off into streets and alleys, and include four principal divisions—the first division, A, belonging to the Chicago and Rock Island Railroad, and the Illinois Central; division B is assigned to the four eastern roads, the Michigan Southern, Michigan Central, Pittsburgh and Fort Wayne, and the Chicago and Great Eastern; division C accommodates the Chicago, Burlington and Quincy, and the Chicago and St. Louis; division D will be used by the Chicago and North-western Railroad. Suitable buildings for hay and corn are erected, and very capacious tanks for water, which is conveyed by pipes, aggregating over six miles in length, to every pen and yard. A hotel, moreover, is building, which will cost, when completed and furnished, about \$300,000. A short distance from the hotel is the exchange building and bank. In this building are the bank office of the Secretary of the company, the exchange room of the brokers, and a refreshment room. On the second floor are telegraph offices. Cottages, stores, and work houses will be erected on the grounds, for the convenience of the employees. The cost of the yards is said to have already been over \$1,000,000, and considerably more will be required to complete it. About 15,000,000 feet of lumber have been used in planking and posts.

Such is a meagre account of what will doubtless be found a most valuable addition to the transportation facilities of the great and growing emporium of the far West.

U. C. Fruit Growers' Association.

We publish elsewhere the proceedings of the Annual Meeting of this body, together with the President's address, in which the objects of the Association are very fully set forth. It is to be regretted that a larger number of persons are not enrolled among its members, and in the habit of attending its meetings. During the few years of its existence, the Association has, in a quiet way, accomplished much for the farmers and gardeners of Canada, by the enquiries it has made and the information it has gathered, respecting the possibilities of fruit culture throughout the country, by the list of fruits adapted to these latitudes, which it has made up;—and by the stimulus its discussions have imparted to the professional and amateur orchardists who have attended its gatherings. It is capable of achieving far greater results, were it more extensively patronized. The enlargement of its membership, would both put it in possession of means to attempt various useful projects, and bring a greater number of fruit growers under the influence of its healthful stimulus. Our American neighbours maintain such organizations with great liberality and spirit; experience having proved their value and utility. We hope more of those who feel interested in the development of the resources of Canada as a fruit country, will join the Association, and lend their help in forwarding its useful aims. Parties desiring to become members, will address the Secretary Treasurer, D. W. Beadle, Esq., St. Catharines, enclosing one dollar.

Literary Notices.

THE AMERICAN AGRICULTURIST.—We opened the January number of this able monthly with more than usual curiosity and interest, it being the first issue since its absorption of the *Genesee Farmer*, and the addition of Mr. Joseph Harris to its already effective editorial staff. The first page is adorned with a fine engraving of Mr. Bonner's noted "Auburn Horse," for which his proprietor gave the sum of \$13,000—a modest price truly for a gelding. The usual "Hints about Work," on the farm, and in the garden and green-house follow; after which we have the Apiary, some business notices, and "Our Basket," which is crowded full of useful articles. Five pages of valuable miscellany come next, and then we have No. 25 of the "Walks and Talks on the Farm," which the readers of the late *Genesee Farmer* found so interesting and instructive, and which are henceforth to be continued in the *Agriculturist*. No. 25 is not, in our opinion, quite up to the mark made by its predecessors, but this is hardly surprising. It begins with a regretful reference to the passing away of the *Genesee Farmer*, and a confession of a "little nervousness" in writing for a hundred thousand sub-

scribers. Mr. Harris will be "himself again" soon, and write with his usual versatility and spirit. As it is, the "Walks and Talks" make two of the best pages in this number. We cannot even give a list of the titles of the remaining articles. Suffice it to say that the paper is well filled, and that the illustrations of which there are more than the usual quantity, are very excellent. A whole page engraving, entitled "A Merry Christmas and a Happy New Year," is a beautiful work of art, and well worthy of being framed. This prince of the agricultural monthlies is published by Orange Judd & Co., 41 Park Row, New York, at \$1 50 per annum, American money. In clubs of 20 or more, \$1.

THE SUNDAY SCHOOL DIAL.—This little paper, devoted to the religious welfare of children, well merits a passing word of commendation and encouragement. It is free from sectarian bias, and is filled from month to month with very choice reading, original and selected, not only suited to "the young folks at home," but well worthy the attention of the older folks. Canadians ought to be patriotic enough to sustain their own juvenile periodicals in preference to such as come from other countries. Several home-produced children's papers are in existence, some having a denominational cast, and others, like the *Dial*, of unsectarian character. The *Dial* is the cheapest among them all, being only fifteen cents a year for single copies. Eleven copies to one address are furnished for \$1 50; 22 copies for \$3, and so on. Orders for this excellent little paper should be addressed to Mr. A. Christie, Box 468, P. O. Toronto.

ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS FOR 1866.—We have received from Mr. F. E. Grafton, Bookseller, Montreal, a sample copy of this valuable little work, and to all who are acquainted with former issues of it, nothing more need be said, than that it well maintains its previous reputation. Upwards of 100 pages of reading matter, illustrated by 130 engravings, all referring to matters of farm economy and rural pursuits, are here offered for the small sum of twenty-five cents.

Agricultural Intelligence.

Officers of Agricultural Societies for 1866.

We herewith append lists of the officers of such of our Agricultural Societies, for the current year, as have come to hand. We hope to be able to give more in our next issue.

NORTH RIDING OF OXFORD.—President, Hon. Geo. Alexander; First Vice do., John Barwick, Esq.; Second Vice do., John Dunlop, Esq.; Secretary and Treasurer, W. Grey, Esq.; Honorary Veterinary Surgeon, D. McEachern, Esq.; Directors, Messrs. A. Tew, Capt. Cowan, E. Huggins, H. Parker, John Craig, H. Welford, and Mr. Lockhart.

BLENDHEIM AGRICULTURAL SOCIETY.—President, Stephen Hall, Esq.; Vice-President, Capt. Cowan; Sec. & Treas., Geo. F. Williamson. Directors, Wm. Mason, Thos. Spiers, Wm. Alexander, A. Tew, D. Wakefield, Thos. Nichols, John Hall, and Alex. Pattullo.

NORWICH AGRICULTURAL SOCIETY.—A. B. Moore, President; William Coloe, Vice-President; Wm. S. Scarff, Secretary and Treasurer; Directors, I. B. Barker, Wm. Treffry, S. J. Woodrow, I. Mascar, H. Vanvaulkenburg, Mordecai Reynolds, H. McLees, Wm. Austin and Adam Stover.

HALDIMAND (West Branch).—President, Alex. W. Thompson, Esq.; Vice-President, Isaac Geddes, Esq.; Secretary, A. A. Davis, Esq. Directors,—Seneca,—Andrew Turnbull, Nathaniel H. Wickett, George Jeffrey, and Thomas Messenger, Esqs. Oneida,—Walter Anderson, Thomas Martindale, James Ferguson, and Andrew Murray, Esqs. North Cayuga,—William Wilde, Esq.

SMITH, HARVEY, NORTH DOWNS, AND NORTH MONAGHAN.—Michael Sanderson, President; Emanuel Mann, Vice do.; James Mann, Treasurer; Wm. James Smyth, Secretary. Directors, the Rev. V. Clementi, B. A. Geo. Paul, Isaac Garbutt, Gerald Fitzgerald, M. S. Dean, Thomas Mann, Wm. Gill, Samuel McKibbin, and Lewis Davies.

EAST MIDDLESSEX.—President, Mr. J. Johnson; Secretary, Mr. J. W. Lester; First Vice-President, Mr.

Rowat; Second Vice-President, Mr. Thos. Shore; Treasurer, Mr. Alex. Kerr. Directors.—London Township, Mr. J. Tuckey, Dorchester, Mr. R. Tooley; Westmaster, Mr. Wm. Walker; London City, Mr. Mayor D. Glass, Mr. W. Wade; Nissouri, Mr. John Wheaton, McGillivray, Mr. Jas. Smith.

TORONTO ELECTORAL DIVISION.—President, Philip Armstrong, Esq.; First Vice-President, Alderman Strachan; Second Vice-President, John Gray, Esq.; Secretary-Treasurer, Alderman Edwards. Directors, Capt. Shaw, R. L. Denison, W. H. Sheppard, James Fleming, Geo. Leslie, Rice Lewis, and Councilman Boustead.

EAST RIDING OF NORTHUMBERLAND.—William Alger, Esq., of Cramahe, President; Charles Jones, Esq., of Percy, First Vice-President; Gilbert Jones, Esq., of Murray, Second Vice-President; John Eyre, Esq., of Brighton, Treasurer; R. P. Hurbut, of Percy, Secretary. Directors, —R. Hawkey, and Jas. Scott, of Seymour; A. Terrell and J. O. Clark, of Brighton; William Dixon, of Murray; William Humphries, of Percy; William Conklin, of Cramahe.

WEST RIDING NORTHUMBERLAND.—President, Mr. Jno. Fisher; 1st Vice-President, Mr. Wm. Roddick; 2nd Vice-President, Mr. John Henderson; Secretary, Mr. C. Bourn; Treasurer, Mr. W. Riddell; Directors, Messrs. John Cullis, Geo. Carruthers, Wm. Beatty, Joseph Baker, John Pratt, Henry Wade, and James M. Carruthers.

COUNTY OF FRONTENAC.—President, James O'Reilly, Esq.; Recorder, 1st Vice-President, R. J. Dunlop, Esq.; 2nd Vice-President, John Simpson, Esq., Jr.; Secretary and Treasurer, I. Simpson, Esq.; Directors, James Gibson, Edward Jackson, Sheriff Corbett, Wm. Starkes, John Wilnot, Anthony McGuinn, and Henry Robinson.

SOUTH WELLINGTON.—President, Wm. Phin; Vice-President, J. Parkinson; 2nd do., K. McKenzie; Secretary and Treasurer, George Murton.

TOWNSHIP OF HAMILTON.—President, Mr. John Eagleson; Vice-President, Mr. John Underwood; Secretary, Mr. Richard Cullis; Treasurer, Mr. T. McEvers; Directors, Messrs. John Williams, John McKinley, John Newton, John Beatty, Wm. Defoe, Wm. Eagleson, G. Bennet, R. Setten, and Wm. Mason.

WEST MIDDLESEX.—President, Malcolm McArthur; 1st Vice-President, George Buttery; 2nd Vice-President, William Harrison. Directors, William Buttery, D. M. Campbell, John Henderson, Allen Carmichael, Donald Campbell, Thomas Moyle, Christopher Connor; James Keefe, Secretary and Treasurer.

NORTH RIDING OF WELLINGTON.—Mr. W. B. Telfar, President; Mr. J. Cattanaeh, 1st Vice-President; Mr. C. Clarke, 2nd Vice-President; and Mr. J. Beattie, Secretary and Treasurer.

The Ottawa Citizen says that it has authentic information that the manufacture of square timber in the Ottawa district this season will amount to 15,480,000 feet of white pine, and 1,413,000 feet of red.

RECIPROCITY.—The Montreal correspondent of the *Globe* says:—It is hinted here that Reciprocity will be continued beyond the month of March, for the purpose of securing mature consideration.

QUEER STORY ABOUT A COW.—A Stuyvesant (N. Y.) paper states that a cow in that village lately committed deliberate suicide. She walked into a brook, and, after three attempts, held her head under water till she was drowned. The motive was probably dread of the cattle disease to be imported from Canada.

A GOOD MILKER.—We are informed that Mr. P. S. Osborn of South Danvers, Mass., owns a grade Short-horn cow that dropped a calf in November last, and for the ten days ending January 3rd, has averaged 251 quarts of milk daily; some days she has exceeded 27 quarts. *Country Gentleman*.

A YOUNG COW.—Mr. Donald Fraser, of Ernestown, owns a heifer only twenty months old, that a few days since became the dam of a fine, healthy calf. The sire of the calf is three days younger than the dam. Both the bull and heifer won the first prize in the yearling class at the township and county shows last fall.

ANOTHER SUCCESSFUL HUNTING PARTY.—Another party of the cariboo hunters, consisting of Messrs. P. M. Naughton, Allan Gilmour, and John Gilmour, jr., have just returned to Quebec, after killing ten cariboo, seven of those in one day. Also about 200 trout and a few hares.—*Ec.*

NOTE BY ED. C. F.—Query: are they not indictable for the trout killing? Trout spawn from November to January, and if not protected by legal prohibition at that season they ought to be.

COW DISEASE IN VERMONT.—The Burlington *Free Press* says that Mr. Henry Wilson, of Hinesburg, has recently lost five cows, out of a herd of forty, by a disease apparently the same in each case, and terminating in death about twelve hours from the attack. This causes considerable alarm among owners of cattle in the immediate vicinity.

AGRICULTURAL EXPORTS FOR 1865.—The Agricultural products exported from Montreal in 1865, are as follows:—1,965,560 against 2,681,154 in 1864. Wheat, 25,250 against 500,183 in 1861. Oats, 233,780 against 118,599 in 1864. Manufactured tobacco, 13,680 against 26,661. In the number of cattle, sheep, horses, &c., 21,439 to 2,856 in 1864. There is a great decrease in oil, wool, and leather exports.

THE EGG MARKET IN FRANCE.—Eggs are now dearer in France than they have ever been known. They are selling at the rate of 1s. 9d. per dozen. We presume that this is in consequence of the demand for eggs used in manufacturing. The price is equally high in England. Our dealers in this article, who at present ship to the States, may find a profitable market in Europe.

WATERLOO JANUARY MARKET.—The market on Tuesday turned out a splendid success. Early in the morning large droves of cattle were seen coming in from all directions, and what is of equal consequence, plenty of buyers were on hand to purchase. About one hundred head of cattle were sold, the prices being much better than could have been anticipated after the prohibition of the importation of cattle to the United States.—*Waterloo Chronicle*.

COW KILLED.—On Friday evening a cow belonging to Denis Wilkinson, living near the station, Oshawa, fell into his well and was killed. She probably went to the pump to drink, when the boarding around it broke through. The accident was soon discovered, but the well being forty-five feet deep, it was several hours before she was got out, and then died.—*Oshawa Indicator*.

OHIO WOOL GROWERS.—The Ohio Wool Growers' Association held a Convention at Columbus recently, and adopted resolutions approving the policy of terminating the reciprocity treaty between the United States and Canada; that the wool growers' interests are entitled to an equal degree of legislative protection with that accorded to manufacturing interests; and that a tax ought to be levied on dogs sufficient to raise a considerable revenue for the government, or materially diminish the number of dogs, or both.—*Co. Gent.*

OUR VIEW TO A T.—Respecting the prohibition of the import of Canadian cattle, the *N. Y. World* says:—"It would have been quite as wise to prohibit Canadian men and women from crossing to this side lest they should bring the cholera with them, for there is neither cholera nor cattle disease in the Province. The treaty has only a few weeks to live, and this petty, indirect legislation evidently degrades the United States in the estimation of the Provincial people." This is precisely our view of the matter.

CULTURE OF Madder IN THE UNITED STATES.—The Commissioner of Agriculture at Washington has received a valuable paper, communicated through the State Department by Mons. Emile de Speyer, on the subject of the culture of madder, which he claims may be successfully raised on the rich soils of the United States. It is estimated that the net value of this dye that may be grown on a single acre would be \$679. When it is considered that the importation of madder from France amounts to 25,000,000 francs annually, if any reasonable approximation to this profit could be realized per acre, Western agriculturists should lose no time in attempting its culture.

CONNECTICUT VALLEY FARMING.—A correspondent of the *Greenfield Gazette* mentions a farmer of Hatfield, Mass., who "has hauled 350 loads of muck into his barn-yard this fall, to be composted for spring use, and contemplates an addition of two hundred loads more of organic matter before hauling out and applying to his already productive acres. He has made farming pay." The same writer remarks:—"Considerable activity is manifested in the sheep market, about 2,300 have already arrived in town to be fattened the coming winter, and many more are expected."

BISS TRADE OF U. S. GOVERNMENT LAND.—The extraordinary activity in the sale of public lands appear in some official returns just received at the General Land Office. At Eau Claire, Wisconsin, 11,000 acres were entered for actual settlement during the month of December, at St. Peter's, Minnesota, 4,200 acres; at Oregon City, Oregon, nearly 8,000 acres were entered in November; and at Humboldt, California, the cash sales for November amounted to nearly thirty-five hundred dollars.

THE PORK TRADE.—"It is estimated," says the *Trade Review*, "that the total number of hogs packed in the Western States thus far is inside of 600,000, while at this date last year the packing was up to 2,000,000. The amount of money paid out by the packers, therefore, this season, is about \$15,000,000, against \$50,000 to the same date last year,—a difference of \$35,000,000 against this season. As to whether the deficiency in the hog crop will be made up it is impossible to say."

SPECULATION IN APPLES.—Several losses have been sustained by the orchardists of Western New York through the failure of apple buyers, who bought their crops of fruit at exorbitantly high prices, but unfortunately for the sellers on credit, the farmers in the single town of Greece, Monroe County have suffered to the amount of \$100,000 and over. The blow reached all classes—the rich and the poor—the man who had a five hundred or a thousand barrel orchard, and the widow whose little all was comprised in fifteen or twenty barrels of fruit.

HEAVY PIGS.—A subscriber in Delaware County sends us the weights of four pigs raised and fattened by Messrs. Kilpatrick & Griffin, of Hobart, in four successive years, namely:

1. Age—7 months, 26 days—Weight...311 lbs.
2. Age—7 months, 23 days—Weight...308 "
3. Age—7 months, 20 days—Weight...300 "
4. Age—9 months, 5 days—Weight...369 "

These were Suffolks, and the facts are given owing to our publication, Dec. 14th, of an Irish farmer's challenge for pigs that would reach 224 lbs. weight at 7 months.—*Country Gentleman*.

MAN KILLED.—A man named Henry Wright was killed instantly, on the 12th ult., near Oakville, by the falling of a tree, while engaged in chopping. He had been married but a few days, and was much respected for his honesty and industry. Such sad events occur very frequently, and are the more to be regretted, because they are always the result of negligence and carelessness. There is really no danger of being hurt in chopping down a tree, if people would act with ordinary discretion and care.

ANOTHER.—Since the above was put in type, another and yet sadder case has transpired. A Simcoe paper says:—"Mr. Stephen Simcoe, of Forestville, County of Norfolk, was killed on Friday last by the unexpected fall of a tree which he was chopping. While his wife was attending his remains to the grave, news was received that her house, with all its contents, including one hundred and fifty dollars which her late husband had scraped together for the last payment on his farm, was destroyed by fire. There were three children in the house at the time, but they managed to escape.

BUTTER IN NEW YORK.—We find the following in the *N. Y. Tribune*:—"As butter has recently declined in England, shippers will hardly pay above 30c. for good lots; holders are a long way above that yet. There is only about one month of the shipping season left, the season being much earlier in England than here, and they begin to talk of new butter in February. Holders are debating whether to sacrifice now or later, as it is pretty evident many lots must be sold much below cost. We noticed sales of a fair dairy of Welsh tubs at 35c., and one lot of North-Western at 25c. There is a large stock of Canada butter now on the market."

STUMP-TAILED WHEAT.—The Rochester *Union* says:—"Several physicians of our city have expressed themselves in the most decided terms in favour of the proposition to keep back the damaged wheat now lying at Chicago. They all concur in the opinion that there is no such prolific cause of cholera as foul grain, and if cholera is not prevailing it must produce other diseases scarcely less fatal. One physician, who resided in Buffalo years ago, when the cholera prevailed, states that the disease was worst among the men employed about the grain elevators and ships." A good deal of this "stump-tailed wheat," as it is called, is imported into Lower Canada, where it is commended by its cheapness.

CORN MOLASSES.—Mr. Thomas Randolph, a farmer of this county, residing between Worthington and Cascade, informs us that he has tried the experiment of making molasses from the stalks of sweet corn. He says that it is superior to that made from sorghum or imphee. The corn stalks yield as much molasses as the sorghum. He promises to send us a sample, when we shall have the quality tested by judges and report their decision. If it sustains Mr. Randolph's opinion it will be of no small consideration to our farmers, as the sweet corn stalks will mature in this region when the sorghum and imphee will not. Mr. Randolph used his corn stalks immediately after he had removed the crop of ears for table use.—*Dubuque Times*.

Homedale Farm.

PREPARATIONS.

MR. PERLEY found it necessary to visit the farm several times before removing his family to it there being many things that required attention. In view of the approaching season of busy spring work the former owner and occupant of the farm Mr. Turnberry, had sold with a view of removing to one of the newer counties, where he might buy a larger tract of land, and settle his boys around him. This is a very natural desire on the part of a parent, but in many cases, the means taken to bring it about, are not the wisest. Suppose a farmer has three sons whom he wishes to have for neighbours, is it not better that he and they should divide the old place of 200 acres, into four farms of fifty acres each, than that they should sell it, retire to the back country, and buy four lots of land, each the size of the entire, undivided farm? It is too much the habit of our farmers in the front counties and townships, to fill superficially a large farm, and get enamoured of expanse, so that they cannot endure the idea of narrowing down their boundaries. Broad acres charm them more than deep ones, and hence when they have sons to settle, they decide on going back into the bush, and entering on the slavish work of clearing up new land, instead of bestowing better tillage on the land they have, even if in order to do this they must cultivate less. Now it would have been quite impos-

sible to convince Mr. Turnberry that a farm of fifty acres well-tilled was better than one of two hundred skimmed over in the way he had been in the habit of doing, and the idea of one of his boys settling for life upon fifty acres of land, would have seemed to him most preposterous. So he resolved to remove to a newer part of the country, and having "sold out" the farm, it became necessary for him to sell off most of his stock and implements. Following the usual custom, he had an auction, the terms of which were the stereotyped ones, "Under \$10 cash: over that amount twelve months' credit, on furnishing approved notes." Mr. Perley attended the sale, and bought some of the stock and farm tools, together with the hay, straw, and unthreshed grain on the premises. Some of the articles, in consequence of the long credit, sold at prices which were really exorbitant, so that Mr. Perley did not purchase them, feeling satisfied he could do better at private sale. His experience as a merchant, had taught him that some people will give very foolish prices when pay day is put off a year,—and it also taught him that pay day soon comes round,—far too soon for many who buy on the spur of the moment, and without proper thought of the future. It became necessary for Mr. Perley to hire a trusty man to take care of the place, feed the stock, and do various jobs of work, and so Peter Jones, a hard-working, handy, faithful fellow, was taken into his employ. The few weeks that intervened between Mr. Perley's entry into possession, and his removal to the farm, were not allowed to pass by unimproved. Peter was kept busy in hauling several cords of wood that had been bought of Mr. Turnberry; cutting and piling it up for summer use; splitting rails; repairing and rebuilding fences; hauling manure; putting tools in order, and the like.

On the evening previous to one of his visits to the farm, Mr. Perley said to his eldest son, "Charles,

would you like to go with me to the farm to-morrow?" "O yes, papa," was the reply, "very much indeed." "Well," said Mr. Perley, "you shall. It is time to begin to think of gardening." "Why papa," exclaimed several voices, "how can you garden while the frost is in the ground?" "If we wait 'till the frost is all gone," said Mr. Perley, "we shall lose our chance of getting early vegetables and fruits. We can't buy cabbage, celery, and tomato plants at the farm as we can in Hamilton, neither can we get balsam aster and other flower plants, to set out there. If we want these things we must make a hot-bed and raise them for ourselves." "Can't we have some musk melons and water melons papa?" said Lucy. "O yes," chimed in the rest, "they are so good." "To have melons at the proper time," said Mr. Perley, "they must be started in a hot-bed. They taste the best and are most wholesome during the hot weather of July and August. In this country, though they will generally ripen if sown in the open air, yet they come so late, that the season for enjoying

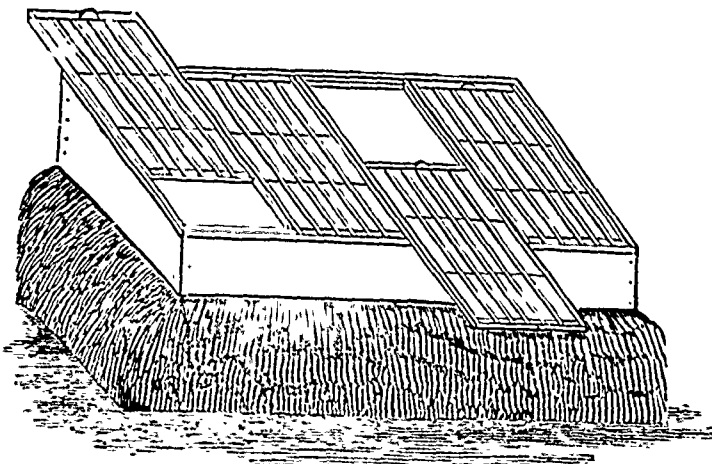


FIG. 1.—HOTBED.

them is over before they are ready. By sowing them in a hot-bed, and gradually hardening them to the open air, as the warm weather comes on, they can be ripened in good time." The family group had a nice talk about hot-beds and other garden matters, and Charles went to bed full of anticipation as to his visit to the farm, and firmly resolved to do all he could to have a good garden, with plenty of nice things in it.

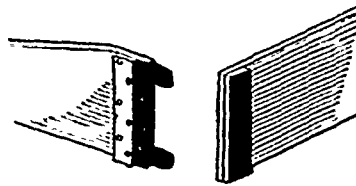


FIG. 2.—CORNER OF HOTBED FRAME.

Next day they had a safe and pleasant journey to the farm, and soon after their arrival, Charles, assisted by the hired man Peter, went to work at the hot-bed. His father gave the necessary directions, and kept an eye to the work as it progressed. First, they made the frame. They took two strong boards, twelve feet long, and an inch and a half thick; one, eight inches wide for the front, and the other, sixteen for the back. The ends were made six feet long, and

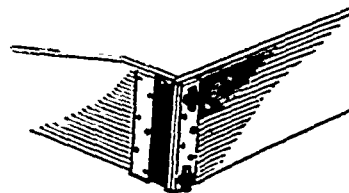


FIG. 3.—MODE OF JOINING THE CORNERS OF HOTBED FRAME.

sloping from back to front. For the convenience of taking apart, and packing away when not in use, they made the corners as shown in the accompanying cuts.

The frame was to be covered with four sashes, three feet wide. These, a carpenter who lived at the village near by, had been previously instructed to make, so that they only needed glazing, a job which pleased Charles not a little. He took great pains to do it well, making the panes of glass overlap the bottom of the sash, and also each other about a quarter of an inch, laying them like shingles on a roof, so as to carry off the water. When the frame was all ready, they chose a sunny spot, looking to the south-east, and built a manure heap, with fresh horse-dung, the same shape as the frame, but a foot or so larger every way. They laid the manure, layer after layer, evenly all round, as if they were making a hay-stack, until they had it nearly three feet high. Then they pressed it down pretty firmly, and set on the frame and lights. Having beat the sides of the heap with the back of the dung-fork, and combed it down neatly, they left it to stand for a few days, until the heat should rise. Fig. 1 shows how the hot-bed looked when it was finished, ready for the soil. Mr. Perley gave Peter orders to put in from six to nine inches deep of good rich loam, when the heat rose properly, and promised to bring seed and sow it when he made his next visit to the farm. Charles was to go with his father to Mr. Bruce's seed store, in Hamilton, and help to look out the seeds, and he left the farm with the prospect that his hot-bed would be full of young plants when he next saw it.

(To be continued.)

ADVICE TO THOSE IN FEAR OF CHOLERA.—Keep your bowels in good order, keep your spirits up, and be careful how you pour your spirits down.

A wife, who often stormed at her husband, was sitting with him at the breakfast table, when suddenly, amid loud coughing, "Dear me!" she exclaimed, "a bit of pepper has got into my wind-pipe!"—"Hurricane pipe, you mean, my dear," coolly rejoined her sarcastic spouse.

PORK AND POTATO PIE.—Put into a deep dish some pork bones, from which the meat has been removed for sausages or other use. Amidst these bones put slices of apple and potatoes, with chopped onions, salt and pepper. Add a little water, cover with crust, and bake slowly.

BRAN STOCK.—Put a large handful of bran into a quart of water, boil, and then leave to simmer till the quantity is reduced to half. This will furnish an excellent and most nutritious stock, which may be used in many ways. It will do excellently for the "thickening" of meat soup. It will make very good soup of itself, if onions, salt, and pepper, with a few vegetables, are mixed in it. It will be very nice sweetened with treacle or honey. Indeed, for hoarseness, soreness of chest, and colds, nothing is better than bran tea sweetened with honey, and taken hot in bed.

COOKING AN OLD HEN.—The *Massachusetts Ploughman* gives the following directions for "serving up an old hen so that she shall manifest, to mortal palate, all the delicacy and tenderness of youth:"

Just cut her up into joints, taking care to go by the joints so that you don't get in any splinters of bones. Pick up all the bits of meat you have in the house, bones too if there is any meat on them, any odd pieces of ham or bacon, leg or shoulder of mutton, and a slice of salt pork, and cut a few slices of fat bacon and some bread. Take an earthen vessel with an earthen cover, with a bit of a hole in it, the cover, we mean, and put a layer of bread at the bottom of this vessel, then a layer of bacon, and then fill in with all the scraps and joints you happen to have; they must be sweet and clean of course, till the vessel is full. Then fill up the hollows and cracks with water, and tie down the lid. Put it at night in a very warm, not hot oven, and let it stay till morning. Take it out at your leisure and put it in a cool place, and when perfectly cold, you will eat with gusto, either for breakfast, luncheon, dinner or supper, and you'll find it not only tender, but juicy, and delicately flavoured and highly nutritious. The water that you put in will have turned into jelly, and the whole will cut like a red veined marble. There is no way in the world you can work up an old fowl so economically or so splendidly. We should like to sit down with you to that dish.



Miscellaneous.

Curling.

CURLING, as most of our readers are aware, is the national game of Scotland, as cricket is of England. The latter, however, can only be indulged on the summer sward; while the former aptly comes with its bracing exercise, and its exhilarating excitement to relieve the monotony of winter. The handywork of "Jack Frost" is required to furnish the strong, keen ice. That being secured, and a few sons of "bonnie Scotland" at hand, the "stones" and "bizzims" will soon be in active and noisy operation; and the "roaring game" will be forthwith pursued with an amount of earnestness and good feeling, which, even to an "uninitiated" spectator, is at once interesting and delightful. Curling is a complete leveller of distinctions. The aristocrat and the peasant, the clergyman and the civilian, play their stones and ply their brooms on the curling "rink," in a kind of masonic brotherhood. The "skip"—whether his daily avocation be to "carry the hod," or to "shake the senate,"—is king of his band on the ice, and his directions to "soop her up," or "up bizzims," are promptly and implicitly obeyed.

The spirited illustration at the head of this article, gives a fair idea of the game of curling, the scene being Toronto bay. It will be readily understood that while no artist can represent the active movements of the players, no description of ours can adequately convey an idea of the jubilant shouts and waving of brooms, which follow a successful and well-directed shot. The game must be seen and heard to be appreciated. This is fortunately no very difficult matter in this Province. Almost every town, and many villages even, rejoice in an enthusiastic band of "curlers," and a regularly constituted curling club. This is as it ought to be; and we trust that coming winters will see the number of our "rinks" largely augmented, and the healthy game more generally practiced among our rural populations. During the few busy summer months, our agricultural communities have severe demands on their labour. Winter, also, has its duties; but with these should be com-

bined, in a rational degree, some cheerful and innocent recreation—in the prosecution of which, brain as well as muscle would be braced and invigorated. These advantages curling possesses in a very high degree; and, in our view, the game well deserves the encomiums of the Scottish bard:—

"Hurrah! hurrah for the Curling King,
Arrayed in icy mail:
Welcome again his mantle white,
Spread over hill and dale.
Oh! fresh are spring-tide's early flowers,
And sweet the songs o' May;
But the roarin' rink and channel stane,
Crown the Curler's holiday."

It would, of course, be impossible within the limits of this article to describe the various technicalities of the game. Half an hour's close observation of a contest, played by skilled players, will do more towards revealing the points of the game to the "uninitiated," than would several pages of description. The following is a brief abstract of some of the rules of the game published by the "Royal Caledonian Curling Club," and adopted by the curlers of this Province:

The length of the rink is forty-two yards. The Tees, or marks to play at, are put down thirty-eight yards apart. A hack, or hatch, is made in the ice four yards in a straight line behind the Tees, in which the player places his foot when playing his stone. A circle of seven feet radius is described from each Tee as a centre. No stone counts which is entirely without this circle. The hog-score is distant from each Tee, one-sixth part of the length of the rink. Every stone is a hog which does not clear this score. A rink is composed of four players a side, each with two stones. The players of each side play one stone alternately with their opponents. The "skip," or captain, generally plays last.

We forbear quoting further from the rules, as they may easily be procured from the Secretary of any regularly constituted club. The game, as seen in progress, appears remarkably simple. The first player endeavours to lay his stone as near the Tee as possible. If it be a little short of it upon the middle of the rink, it is reckoned to be fully better than if it touched it. The object of the next in order is nearly the same as that of the "lead." The next tries to

guard the stone of his partner, if it be near the Tee, or to strike off that of his antagonist if it be nearer. The one who follows, if a stone belonging to his own party lie nearest the Tee, tries to protect it; if one of the opposite party, to strike it off. Or, on the other hand, if no stone be near the Tee, to draw a shot, that is, to make his stone lie as near the Tee as he can. As the game advances, it always becomes the more intricate. Sometimes the stone nearest the Tee, which is called the winner, is so guarded that there is no possibility of getting at it directly. It then becomes necessary, in order to remove it, to strike another lying at the side in an oblique direction. This is called "wicking," and is one of the nicest points of the game. But, as we have already said, half an hour's observation of the actual game is worth many pages of description.

HOME.—Home can never be transferred, never repeated in the experience of an individual. The place consecrated to parental love by the innocence and sports of childhood is the only home of the human heart.

"A CHEST OF OLD IRON."—A correspondent of the *Rural New Yorker* urges his brother farmers to keep a box in which to deposit all the odds and ends of old iron that may come into their possession. Old bolts, nuts, washers, screws, rivets, horse-shoes, plough-points, bits of band and hoop iron, pieces of tin, old files, staples, broken hinges, &c., &c., may thus be stored away for use. When a farm implement needs repair, a search in the iron box will, in many cases, be rewarded by finding "just the thing" needed. It is astonishing how much may be done in this way with a little ingenuity and contrivance.

"A SKATE WITHOUT A STRAP."—This long-time desideratum is at length supplied in Shirley's Patent Skate, made by the Hawkins Manufacturing Company, of Birmingham, Connecticut. It is made entirely of metal, conforms to the natural shape of the foot, has no straps to stop the circulation or create discomfort, is easily put on and taken off, and is not liable to get loose, or out of place. This improvement obviates one of the objections to a hca:hsful and pleasant out-door winter amusement, the popularity of which is a good sign.



Cullings from the "Horticulturist."

This valuable American monthly has commenced the new year with a very interesting number. We should like to transfer some of its longer articles to our pages, but that being out of the question, we compromise the matter by condensing and clipping. The author of "My Farm at Edgewood," contributes a characteristic article, "On not doing all at once,"—a thing, by the way, which is not very likely to be thought of, except by some wealthy man of taste whose extravagancies take a rural turn. We cut out a tit-bit or two from this article:—

"I would say to any one who is thoroughly in earnest about a country home—make it for yourself. Xenophon, who lived in a time when Greeks were Greeks, advised people in search of a country place, to buy of a slatternly and careless farmer, since, in that event they might be sure of seeing the worst, and of making their labour and care, work the largest results. Cato, on the other hand, who represented a more effeminate and scheming race, advised the purchase of a country home from a good farmer and judicious house-builder, so that the buyer might be sure of nice culture and equipments,—possibly at a bargain. It illustrates, I think, rather finely, an essential difference between the two races and ages;—the Greek, earnest to make his own brain tell, and the Latin, eager to make as much as he could out of the brains of other people. I must say that I like the Greek view best."

So do we.

"Half the charm of life in a country home, is in every week's and every season's succeeding developments. Your city home—when once the architect, and plumber, and upholsterer have done their work, is in a sense complete, and the added charms must lie in the genial socialities and hospitalities with which you can invest it; but with a country home, the fields, the flowers, the paths, the hundred rural embellishments, may be made to develop a constantly recurring succession of attractive features."

"For my own part, I enjoy, often for months together, some startling defect in my grounds—so deep is my assurance, that two days of honest labour will remove it all, and startle on-lookers by the change. Thus, if I am not greatly mistaken, we are accustomed to regard some favourite sin—thinking with ourselves—it will be so easy to mend that, so simple to reform it all; and we go on coddling the familiar pipe, or glass, or the trifling stretch of our credit, and what not, meditating with high glee upon the profound satisfaction with which we will come down upon it all some fine morning—as farmers do, by spasms, upon their weed patches. But (herein lies the excellence of the rural activities I commend) we keep the sins green and growing, and the sweep never comes;—while the old wall and the riotous weeds are one day whisked away under the besom of a new purpose, and the change is magical, inspiring and exhilarating. I don't mean to say the conquest of a favourite sin would be any the less so; I only mean to say, that your chances of making the conquest are far less."

The chances are less because the inclination is less, and the "new purpose" fails to address itself to the work.

George E. Woodward, author of "Country Homes," has a suggestive paper entitled, "How to remodel an old farm-house," which comes in very well after the counsels of "Ike Marvel" of Edgewood, but of which we can give no further account for want of the illustrations,—“The farm-house as it was,” and “The farm-house as it is.” They show very clearly that many “an old farm-house,” might be made a very desirable home, at far less cost than it would require to build a new one.

The author of "Ten acres enough," next furnishes an account of himself and his neighbours, which perfect strangers to both will read with much interest.

Here is an extract about a gravelled turapiko leading from Burlington to Camden, on which Mr. Morris's far-famed "ten acres" front. It shows that good highways raise the value of property not less than railroads in some cases:—

"The road bed is level, smooth and hard, almost equalling a tenpin alley, and superior to any race course. A dash of iron contained in the gravel, imparts to it a remarkable solidity. It is so well cared for by its owners, that a bad road is altogether unknown. Its construction has doubled the value of every farm upon its track. Everywhere it is lined with improved dwellings, better fences, finer orchards, and more productive fields. Loaded waggons roll over it, by aid of a single horse, where two were formerly required, and the pleasure carriages of the neighbouring gentry invariably select it for an evening drive. There could be no more convincing illustration of the transformation in improvement and population which follows the creation of a superior road. It draws old settlers from remote neighbourhoods to locate upon it, and with strangers looking for a lodgment it is the determining element which fixes their choice. Thus population clusters about it; and as it is population that gives value to land, so as that thickens do values increase."

The writer's success in making a garden out of a bog is note-worthy:—

"An adjoining swamp of a few acres has been added to my ground, not because ten were not really enough, but because it was a neighborhood nuisance, grown up, since the foundation of the world, with ferns, and skunk root. Some patriot must abate it, and why not devolve the task on me? It is now, after three years' labour and attention, drained, filled in, and producing, on a four feet deep foundation of clear peat, a strawberry crop which annually refunds the entire cost of reclamation. Drought never pinches the plants, and manure is wholly unnecessary. Wherever the raspberries, come within reach of this deep, rich, and ever moist deposit, the growth of canes may be said to be amazing. My Philadelphia, thus situated, have been the admiration of all who have examined them. It has been a great success, though it drew down upon me the hearty pity of my neighbours, as they drove by and noticed my incomprehensible beginning; but now, when fully completed, securing their equally hearty commendation."

Describing a neighbour's place, he gives the following particulars respecting an unusually fruitful vine:—

"There is an extensive trellis which is annually loaded with the Isabella grape. Until tasting these this fall, perfectly ripened as they were, I never knew the Isabella grape was fit to eat. Struck with the admirable flavour of the fruit, as well as with the perfect condition of each particular grape, I inquired why the fruit of these vines was so remarkably fine? The owner smiled as he told us that the earth around the roots was the general burial ground for all the cats, and dogs, and pigs, and mules, and horses which had there shuffled off their mortal coils since he had been upon the farm. What marvellous elaboration there is in nature, I concluded—'from seeming evil still educing good.' Try as one might, he could detect no twang of pork, nor the faintest flavour of a mule teak."

A S Fuller, an eminent grower of grapes, and author of a work entitled "The Grape Culturist," reviews the grape experience of 1865. He gives its history thus sententiously:—

"Rotted badly; mildewed some; very poor; rose-bugs played the mischief; excellent in our section, and brought a good price. The above, I believe is a fair report of the grape crop of 1865."

This writer deals very sarcastically with the idea that some lands are thought to be made for vineyards, while others are not, and while admitting the special adaptation of some soils and some locations for this fruit, contends that it will grow over as wide an extent of country as apples or pears, and in as great a variety of soils. Speaking of diseases affecting particular localities, he says:—

"I believe that the only disease that is at all fatal to the grape east of the Alleghanies, is one that is often found west of them, viz., neglect."

In answer to the question, "What shall we plant?" he says:—

"For my part I would not hesitate to plant, for profit, any of the following—Delaware, Iona, Israelita, Concord, Croveling, Hartford, and Rogers' Nos. 3, 4, 15 and 19. If this is not variety enough, you may add Adirondac, Clinton, and Isabella."

Peter Henderson, in an article headed, "What not to do," has the following paragraph:—

"A rascal of a tree-peddler, not content with victimizing a poor farmer near me, in the sale of two hundred worthless apple trees, added still further to the injury by inducing him to put a bushel of stones in the bottom of each hole for drainage; which was done at an expense that the poor man was ill-able to bear. I need not tell your intelligent readers that the advice had better not been given. Apropos to this subject is the so-called draining of plants grown in flower-pots, almost universally practiced by amateurs and private gardeners, and recommended carefully in detail by nearly all writers on green-house plants. Now, in the face of all these hosts of instructors, I contend that this practice is not only useless, but something worse, as it robs the plant of just so much soil as is displaced by the drainage (?) without benefitting it in any way whatever. Yet such has been practice of the thousands for a century, each one following the lead of his predecessor, stupidly and blindly, as we think."

An able article on "The longevity of trees," hardly admits of abridgment, especially as these "cullings" are growing too lengthy for our limited space. "A plan for laying out a square acre lot," with its accompanying diagrams, maybe transferred in a future issue, bodily to our columns. "The gardens and parks of Germany;" "A trip to Vineland;" "New hybrid pink;" "Sarah Howard," with a cut; "Editors' Table;" "Correspondence;" and "Book Notices," form the remaining contents of the January number of a serial which we highly value, and unhesitatingly commend to such as can afford it. It is published by the Messrs. Woodward, 37 Park Row, New York. Price, \$2 50 per annum.

Report

OF THE PROCEEDINGS OF THE UPPER CANADA FRUIT GROWERS' ASSOCIATION, AT THE ANNUAL MEETING, HELD IN THE CITY OF HAMILTON, ON WEDNESDAY, JANUARY 17, 1866.

After reading of minutes, the Treasurer submitted his report, which was approved. The publication committee reported that full minutes of proceedings had been regularly published in THE CANADA FARMER. The President's annual address was then read, for which the thanks of the Association were unanimously voted, and a copy requested for publication.

The following officers were then chosen for the ensuing year:—

His Honor, Judge Logie, *President*, Wm. H. Mills, Esq., *First Vice-President*; Dennis Nixon, Esq., *Second Vice-President*; D. W. Beadle, Esq., *Secretary and Treasurer*.

FRUIT COMMITTEE.—Wm. H. Mills, Esq., Chairman; and Messrs. Geo. Laing, W. Holton, R. N. Ball, and Chas. Arnold.

PUBLICATION COMMITTEE.—The Secretary, Rev. W. F. Clarke, and Mr. J. A. Bruce.

MEETINGS FOR 1866.—On Wednesday, July 18th, Town Hall, St. Catharines. On Wednesday, October 3rd, at Grimsby.

Notice was given by Mr. Clarke, that he should move at the next regular meeting, to amend Act III. of the constitution, so that the second clause should read thus: "Two other general meetings shall be held, at such times and places as shall be determined at the January meeting."

The Secretary was instructed to furnish the Publication Committee with a complete list of fruits, recommended by the Association, for publication in THE CANADA FARMER; and the committee were instructed to have one hundred copies of the list struck off for the use of members.

The Wagner and Sweet Rough apples were advanced to the list for general cultivation, and the Lowell, Early Strawberry, and King of Tompkins County, placed on the list for trial.

The Sheldon pear, Pond's Seedling, and Columbia plums, and Belle Magnifique cherry were placed on the list for trial. The Early Richmond cherry was placed on the list for general cultivation in all parts of the Province.

The list of gooseberries was revised, and the English varieties placed in a class by themselves, and recommended for cultivation where they do not suffer from mildew.

The White Antwerp raspberry was struck from the list for general cultivation, on account of being found to be very tender.

The White Marvel of Four Seasons, and Doolittle's Black Cap raspberries were placed on the list for trial.

Burr's New Pine strawberry was struck from the list for general cultivation, it not having proved to be sufficiently productive.

Vicomtesse Hericart de Thury strawberry was placed on the list for trial.

Mr. W. T. Goldsmith made a donation of vol I of THE CANADA FARMER, and Mr. W. Holton of vol. II, for the use of the Association; and the President granted to the Association the three last volumes of the *Canadian Agriculturist* thus placing the reports of the proceedings for the last five years, in the possession of the Association.

Samples of apples, pears, grapes, and wine made from grapes of the Clinton and Isabella varieties were submitted for inspection and trial by various members of the Association, and discussions in reference to them, formed an interesting feature of the meeting.

Messrs. W. F. Clarke, C. Arnold, D. W. Beadle and W. T. Goldsmith were appointed delegates to represent the Association at the next meeting of the Western New York Fruit Growers' Society, to be held at Rochester, on Wednesday, the 24th January.

The thanks of the Association were tendered to the President and Messrs. Goldsmith and Holton, for their very valuable donations, and to the County Council of the County of Wentworth, for the use of their Council Chamber; and, on motion, the meeting adjourned.

Address.

BY HIS HONOUR JUDGE LOGIE, PRESIDENT OF THE U. C. FRUIT GROWERS' ASSOCIATION, AT THE ANNUAL MEETING HELD IN HAMILTON, 17TH JANUARY, 1866.

GENTLEMEN,

By the constitution of this Association, I am required, at the annual meeting, to deliver an address to you, and I only regret that the office of President has not been filled by one whose practical knowledge and experience would enable him to deliver an address on the science of Pomology, which would not only be interesting, but also instructive to the members of the Association. As I cannot pretend to give you such an address, it may be of some interest to pass in review the progress which the Association has made, during the five years that I have held the office of President.

I take the liberty of recapitulating from my first address, the objects contemplated in the formation of the Association. They are—

1st. The discussion, by members, of the relative merits of the different kinds and varieties of fruit; the determination and selection of the best varieties suitable for cultivation in Canada West, and the publication of the list of fruits so recommended.

2nd. The revision from time to time, as occasion may require, of the catalogue of fruits, and the addition thereto of such new varieties as may, after a sufficient trial, be deemed worthy of cultivation, and striking out the names of any that may, on further trial, be found to be unworthy of cultivation.

3rd. The promotion by the society of the cultivation and improvement of native and indigenous fruits, the testing of all new varieties of fruit, the discussion of their merits and defects, and making known the result of such trials.

4th. The determination of the names of fruits; and the identification of fruits having different names, in different localities, or which, having received new names, have been distributed as new varieties.

5th. The discussion of all questions relative to fruit culture, and disseminating information respecting the same, such as the most proper or most advantageous modes of cultivation, the soils and exposures most suitable for the different kinds of fruit, the manures most beneficial, and the best modes of applying the same, the diseases to which the various fruit-bearing trees, shrubs, and plants, are liable,

with the remedies for such diseases. The insects injurious to the different kinds of fruit, and the best means of preventing or restraining their ravages; the best modes of ripening, gathering, and preserving fruits, and any other matter bearing upon fruit culture.

These objects have been kept steadily in view, and have, to a great extent, been carried out. We have had three meetings in each year, at which, besides the transaction of other business, we have had interesting and important discussions, by practical and experienced fruit growers, upon the different kinds and varieties of fruit suitable for general cultivation in Canada. Members who have attended the meetings have succeeded in obtaining the correct names of fruits which they had in cultivation, and desired to have identified. New varieties and seedlings have been examined and tested at various meetings, and opinions of members respecting them obtained and expressed. Several important discussions have, from time to time, taken place, respecting the diseases to which some fruits are liable, and the best methods of cultivating other kinds; and, lastly, a catalogue of the best kinds of fruit suitable for cultivation in Upper Canada, has been published by the Association, and, from time to time, revised and amended. Such a catalogue is calculated to be of great benefit to all who desire to obtain the best varieties of fruit, and I have no doubt that many have availed themselves of it, and found it useful as a 'guide in the selection of fruits.

But, although I am thus able to congratulate the Association upon what they have accomplished, I regret that in a fruit-growing country such as Canada is, where many are successfully engaged in the cultivation of fruit, the number of members, and of those who attend the meetings, is much less than what we might reasonably expect; and I hope that those who take an interest in the welfare of the Association will point out its advantages to others, and endeavour to induce them to become members and to attend our future meetings.

One of the most important objects contemplated by the Association was the production of new and improved varieties of fruit, suitable for cultivation in our climate. The best way of obtaining such varieties is by hybridizing hardy fruits of native origin with foreign varieties, so as to secure, as far as possible, the hardiness and freedom from disease of the one, together with the fine flavour and general excellencies of the other. In obtaining new varieties by hybridization, a great deal of patience, care, and delicate manipulation are required, and those experimenting in that way must expect many failures and disappointments; they should not be discouraged, however, for if they succeed in producing even one or two good varieties, which are worthy of cultivation, they will be amply repaid for all their time and trouble bestowed in the endeavour. It must also be borne in mind by all such, that a seedling does not attain to perfection at once, it must generally be fruited several times before it attains to any marked excellence. Some arrive at their best condition much sooner than others, and all that show any promise of goodness should get a full and fair trial before being rejected; a change of soil or of exposure may cause a fruit that appeared at first to be comparatively worthless to become a valuable and excellent variety. I cannot pass from this part of my subject without noticing the efforts made by one of the most zealous members of this Association, Mr. Arnold, of Paris, to obtain new and improved varieties by hybridization. He has, on several occasions, exhibited new varieties of the raspberry produced by hybridizing the Native White and Red Cap raspberry with some of the improved varieties, and at the last meeting of the Association, in Paris, the members then present had an opportunity of examining and of tasting several new varieties of grape, which he produced by hybridizing some of the hardy kinds in cultivation, with the Black Hamburgh and other foreign kinds.

It was supposed, not many years ago, that the climate of Canada and the Northern States was unsuited to the cultivation of the grape, except in a few sheltered and favoured localities, and only two or three varieties, supposed to be sufficiently hardy to stand our climate, were in cultivation. Now, however, a great change is observable. Within the last few years, a great many new varieties have been introduced, some of them much superior to the old varieties and equally hardy. A great deal of interest is now felt in the cultivation of the grape, and in obtaining and introducing new and improved varieties. It is now proved, beyond a doubt, that the climate of this

part of Canada is well adapted to the cultivation of the grape, and we may look forward, at no distant day, to see our hill sides clothed with fruitful vineyards, and to have wine from native grown grapes that will, to a great extent, supersede the use of spirituous liquors, and of those deleterious compounds, which, under the name of wine, are sold and used throughout the country. The progress already made should stimulate all engaged in the cultivation of the grape to increased effort.

Before concluding, I shall make a remark or two upon the climate of Canada. Dr. Hurlburt, in an address delivered by him some years ago to the members of this Association, showed that the climate of Canada compared favourably with the climates of several of the wine growing countries of Europe, and that the mean annual temperature of this part of Canada, was higher than in some of the most noted wine-producing regions. The severity of the winters in Canada and the shortness of the summers have hitherto been against the cultivation of the grape, particularly the late spring and early autumn frosts, the latter of which sometimes prevented the ripening of the fruit. The destruction of the forests, the drainage of the country by cultivation, and the consequent drying up of many of the swamps and marshes, have had the effect of raising the mean average temperature, and of increasing the length of the summer. Although the clearing of the country may increase the prevalence of cold and bleak winds, and cause more striking differences and extremes of temperature, yet the average mean temperature will be higher. This is known to be the case in Canada. The mean temperature is higher, the summers are longer, and the winters shorter than they were forty or fifty years ago, and we may expect this to continue. Germany and France, in the time of the Roman Empire, had a very different climate from what they have now; the summers then were shorter and the winters much more severe. They were then unfitted for the cultivation of the grape, at all events for the varieties now cultivated in those countries. There can be no question that similar ameliorating changes are taking place in this country.

In bringing my remarks to a conclusion, I would observe that in these days of progress, when in every department of the arts and sciences so many new discoveries are being made, and so great advancement is gained, horticulture is not behind its sister arts. It has, within our own recollection, made rapid strides, and I believe that this Association is calculated, if properly supported, greatly to advance the art or science of Pomology. I trust that the Association will go on and prosper, and that the time will soon arrive when all who are engaged in the cultivation of fruit, will take an interest in this Association, and endeavour to forward the important objects contemplated by it.

STRAWBERRIES IN JANUARY.—The *Macon Telegraph* of the 3d ult., describes in tantalizing terms a four acre strawberry bed in that town, now in full bloom and fruit, the editor having just been favoured with a basket of luscious specimens, one measuring four inches in circumference.

PLANTING CHESNUTS SUCCESSFULLY.—Late in Nov., after my garden was well ridged up, I made a terrace about midway from top to bottom of the ridge on the south side. I then put in a few dry leaves, on which I placed the nuts. Then I put some leaves on the nuts, and then replaced the dirt, making it smooth, so the water would most of it run off. In May following, on opening the ridge, I found every nut sprouted, when I transplanted them. The object was to avoid an excess of wet, and get an increase of heat from the sun's rays in the spring. Both objects were fully attained. I have planted chesnuts, walnuts, and thorn locusts this fall.—S. MASSEY, *Waterlown, N. Y., in Country Gentleman.*

QUALITIES OF THE ONION.—The onion deserves notice as an article of great consumption in this country, and it rises in importance when we consider that in some countries, like Spain and Portugal, it forms one of the common and universal supports of life. It is interesting, therefore, to know that, in addition to the peculiar flavour which first recommends it, the onion is remarkably nutritious. According to analysis the dried onion root contains from twenty-five to thirty per cent. of gluten. It ranks, in this respect, with the nutritious pea and grain of the East. It is not merely as a relish, therefore, that the way-faring Spaniard eats his onion with his humble crust of bread, as he sits by the refreshing spring; it is because experience has long proved that, like the cheese of the English labourer, it helps to sustain his strength, also, and adds—beyond what its bulk would suggest—to the amount of nourishment which his simple meal supplies.—*Genesee Farmer.*

Markets.

Toronto Markets.

"CANADA FARMER" Office, Feb. 1, 1866.

The past fortnight has been characterized by uninterrupted dullness. Receipts have been light, notwithstanding the fall of snow, which made sleighing practicable during the past week. We have heard of no transactions of importance.

Flour—Market rather brisker; receipts very light. No. 1 \$5 to \$5 15, Extra, \$6 25 to \$6 75, Double Extra, \$6 50 to \$7 25.

Full Wheat dull at \$1.30 to \$1.40.

Spring Wheat—Sales at \$1 00 to \$1 09.

Barley—prices ranged from 55 to 60c.

Peas quiet, at 62c to 64c.

Oats quiet, at 30c to 31c.

Rye 56c.

Provisions—Butter from 14 1/2 c to 17c for keg; choice dairy, 1 1/2 to 20c.

Potatoes—Cups sold at 30c to 35c; other varieties, 25c to 30c.

Salt—American, in barrels on the wharf, \$1 75, on the cars, \$1 77, dairy, 10c per bag. Liverpool, coarse, per bag, 95c to \$1.

Cheese—American prime, 13c to 15c.

Eggs—selling at from 15c to 17c for packed.

Hogs—selling at \$7 00 to \$7 60 per cwt.; pork quiet, prices nominal, mess, \$20 to \$23 per brl, prime do., \$19 to \$21.

Hay—from \$7 00 to \$10 00 per ton.

Straw—\$6 to \$7.50.

LIVE STOCK—The market is moderately active and prices are firm. The figures here given are offered by the butchers and drovers in this market per 100 lbs, dressed weights.—Cattle, 1st Class, \$6 50, do. 2nd class, \$6, do inferior, \$5 to \$5 50. Calves, \$5 to \$6. Sheep, prime heavy, each, \$8 to \$9, do light, each, \$4 to \$4 50. Lambs, each, \$2 50 to \$3.

Fruit.—Apples, farmers' packed, \$1 75 to \$2 00.

HAMILTON MARKETS, Jan. 23.—Spring Wheat, \$1 to \$1 05; white wheat, \$1 15 to \$1 25; red do., \$1 to \$1 10. Peas, 55c to 60c. Barley, 60c to 65c. Oats, 31c. Flour, XXX, \$6 75; extra, \$6, superfine, \$5 50. Corn meal, per 100 lbs., \$1 75 to \$2. Oatmeal, do., \$2 75. Beef, do., \$4 75 to \$6. Mutton, do., \$4 to \$6. Lamb, do., \$4 50 to \$5. Pork, do., \$7 to \$7 50; live at factory, medium weights, \$5 50; hams, 15c to 16c; shoulders, 12 1/2 c; bacon, 14c to 16c. Potatoes, per bushel, 60c. Onions, do., 60c. Apples, per bag, 75c to \$1. Butter, per lb., 15c to 20c; do. in drin, 1 1/2 c to 14c. Eggs, per doz., 25c to 27c. Lard, per lb., 14c to 15c. Hay, per ton, \$8 to \$9. Straw, per ton, \$7 to \$8. Tallow, rough, per lb., 7 1/2 c; do., rendered, per lb., 10c. Hides, green, per 100 lbs., \$5 50 to \$5 75; do., dry, \$10. Sheepskins, \$1 50 each.—Spectator.

LONDON MARKETS, Jan. 24.—Fall Wheat—superior, \$1 20 to \$1 40. Spring Wheat \$1 07 to \$1 10. Barley, 50c to 55c. Peas, 55c to 58c. Corn, 60c to 55c. Hay, per ton, \$7 50 to \$8 50. Dressed Hogs, per 100 lbs., \$7 to \$7 50. Oat Straw, per load, \$3 to \$4. Beef, per cwt., \$5 to \$7. Potatoes, 40c to 45c. Eggs, per dozen, 20c to 25c. Hides, dry, per lb., 10c to 11c; green, 6c to 5 1/2 c. Sheepskins, fresh oil, 75c to \$1 50. Wool, per lb., 40c to 45c. Calves, per lb., dry, 14c to 16c; green, 9c. Ducks, per pair 40c to 50c. Chickens, per pair, 25c to 30c. Apples, per bus., 62c to 75c. Onions, do., 60c to 75c.

GALT MARKETS, Jan. 24.—Flour, per 100 lbs., \$2 50 to \$3 25. Fall Wheat, per bushel, \$1 15 to \$1 20. Spring Wheat, per bushel, 95c to \$1 10. Barley, per bushel, 60c to 62 1/2 c. Oats, per bushel, 25c to 30c. Butter, per lb., 15c to 17c. Eggs, per dozen, 14c to 16c. Straw, per load, \$2 to \$2 50. Peas, do., 60c to 55c. Beef, per 100 lbs., \$5 to \$6. Pork, per lb., 10c to 12 1/2 c; Pork, per 100 lbs., \$6 to \$7. Hides, per 100 lbs., \$5. Calveskins, over 8 lbs., 8c. Lambskins, \$1 to \$1 25. Potatoes, 31 1/2 c to 40c. Hay, \$8 to \$10. Apples, 37 1/2 c to 75c.—Reformer.

COBURN MARKETS, Jan. 24.—Flour, per barrel, \$5 50 to \$6. Wheat, per bushel, fall, \$1 30 to \$1 40; spring wheat, per bushel, \$1 15. Potatoes, 25c to 30c. Barley, per bushel, 70c to 75c. Peas, 60c to 65c. Oats, 32c to 33c. Hay, per ton, \$5 to \$6. Hides, per cwt., \$4 50. Sheepskins, \$1 25 to \$1 50. Wool, per lb., 35c to 40c. Beef, per cwt., \$5 to \$6. Pork, \$6 to \$7 50. Eggs, per dozen, 17c to 18c. Butter, per lb., 17c to 18c.—Star.

OSWEGO MARKETS, Jan. 22.—Flour—Market 25c per bbl. lower on some brands, at \$8 for brands from No. 1 spring; \$9 50 to \$9 65 from red winter; \$10 75 to \$11 from white wheat; and at \$11 50 to \$11 75 for XXX from new white wheat. Mill Feed—Shorts are quoted at \$10, and shipstuffs at \$4 to \$4 75 per ton. Corn meal—100 lbs. bolted at \$2 to \$2 10, do. unbolted \$1 90 to \$2, 50 lbs. bolted in paper sacks \$1 05, do. in cloth \$1 15. Salt unchanged, fine is quoted at \$2 25 per barrel, and 14 lb. sacks at 20c. Water-lime selling at \$1 70 per barrel. Plaster quoted at \$1 50 per barrel.

NEW YORK MARKETS, Jan. 27.—Cotton quiet at 48c for Flour—Receipts 3,803 barrels, market dull, while prices are without decided change. Sales 6,000 barrels, at 76 1/2 to \$7 30 for superfine rate \$7 10 to \$7 90 for extra state, \$7 95 to \$8 15 for choice do., \$8 20 to \$1 00 for superfine Western, \$7 70 to \$8 20 for common to medium extra Western, \$8 45 to \$8 50 for common to good shipping brands extra round hoop Ohio. Canadian flour quiet, sales 400 barrels, at \$7 90 to \$8 20 for common, and \$8 30 to \$11 25 for good to choice extra. Wheat—Receipts 800 bushels, market dull, and prices without decided change, sales 14,000 bushels No. 1 new Milwaukee, at \$1 74, and \$1 75 for new amber Michigan. Rye quiet, sales 11,000 bushels State, at \$1 05. Barley dull Corn—Receipts 8,200 bushels, market without decided change, but more active, sales 67,000 bushels, at 79c to 81c for unshelled, and 82c to 85c for sound mixed Western, in store and delivered, and 83c to 86c for new yellow. Oats firmer, at 43c to 45c for unshelled, Western, at 59c to 60c for sound do., 67c to 68c for Canada, 63c to 64c for Jersey and Pennsylvania, and 69c to 60c for state choice quiet. Barley heavy and irregular, sales 6,700 barrels, at \$3 62 to \$29 87 1/2 for new mess, closing at \$29 62 1/2 cash, \$28 to \$29 25 for old do., closing at \$28 25 cash. Beef quiet. LATEST MARKETS.—Flour closed dull and unchanged. Wheat closed dull and unchanged. Corn closed without decided change. Pork closed heavy and unsettled, and new mess at \$28 62 for cash. Lard closed heavy at 15c to 18c.

Advertisements.

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First Prizes at Provincial Exhibition in Hamilton... in 1864.
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1866.

THE CANADA FARMER;

A FORTNIGHTLY JOURNAL

OF

AGRICULTURE, HORTICULTURE, & RURAL AFFAIRS.

This Journal is about to enter, under the most favorable auspices on the third year of its existence. It has amply fulfilled the hopes of its well-wishers. It is now universally acknowledged to rank among the best agricultural papers of America, and to supply just what was needed for the improvement and development of Canadian agriculture.

During the past year, a department for BRITISH CLEANINGS has been introduced. Special attention has also been given to ENTOMOLOGY, a subject of great importance, in view of the losses occasioned of late by the farmer's insect enemies. These features will be continued, and in addition to them the following new ones:—

- 1. A series of articles on the philosophy of farming, to be entitled FAMILIAR TALKS ON THE PRINCIPLES OF AGRICULTURE. These will explain in a simple and practical manner the why and the wherefore of agricultural operations, and will form, when completed, a valuable farmer's manual.
2. A natural history department, consisting of descriptions of Canadian animals, birds, reptiles, and fishes. Life-like illustrations will accompany these articles.
3. Under the head of THE HOUSEHOLD, a series of articles on farm and garden management, with a special view of interesting the boys and girls in rural pursuits.
4. In compliance with the wish of a large number of subscribers, a table of contents will be furnished in each issue.

A very large sum has been spent on illustrations—larger than in any other similar publication—and this feature of the paper has been exceedingly attractive to all classes. Efforts will be made, during the coming year, to secure as much variety as possible in this department, and no expense will be spared where the labour of the artist and engraver can aid in making clear any agricultural or horticultural subject.

THE CANADA FARMER remains under the same editorial management as heretofore, and the utmost pains will be taken to add to its corps of contributors and correspondents.

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