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THE CANADA FARMER

VOL. IV. No. 20. | TORONTO, CANADA, OCTOBER 15, 1867. | POSTAGE FREE.

The Field.

Duncan's Improved Hay Elevator.

AMONG the implements at the Provincial Exhibition we noticed a very simple but apparently efficient hay elevator, which was shown at work, and so far as we could judge under the circumstances, seemed to be very easily manipulated and to perform its office thoroughly. The invention is Mr. Duncan's, and rights to manufacture, as will be seen by advertisement, are sold by Mr. Mann, of Port Dover.

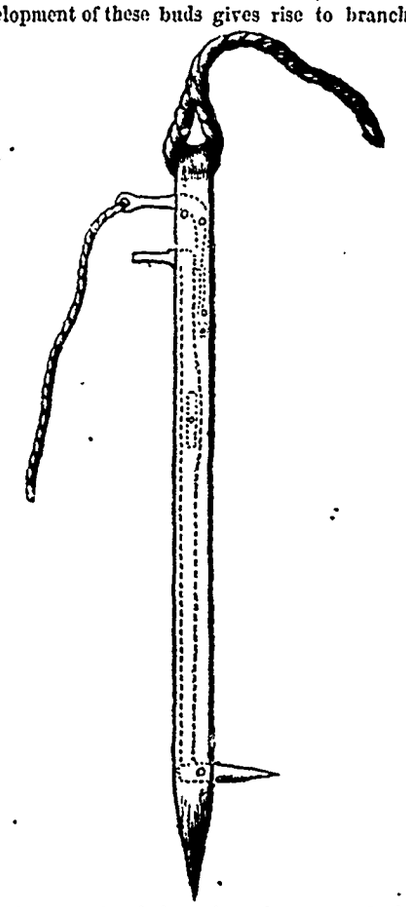
The accompanying illustration shows the appearance and construction of this implement. The working gear, represented by the dotted lines, is enclosed by two bands of iron, or one band bent into a loop at the top for the insertion of the hauling rope, and uniting at the other extremity in a sharp point to be driven into the hay. The weight of the enclosed bar throws the point of the beard up so that it offers no impediment to the passage of the fork into the mass of hay to be elevated; and the weight of the hay itself presses the beard down half way, where it is retained in position by the spring catch at the upper end of the inner bar. By pulling a rope with an easy and slight jerk, the hold of this catch is detached, the weight of the hay will then force the beard completely down, and the load on the fork is liberated. The implement appeared to work well, and does not seem liable to be soon disarranged.

We have been furnished with a certificate from a number of farmers and others in the Township of Woodhouse, who have used this new fork, and testify to its efficacy and confidently recommend it. Now that labor has become so scarce, and wages so high, every efficient labor-saving contrivance is a valuable boon to the farmer, and a cheap and good horse hay fork, which this appears to be, is not the least important of such useful inventions.

Structure and Growth of Stems.

IN a recent number of the CANADA FARMER a short account was given of the roots of plants; the subject of the following remarks is the structure and growth of the stem.

For the clearer explanation of the matter, it may be necessary, perhaps, to recapitulate briefly what has already been said in regard to the germination of seeds. If the reader will examine any seed in the act of germination, he will find the rudiment or embryo of the future plant in the form of a slender stem, one or two more or less fleshy leaves or cotyledons, and between these seed leaves, when there are two, or at the base when there is only one, a small bud. In germination, this stem, which is technically called the caulicle, increases in length until it pushes the two seed leaves above ground, while it sends out roots from the lower extremity. The little terminal bud, or plumule, then expands and developes another leaf or pair of leaves, with a stem, which goes on lengthening so as to raise the new leaf or leaves some distance above the first. The subsequent growth of the stem consists merely in repetitions of this process. Hence the summit of every stem is always occupied by a bud. A bud is also produced in the upper angle formed by every leaf with the stem. This angle is called the axil; and buds occurring in this situation are called axillary buds. The development of these buds gives rise to branches;



and the growth of these branches proceeds in a manner precisely similar to that of the original stem. The general character and duration of these parts form the distinctive features of the popular classification into trees, shrubs, and herbs. When the whole is perennial and the main stem forms a distinct trunk, a tree is formed; and when the distinct trunk is wanting, the principal branches springing up in a bushy manner close to the ground, the plant is called a shrub; while, if the stem is but of one year's duration, though the root may be perennial, the term herb is applied.

The nutriment of plants—principally water, containing carbonic acid and ammonia in solution—is chiefly absorbed by the roots, and is thence carried through the stem to the leaves, where it undergoes a change under the influence of light, and is fitted to become part of the living vegetable organism. The elaborated sap then descends, and by some wonderful process, the nature of which is unknown, is converted into wood. That the nutritive fluid descends from the leaves to form the wood is evident from several considerations. For example, the growth of new wood, other things being equal, is directly proportionate to the extent of foliage, and the growth of the tree begins and ends with the vitality of the leaves. In endogens (a class of plants of which we shall speak presently) the new formation can be traced from the base of the leaves downwards. Again, if a bandage be tied round a branch, a swelling will take place *above* the ligature, because the nutriment descending from the leaves will be there arrested, and the part in question will receive an undue quantity of nourishment.

The mode in which the new wood is arranged in the stem gives rise to two general types of structure, on which two great classes of plants have been founded. In all those plants in which there are two seed-leaves, or cotyledons, the wood is arranged in a series of concentric layers around a central pith, and between it and an external bark. Each of these concentric layers represents the growth of one year, and was formed within the bark and outside the circle of the previous year's wood. This mode of structure is termed the exogenous structure, and plants in which it occurs are called exogens—outward growers—or dicotyledons—the latter name meaning plants with two cotyledons. Plants of this class resemble each other not only in the number of their seed-leaves and in the structure of their stem, but also in many other important particulars. The veins of their leaves are spread out in numerous ramifications, and form a net-work, and the parts of the flowers generally occur in circles of five or some multiple of that number—sometimes in fours or sevens, but very seldom in threes.

All the large trees, and most of the herbs, of temperate climates belong to this class. An illustration of exogenous structure may be easily obtained by cutting across a stick of any ordinary wood, as maple, when the layers of wood will be seen in the form of concentric rings. The section will also show lines of communication between the central pith and the outer circles. These are called medullary rays, and establish a connection between the central column of cellular substance and the leaves and lateral branches. Their integrity is essential to the life of the plant. Outside of the woody circles, in stems of the exogenous structure, is a covering of bark, which, like the main column of wood, also increases by the formation of annual circles; but these are deposited

within the layer previously formed. In consequence of the bark being continually generated within that of the previous year, it is necessary that the layers, which are pushed outwards, should be extensible; and in many plants this extensibility is very remarkable. In the apple several successive zones of bark are formed without any appearance of dislocation or disruption of the tissue of the outside; and in a species of laurel, *Daphne Lagetto*, the fibres of the bark are so tenacious that, instead of being ruptured by the force of the inward growth they are merely separated into lozenge-shaped meshes, arranged in such beautiful order as to have acquired for the plant itself the name of the Lace Bark Tree. There exists, however in all cases a limit to the extensibility of the old layers of bark; and when this is reached, the outer bark either splits into deep fissures, as in the oak, the elm, the cork, and most of the trees of temperate climates, or it falls away in broad plates, as in the plane, or peels off in long thin ribands, as in the birch.

In those plants that have but one seed-leaf (hence called monocotyledons) the structure is very different from that which has just been described. There is here no central pith, and no distinct separable bark. A cross section of a piece of cane affords a good illustration of this mode of growth. There are here no annual rings, but the surface of the section appears covered with a number of dots irregularly arranged. The dots are the terminations of bundles of woody fibre, which in this class of plants are pushed down from the leaves among those of previous growth without any particular order. Plants growing in this manner are termed endogenous, the word meaning growing inwards. Peculiarities of leaf and flower distinguish this order of plants, as well as that of which we have already spoken. The veins of the leaves in this case are parallel; and the parts of the flower are arranged in circles of three, or some multiple of three. Palms, grasses, lilies, etc., are examples of this class.

Though the style of structure is the same in all, an endless variety may be observed in different tribes and species of plants. While the majority stand erect and independent in their sturdy strength, not a few twine around or cling by tendrils to other objects for support, and so raise themselves into the air and light, others trail along the surface of the ground; and some even burrow under the surface. The vine, the runners of strawberries, and the underground stems of the couch grass (*triticum repens*) are familiar examples of these somewhat exceptional forms. The last named are excessively tenacious of life, and division seems only to stimulate fresh development. A vegetable hydra, it sends forth new scions from every mutilation, so that it is almost impossible to eradicate it by mere ploughing. The potato and other tubers are but a modification of underground stems, which in their case is very much enlarged, and stored with starchy matter. The surface is dotted over like ordinary stems, with leaf-buds, here called eyes, which under favorable circumstances shoot out into new branches. These are but a few of the endless modifications which may be seen in the structure of stems; and we must refer the reader to systematic works on botany, and to his own powers of observation and study for further light on this interesting subject.

Harvesting Carrots.

Mr. Ware, of Marblehead, stated to the Board of Agriculture the method of harvesting carrots as practised there, as follows:

Our method is to top them, either with a hoe or shovel, (we generally use a shovel,) and then use a sub-soil plough, and so far as my experience goes, it is the only use to which a sub-soil plough can be put to any advantage in our county. Previously to ploughing the tops are raked off the field, so as to be entirely out of the way. We then run the sub-soil plough directly by the side of the row of roots, which lifts them out of the ground about two inches; then with potato diggers, forks or hoes, we go along and rake them out, so as to lift them from the ground and throw them inward, leaving room for the team to go through again. We first turn a back furrow in the centre of the piece, and go round that back furrow, drawing the carrots into the centre, and leaving a space for the horse or ox to travel, without treading upon the carrots. That leaves them spread all over the surface of the ground. We do that in the forenoon; in the afternoon we pick them up, throw them into the carts, and put them into the cellar. That gives about half a day's time for the carrots to dry, and in picking them from the ground and throwing them into baskets, the dirt is mostly shaken off, so that, if the weather is suitable—and dry weather ought to be chosen for the harvesting of roots—they will go into the cellar dry, which, in my opinion, is very important.—*Mass. State Agricultural Report.*

The Sewage of Towns.

A mass of valuable information on this subject has just been issued from the press. The papers by various authors read at the congress on the sewage of towns, held at Leamington, Warwickshire, last year, have been gathered into a volume. It is stated in the introduction to the papers that one chief object of the congress has been attained in making plain the nature and causes of the failures in our sanitary arrangements, and the many evils which have arisen out of them, owing to the unnatural admixture of excreta with large quantities of water, and to the prevailing custom of employing water as the vehicle for their removal out of our houses. It is argued that vast benefits will accrue to the community at large from ceasing to use water, and, in place of water, resorting to the natural agency of earth, which is as old as the creation itself. Experience has taught that, after the admixture of water with excreta, a putrid fermentation and decomposition result. The noxious gases generate while this decomposition is in progress, fill our habitations with impure air, and become the frequent cause of epidemics, while the decomposing sewage water, escaping from the imperfectly constructed sewers, percolates into the wells of drinking water. Mr. Hitchman goes on to state that the result of irrigation with sewage water is unsatisfactory in a commercial point of view, and of doubtful value agriculturally; while, in a sanitary point of view, the effects of saturating a large surface of land with decomposed sewage water become a still further source of evil. Both the liquid and solid excreta may be made portable and inoffensive, and removed from houses with regularity by a staff of officers duly appointed. By the exclusion of water, and the mixture of earth with excreta, which is in accordance with the laws of nature, all the evils of a putrefactive decomposition are avoided. The working of the earth-closet system at Baron Rothschild's estate is described by Mr. James to be perfectly successful. The cottagers express themselves grateful for this addition to their health and comfort. The village has now no foul smell, nor are the ditches any longer filled with liquid filth. This is the result of a simple mixture of dry earth with the soil; and is in accordance with the Divine command, received through the great law-giver, Moses, in his well-known rule for the sanitary arrangement of the Jewish camp. Mr. Craig, treating the subject as one of national as well as sanitary importance, shows that Austria is almost bankrupt in her exchequer, mainly through the exhaustion of the soil. Until recently, she exported her bone manure, and threw away her sewage into the Danube; while China and Japan have turned both to profitable use on the land. Belgium, with the poorest of soils, maintains the greatest amount of population in proportion to the extent of its surface of any nation in Europe, and sustains at the same time the productive powers of the soil by a liberal and judicious application of manure to the land. If England had adopted, long ago, the dry earth system which has been found to work so successfully on Baron Rothschild's estate, at Lancaster, and at other places, and had been more practical and prudent in returning the guano to the soil, instead of throwing this vast source of national wealth into her rivers, to poison fish, pollute the water, and disseminate disease and death, thousands of lives destroyed through drinking impure water in times when cholera was epidemic might possibly have been saved.—*London Times.*

Note by Editor C. F.—Considerable inconvenience appears to have resulted in the neighbourhood of several English towns by the application of the sewage to the surface of fields, though in other localities a marked improvement in the crops is claimed as the result of this practice. In one instance, at Malvern, great complaints were made of the unpleasant and evil effects of this method of employing the sewage, in contaminating the air; and the authorities, after trying various expedients and getting into fresh difficulties and perplexities, having called in the assistance of an able man of science, accustomed to the practical working of various systems of the kind, were recommended by him to adopt a plan of subsoil irrigation, as the only effectual remedy for the evils complained of. His method was to conduct the sewage beneath the surface into a series of perforated pipes, and thus at once avoid the ill effects of the surface application on the air, and deposit the fertilizing material where, he contended, it would be most beneficial in increasing the productiveness of the soil. Without discussing the merits of the suggestion, it is only necessary to advert to its expense to show the great superiority of the dry earth method, which commends itself to the judgment of most unprejudiced persons as being more natural, cheap and efficacious. This we believe to be the right principle of rendering innoxious and utilizing the solid and liquid animal excrements in our towns and private dwellings. The method is gaining great favour, and its general adoption would be attended with incalculable benefit.

Exterminating Charlock, or Field Mustard.

The operations of exterminating weeds generally extend over more than one season, especially in the case of the most troublesome and obstinate. The following article, from the *American Agriculturist*, though rather late for the present year, contains valuable suggestions, applicable to other pests besides that immediately under consideration, and will furnish as good an answer as we can give to certain enquiries which we have lately received on kindred subjects.

We know of no weed that is so difficult to exterminate as charlock. Canada thistles, daisies and dock can be eradicated with facility, compared with this. Field mustard is an annual plant, having leaves like the turnip, and bright yellow flowers. It starts from the seed at any time between early spring and late autumn. The plants grow rapidly, and produce a large number of seeds in a short time. In ordinary seasons, two crops will mature on the same field, but winter kills every plant. The seeds will remain in the ground a lifetime, without losing their vitality. We have cultivated a field for sixteen successive seasons, allowing no mustard to go to seed; but deep ploughing brought seed to the surface the seventeenth year, so that the ground was nearly covered with the young plants.

When wheat, rye, barley, oats, flax, and such crops are raised, if there is mustard seed in the soil, it will appear, and will ripen its seeds before the crops. Much of the seed will shell out while the grain is being harvested. If it should not be covered with earth sufficiently deep to promote vegetation, it will remain until the next season, or until the moisture and heat happen to be just right to cause germination.

There are two things indispensably necessary to exterminate mustard. One is to allow no seed to mature; and the other is to cultivate such crops as will induce all the seed to vegetate, that the plants may be destroyed before they go to seed. Grain having mustard seed among it, should never be fed to stock until after it is ground into meal.

When mustard comes up very thick, harrow the ground thoroughly, as soon as the crop of grain has been removed. After a few weeks have elapsed, harrow it again. This will destroy most of the young plants in the seed leaf. After this, use a cultivator instead of a harrow. These repeated scarifyings will cover the seed and bring others near the surface, so that a large proportion will vegetate and die before winter. The next season harrow the ground early in the spring, so as to start a new crop of the seed. Plough it soon after the time for planting Indian corn. Harrow again in about two weeks. After another fortnight, plough and sow buckwheat. As soon as the buckwheat is harvested, harrow the ground again. The next season manure well, and raise a hoed crop; and allow no mustard to go to seed. Next, sow a crop of winter grain. The mustard may now appear quite thick; but none of it will have time to ripen before winter, when every plant will die. A limited number of plants will appear the next season among the standing grain. When they are in full bloom, let every one be pulled. A careful, faithful man will be able to pull all the mustard in a day that will appear on several acres, after the soil has been treated in the manner recommended. After this, any kind of grain may be raised. But for more than twenty years mustard will come up every season, and must be pulled up before it ripens. This is the only way that our cultivable fields can be rid of this pestiferous plant. Incessant vigilance from year to year will exterminate it effectually.—*American Agriculturist.*

Seven-eared Wheat—Bald Barley—Russian Rye—and American Bee Plant.

To the Editor of THE CANADA FARMER:

SIR,—Your number of 15th Dec., 1866, contained a statement of mine relating to the "Seven-eared Wheat" I brought from Utah, and of which I sent Prof. Buckland at the time—through Stewart Campbell, Esq, Sec. of the County of Perth Agricultural Society—some plants of the first season's growth here. I now send you some heads of this, the second season's growth. You will observe the grain is as white as fall wheat, but I am sorry to say it has not met my expectations. The plant is liable to rust, the heads are smaller than last year, and are not well filled, and it appears to be running to a single ear. In fact, it is not adapted to our climate. I will, however, for experiment, try it again next season.

I also send you some heads of "Bald Barley," brought by me from Utah. This is its second season here, and it does well. It yields largely, and the grain is bald, plump, with clear thin skin, and very large.

I send you, in addition, a few heads of "Russian Rye," brought from California—originally from the Amoor River, Siberia. The grain is of good quality, plump and white. I think it will suit our climate.

The above specimens are not selected, but are average heads.

I observed a notice in THE CANADA FARMER of July 15th this year, copied from the *Illinois Prairie Farmer*, of the "American Bee Plant," (*Cleome Integrifolia.*) I also brought home seed of the same from the Rocky Mountains, and have grown it here two seasons. The description contained in the notice is very correct. It blooms freely, is ornamental, and the bees prefer it to other flowers. I send you a few seeds, and as I have a considerable quantity, I will willingly send some to all who apply, post-paid. It should be sown in the autumn, any time before the ground freezes. It will, after that, seed itself. It should be sown thin, as the plant branches considerably.

GEO. FORMAN.

Stratford, Co. Perth, Ont.,
Sept. 25, 1867.

NOTE BY ED. C. F.—We are very much obliged to our correspondent for the samples, with some of which we hope to experiment. The seven-eared wheat has a strong resemblance to Egyptian wheat, and if it had been adapted to this climate, would have been a great acquisition, as it must be very prolific where it thrives. The rye is a fine sample. The grains of "Bald Barley" are remarkably large and plump. The variety seems well worthy of trial. We feel particularly interested in the seeds of the American Bee Plant, and shall sow them as our correspondent directs.

☞ The crop of flax seed raised in the West this year, is supposed to be at least twice as large as that of any previous season.

FOREST AND FIELD.—The forests in France are under the care of the Government, and under the new laws for their protection they have increased nearly one million of acres. Less than one-sixth of the area of the kingdom is covered with wood land. This is much less than is desirable for the best interests of husbandmen. It is estimated that from 20 to 25 per cent. of a country should be covered with forest in order to secure uniformly good crops. Our forests, now disappearing, demand the attention of Government.

DRAINAGE.—The Metropolitan Sanitary Commission of London compute that for every inch of water drained off, and which would otherwise pass into the air as vapor, as much heat is saved per acre as would raise 11,000 cubic feet of air one degree in temperature. A farmer was asked the effect of some new draining, when he replied; "All that I know is, that before it was done I could never get out at night without an overcoat, but now I never put one on" A physician took one of the Sanitary Commissioners to a hill overlooking his district. "There," said he, "wherever you see those patches of white mist I have frequent illness, and if there is a cess-pool, or other nuisance as well, I can reckon on typhus every now and then. Outside these mists I am rarely wanted."

Veterinary Department.

Hernia, or Rupture, in Horses.

By hernia is understood the protrusion of some part or parts of the intestines out of their natural cavity, through some natural or artificial opening; and according to the part or parts where the lesion occurs it takes a distinctive name. In the horse, the different kinds of hernia usually met with are four in number. When a portion of the intestine is protruding through the umbilical or navel opening, it is called umbilical hernia; and in the present number we shall give a short notice of this affection, which is very common in sucking colts.

Umbilical hernia can be easily detected. A tumour is observed in the lower walls of the abdomen in the umbilical region; the tumour is soft, and by pressure of the hand can be returned into the cavity of the belly; the walls of the opening can be easily felt. Prior to birth, the navel opening is for the passage of the umbilical cord or navel string; and in a short time after birth, closure of its walls usually takes place, and the cord becomes obliterated; but it occasionally happens that complete closure does not take place, and a portion of the gut, or the substance by which parts of the intestines are attached (*omentum*), is apt to get impressed into it and become imprisoned, thus constituting umbilical hernia. Hernia is again divided into three kinds. When the protruding portion of the bowel can be readily returned into its natural cavity, the hernia is said to be *reducible;* when it cannot be returned, it is called an *irreducible* hernia; and when the hernia becomes constricted at the mouth, so as to impede or altogether arrest the circulation of the blood, this is designated a *strangulated* hernia. The hernia in question is generally of a reducible character, and when small, it appears to inconvenience the animal very little. In young animals, it is often not necessary to have recourse to an operation; for as the colt gains strength the bowel frequently recedes into its natural situation, and the retraction is followed by complete closure of the opening. When, however, the hernia appears to increase in size, something should be done at once for its reduction, as the smallest hernia proves unsightly; and although not interfering much with a horse's usefulness for ordinary work, it materially depreciates him in marketable value.

There are many ways in which it can be reduced—viz., by ligature of the skin, by clams, skewers, &c.; but such applications should only be used by a person conversant with the anatomy of the horse. It may also frequently be reduced by means of a truss or bandage, which is a safer method in unprofessional hands. After the tumour has been reduced, a small pad, which may be secured in its place by means of some adhesive plaster, should be applied over the opening, and bandage should then be applied around the body, and gradually tightened, according to the size of the abdomen. The bandage may be further secured by means of a circingle, to which is attached a crupper. The pad and bandage must be worn for a considerable time, and the colt should be well fed on a nutritious diet—good keep tends to strengthen the muscular fibre. Umbilical hernia, however small, is an unsoundness.

The Dairy.

Rennets—A Caution.

To the Editor of THE CANADA FARMER:

SIR,—The cheese-making business of Canada, although just now in its infancy, is making very rapid strides over the whole of the Dominion. Great care is needed in the manufacture, and one very important element is the selection of, and curing of the vells from which the rennet is to be extracted. These should be from the sucking calf (no matter how tender the age), and dry, salted down in cask or crock; and if kept for several months, so much the better, and the rennet will be much finer flavoured. The pride of the skilful dairymaids of England is in a clean, well-ventilated dairy and a supply of fine old well-seasoned vells to begin the season with.

There is one thing I wish to caution the trade against. Through ignorance on one part, and dishonesty on the other, a number of sheep's maws have been bought up in this country and sold to unsuspecting parties for the maw of the calf. Now, to use rennet made from such articles entails a serious loss; for, although the curd may be separated from the serum, the separation is not complete, and the flavour of the cheese is consequently very much impaired, and its keeping qualities are deteriorated; in fact, they are not the proper article to use, and cheese-makers cannot be too careful to be certain that there are none such among their vells when they put them in the rennet jar. Those who are not aware of the difference should go to the nearest slaughter-house, examine some sheep's maws, and compare the two; they will soon learn to discriminate one from the other by the food, and also by the internal appearance, and they need not be deceived.

I was in St. Anne's Market, Montreal, a few days since, and a butcher informed me he had known quite a number of sheep's maws sold for calf's during this past summer. So let me advise cheese-makers to look out, for no doubt there will be many put aside during the winter, and there is no saying in what market they may be offered. I trust these few words of caution may prove of service to the inexperienced.

MARTIN COLLETT,
Oct. 9, 1867. 468 Yonge St., Toronto

RANCID BUTTER FOR COOKING.—Many persons sneer at the common notion that butter too rancid to be eaten raw upon bread, may be used without objection in cooking; but this notion, like many other popular ideas, is more in accordance with the truth of the matter than the imperfect knowledge that ridicules it. All fats are compounds of acids with glycerine. Butter is a mixture of several fats, and one of them, constituting, however, only a small portion of its mass, is butyrine: this is a compound of butyric acid with glycerine. Butyrine, like other fats, is a neutral substance, but when it is decomposed—in other words, when the butyric acid is separated from the glycerine with which it is combined—we then have two substances, the acid and the glycerine, exhibiting each its peculiar properties. Butyric is a very powerful acid, caustic and sour, and having that peculjar strong odour which is characteristic of rancid butter. One of the early steps in the decay of butter is the decomposition of the butyrine, which is made manifest by the odour of the butyric acid set free, and by the sour and biting taste of this acid. Now, at a temperature of 315 degrees, butyric aid is evaporated, hence it is only necessary to raise the temperature of the butter to this point in order to drive off the acid which makes it rancid, and to leave the remainder perfectly sweet. If rancid butter is mixed in a cake, a portion of the butyric acid will be absorbed by the water in the cake and it may not be all expelled by the heat in baking; but if the butter is used for frying in an open pan, it is pretty certain that the butyric acid will all be evaporated. With a knowledge of the properties of butyric acid, a skilful cook ought to be able to use rancid butter in such ways as to retain none of the rancidity in the cooked articles.—*Scientific American.*

☞ Isaac Hatch, of Little Rock, Ill., produced 405 pounds of cheese from each of his fifty-five cows in one year. From the sale of the cheese was realized $4,031.—So says the *Sycamore Republican.*

☞ A Mr. Blood, living in the vicinity of Herkimer, N. Y., kept, this summer, eleven cows, a bull and a horse, upon two and a half acres of land. The stock was kept in a yard and soiled. The land had been cut over several times to furnish the necessary food during the season, but the stock had been kept. This fact might suggest the question whether our farmers, ordinarily, were getting the best results that could be had from their lands.—*Western Rural.*

Lewis's Labour-Saving Churn.

The accompanying illustrations represent an improvement on the old dash churn, patented by Mr. R. Lewis, of Melbourne. Although a great variety of new churns have been invented, many butter-makers

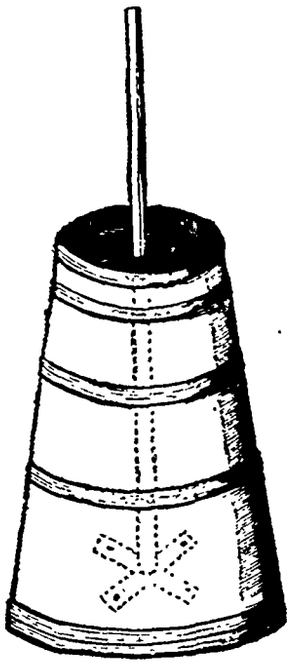


Fig. 1.

still prefer the old and commonest form, which is represented in Fig. 1. The advantages which Mr. Lewis claims are, as explained below in his own words, a gain of power by reversing the churn, having the wider diameter at the top instead of the bottom. By attaching the gearing shown in the second illustration, very great facility is also obtained in working the dasher, and the labour of churning is thus materially diminished. The following is Mr. Lewis's account of the invention :—"Churning must be performed by labour, either manual or mechanical; and as the old Dash Churn is held in higher (or at least more permanent) estimation than any other, the inventor ventures to prove that the old Dash Churn is really the best, provided it is properly improved. This the projector proposes to do, by simply turning the churn upside down.

"A reference to the diagrams will better illustrate this idea. Fig. 1 is a representation of the old Dash Churn; Fig. 2, Lewis's Improved Churn, with gearing.

"Fig. 1, the good old Dash, in which it will be seen that the greatest amount of physical labour is required when a person is in a position the least able to effect it, and that is in the up-stroke—and why? Because the cream has to be drawn up into the contracted part of the churn, which affects the back and loins, whilst the down-stroke, which is more easily effected, is comparatively lost, because the churn, being larger at the bottom, the cream spreads from underneath the dash; whereas in Fig. 2 the reverse is the case. The up-stroke is easier, because there is room for expansion; whereas the down stroke has the full effect of the power brought to bear upon it.

"Hence, then, it will be seen that there is great advantage in having the widest end up, as the butter is made better, quicker, and easier.

"Fig. 2 is a representation of Lewis's Patent Action. There are two standards affixed to the side of the churn; they are made high enough to admit of a wooden connecting rod, which is attached to the crank and dash staff by a ½ inch turned wooden pin passing through the upper end of the staff. The upper end of the connecting rod is secured to the crank by means of an iron pin over the crank, as shown by the hole to receive the pin.

'Length of connecting rod or staff, about 12 inches; iron axle, five-eighths iron; crank, five inches; fly-wheel, about two feet—may be worked with or without fly-wheel. The top or lid through which the dash works is similar to that in figure 1. It is left off in order to show the mode of fitting the connecting rod to the

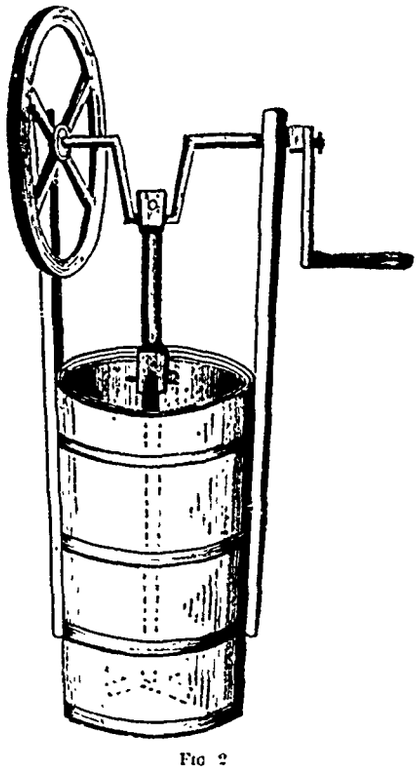


Fig 2

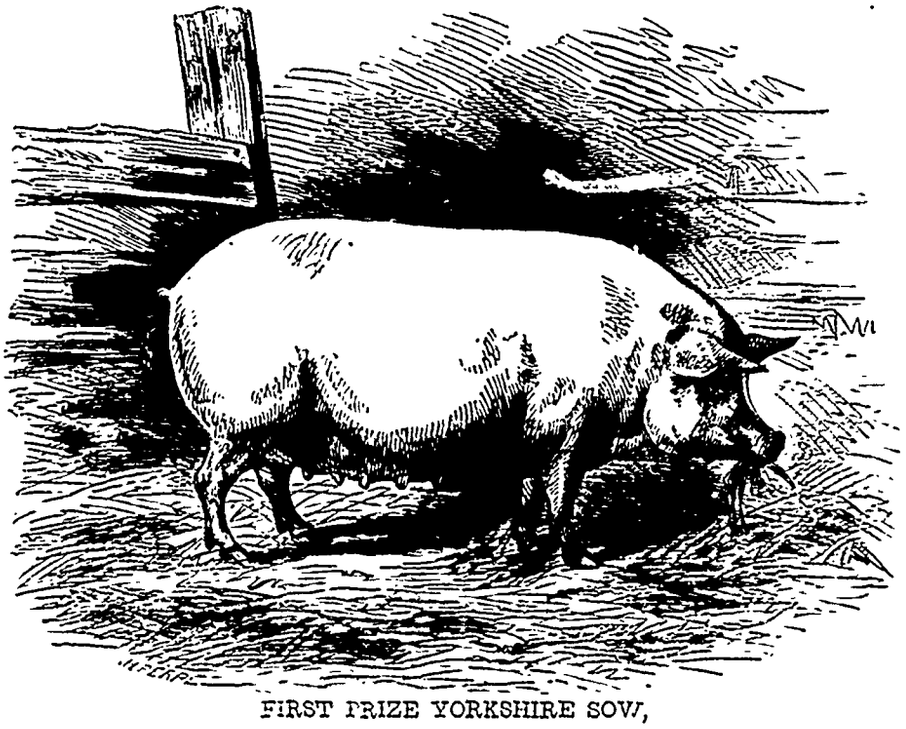
dash staff. The body in figure 2 does not taper quite so much as figure 1, in order to give a better surface to stand upon; but if a greater taper should be preferred, then it will be necessary to have a stand fitted."

Stock Department.

Prize Yorkshire Sow.

The annexed engraving represents a fine Yorkshire sow, exhibited at the recent Provincial Show, where it took the first prize as the best sow of one year old or over. She is the property of Mr. C. A. Jordison, of Wellman's Corners, Hastings county, by whom she was raised. She is a fine specimen of this large and useful breed, and well deserved the honors she has won, her success at Kingston not being her first triumph. Mr. Jordison has, we understand, been for fourteen years one of the most successful exhibitors of this breed. By reference to our advertising columns, it will be seen that he offers this and others of his excellent stock for sale. To those who are fond of the large varieties, this is a good opportunity of making first-class additions to their yards

For family use the small breeds may be preferable, but there are advantages in regard to the market which render it highly important to keep up the larger varieties.



FIRST PRIZE YORKSHIRE SOW,

At the recent Exhibition, the Property of Mr. C. A. JORDISON, Wellman's Corners.

Small-Breed Dairy Cattle.

As a dairy cow for the farmer, there is perhaps none that excels or equals the Ayrshire breed; there are other varieties, however, whose reputation for dairy qualities stands high, and among them the Alderney cow ranks first. Another excellent milch animal, the Kerry cow, of a hardy constitution, capable of subsisting on coarse and scanty food, has been long a favorite in its native home, and on account of its excellent qualities has been extensively used in private families or small dairies in England, and is gaining favor in the United States. Still another very diminutive breed, but highly esteemed by some for their docile temper, and, in proportion to their size, their good milking qualities, namely the Bretonne cow, has become fashionable in some quarters, where it is made a sort of domestic pet.

The illustration on next page represents a specimen of each of these varieties—the animal on the left hand being a Kerry bull, that to the right a Bretonne cow, and the third an Alderney cow. All three are small breeds, though some varieties of the Kerry cow attain a considerable size. The larger proportion, however, are decidedly small cattle, and on that account scarcely profitable to the farmer.

The Kerry Breed.—The natural habitat of this animal is, as its name denotes, to be found among the mountain fastnesses of the County of Kerry, in the north-west corner of Ireland, and the most westerly land in Europe. The climate is excessively humid, and the slopes of its mountains produce but

a coarse and scanty vegetation. The valleys, however, are often highly productive, affording sweet and excellent pasture. This district is admirably adapted to the raising of a small and hardy race of cattle as well as a useful breed of sheep.

The Kerry cattle were formerly black, with a white streak along the spine, but of late years they have been of various colors—black, brown, and of intermediate shades. Their horns are fine and long, generally turning upwards. They have a soft, unctious skin, of an orange tinge, which is very apparent about the nose and ears. The expression of the eye is bold, and their general form and symmetry often exceedingly graceful. These cattle are extremely hardy, and maintain themselves on scanty food in a much better condition than could be expected; but when they are put on better pasture they increase considerably in size, and produce beautifully marked beef, which being of the best quality, commands the highest price.

The principal value of this breed consists in the adaptation of the cow to the domestic-dairy. For richness and quantity of milk, compared with the size of the animal and the amount of food consumed, the Kerry is perhaps not excelled by any other breed. For this reason the cow is highly valued by the cottagers and small farmers of Ireland, and is also used to improve the domestic dairies of gentlemen living in the vicinity of large towns in England. In many parts of Ireland this breed has been crossed with the Longhorns, producing results that are by no means always favorable. The Kerry cows make admirable first crosses with the Shorthorns or Herefords, and produce animals generally well adapted to the dairy, and very excellent for fattening purposes. It is, however, desirable to keep the breed distinct, as being specially adapted to hilly districts, where pasturage is scant and coarse. Recently more attention has been paid to the improvement of this breed, which, with a judicious selection of parents, and more attention to feeding and shelter, is much increased in size for fattening, and equally improved in milking properties.

ALDERNEY CATTLE.—This breed is said to have been imported originally from Normandy, but the principal source from which specimens are now procured is the largest of the channel islands, Jersey. A breed precisely similar is raised in the smaller island of Alderney, but by far the greater number are to be found in the principal island of the group, where they are almost exclusively raised for the dairy and domestic use, as well as for supplying the foreign market. These animals are very docile, usually following their owners instead of being driven. While feeding they are generally tethered (unless they are soiled) on account of the very limited area of the island, which is but about twenty-five miles in circumference. Pastures and lands of all sorts are therefore highly prized, and the most is made of every foot. The Alderney or Jersey cow yields a moderate quantity of milk, sometimes, however, the yield in this respect is excessive; but the principal quality for which they are distinguished is the extreme richness of the milk, the proportion of cream, and therefore the amount of butter it will furnish, being far larger than in any other breed.

Formerly this breed was very small, miserably thin, ill-formed and ugly, and most difficult and expensive to fatten—such at least is the testimony of some who have kept them, though others aver that when dry they fatten readily. Within the last twenty or thirty years, however, great improvements have been effected in the breed. The channel island breeders have taken great pains to keep the breed *pure*, most stringent regulations having been adopted for this purpose.

By carefully selecting parents, and more regular and better feeding, the Alderney has of late been much increased in size, without any deterioration in milking capacity, and it is not now so difficult or costly a business to fatten them as formerly.

A few have been imported into the States, where they appear to thrive, and are much esteemed for private dairies. Being natives of a particularly moist and mild climate, and susceptible therefore to the cold, it is doubtful whether they could be acclimatized in Canada, and still more doubtful whether they could be profitably kept here. The pure Alderney is certainly a delicate animal, and unfitted for sudden vicissitudes or extreme severity of weather.

BRETONNE CATTLE.—These have lately become rather fashionable in England, and are held in estimation on account of their small size, docility of disposition, and the ease with which they can be kept on a small amount of food, while the quantity of milk they will yield is, in proportion to their size, quite astonishing, equalling, it is said, the ordinary yield of a dairy cow of the larger breeds. They stand about three feet high, and are mostly black and white in colour; the horn is fine, not unlike the Jersey, but smaller, and the milk marks are well developed. It is said that they will hold out in milk for eighteen months after calving. Their small size, though it may render them desirable as pets, and not interfere with their adaptation for the dairy of the private family, must render them unsuitable and unprofitable for the farmer, who will probably regard them rather as curiosities than as a breed of any value.

Poultry Yard.

Meeting of the Ontario Poultry Association.

This association held its regular monthly meeting in the Board-room of the Agricultural Association, on Thursday evening, October 3rd. The meeting was well attended. Several new members were proposed and admitted. As it is the intention of the society to hold another exhibition on the 6th and 7th of next November, at which a large number of money and other prizes will be awarded, considerable interest is awakened on the subject, and the affair promises to be largely encouraged, and will, no doubt, prove a success, and make up for the deficiencies at Kingston. The game fowl appear to be especially favoured, as in addition to the ordinary number of prizes awarded in the respective classes, an extra prize of $10 in cash is to be given for the best game cock in any class. There is also a sweepstakes class for this fowl, in which all birds competing in the other three classes, as well as those especially entered in this class, will be allowed to compete. The Brahma Pootra class has also a costly prize offered for competition. The subject of including rabbits in the exhibition was discussed, and favourably received, and no doubt, the exhibitions of next year will witness the admission of this much-prized domestic animal in addition to the poultry classes.

Standard of Excellence in Exhibition Poultry.

GAME.

GENERAL SHAPE—COCK.

Beak—Strong, curved, very stout at the base.
Comb—In a chicken that has not been dubbed, single, small and thin, low in front, serrated, erect and straight; in older birds, neatly dubbed, smooth, and free from warty appearances, small feathers or ridges on the edges.
Head—Long, thin and taper, very strong at the juncture with the neck.
Eyes—Large bright and prominent perfectly alike in color, with a quick, fearless expression.
Face and Throat—Lean and thin
Neck—Rather long and neatly arched, hackle short and very full.
Body—Rather short and full, broad at the shoulders and narrowing to the tail.
Breast—Broad, round and full.
Stern—Slender, and very neat, saddle feathers very short and close.
Wings—Strong, long and very powerful, the butts and shoulder-part slightly raised, as if for a sudden spring, the remainder of the wings not drooping, but carried neatly and compactly to the sides, passing over the upper part of the thighs, the points resting under the saddle feathers.
Tail—Rather long the feathers very sound and not too broad, carried well together, and not spread out, scattered or loose.
Saddle Feathers and Tail Coverts—Perfectly sound, narrow, hard, and wiry not hanging loosely, well carried and neatly curved, the whole of the tail going backwards, and not upright over the back, or Squirrel-tailed.
Thighs—Round, stout, hard, and firm, rather short in proportion to the shank, placed well up towards the shoulders, and covered with very close short feathers, so as to have a velvetty appearance.
Legs—Rather long, strong, bony, clean, standing well and evenly apart, the spurs set on low, the scales close and smooth.
Feet—Broad flat and thin, toes long, spreading, and straight, well furnished with strong nails, with the hind toe set low on the foot, standing well backwards and flat on the ground, not merely touching with the point of the toe, or Buck-footed.
Plumage—Close, sleek, and glossy, body feathers short, hard, and firm, quills very strong
Body in hand—Very muscular and firm, not soft or hollow on the sides, perfectly straight in the breast and back, and quite even in the hip bones.
Carriage—Upright active and quick.

GENERAL SHAPE—HEN.

Beak—Long slightly curved, sharp at the point, and stout at the base.
Comb—Single, small and thin, low in front, evenly serrated, perfectly erect and straight.
Head—Long, slender, very neat and taper.
Eyes—Bright, large, and prominent, perfectly alike in color, with a quick and fiery expression
Face—Lean and thin.
Deaf ear—Very small, and close to the face.
Wattles—Small thin, and neatly rounded on the edge.
Throat—Neat the feathers very short and close
Neck—Long, feathers very short, giving the neck a slender and very graceful appearance.
Body—Moderate in length, perfectly flat and broad across the shoulders, and narrowing to the tail
Wings—Long and powerful the butts and shoulders carried rather high, so as to cause a perfectly flat back, the points not drooping, but carried compactly to the sides
Tail—Moderate in length, not carried over the back, but extending backwards, the feathers not scattered or spread out, but held neatly together
Breast—Broad, round, and prominent.
Thighs—Stout, round, and neat, the feathers short and very close.
Legs—Long, very bony, clean, and taper, the scales narrow, smooth, clear, and neat.
Feet—Broad, flat and thin; toes spreading, long and straight, well furnished with strong nails, the hind toe set low on the foot, standing well backwards, and not Duck-footed.
Plumage—Very close, sleek, and glossy, body feathers short, hard, and firm, quills strong.
Carriage—Rather upright, very neat, quick, and active.

BLACK BREASTED RED GAME.

COLOR OF COCK.

Head—Very rich, dark red.
Comb, Face, and Jaws—Very bright red
Eyes—Bright, clear, deep bay.
Neck Hackle—Rich red, free from black or dark stripes.
Back, Shoulder, and Shoulder Coverts—Rich dark red
Wing Butts—Black.
" *Bow*—Rich dark red perfectly free from black feathers
" *Greater and Lesser Coverts*—Metallic green black, forming a wide bar across the wing, perfectly even, well defined, and not irregular on the edges.
" *Primaries*—Bay on the outside web, black on the inside.
" *Secondaries*—Rich, clear bright bay on the outside web, black on the inside web, with a rich metallic green black spot on the end of the feather.
Saddle—Rich red
Tail—Rich black.
Sickle Feathers and Tail Coverts—Very rich metallic green black.
Breast, Underpart of Body and Thighs—Rich black, perfectly free from any admixture of red or other color.
Legs—Either willow olive yellow white or blue The colors preferred in the order in which they are named.

COLOR OF HEN.

Head—Brown
Comb, Face, Deaf ear and Wattles—Very bright red.
Neck—Light brownish yellow, striped with black.
Back and Shoulder Coverts—Brown
Wing, Bow, Shoulder and Coverts—Same color as back, perfectly free from red.
" *Primaries and Secondaries*—Brown.
Tail—Dark brown, approaching black.
Breast—Deep salmon shading off to ashy brown towards the thighs.
Thighs—Ashy brown.
Legs—To match those of the cock

YELLOW AND SILVER DUCK WING GAME.

COLOR OF COCK

Head—Straw colored yellow. Silvery white in *Silver*.
Comb, Face, and Jaws—Bright red.
Neck Hackle—Clear, straw color, free from black. Clear white in *Silver*.
Back, Shoulder Coverts, and Bow of the Wing—Rich, uniform, bright copper color in the more even, clear and un mixed in color the better. Silvery white in *Silver*.
Wing Butts—Black
" *Bow*—Silvery white in *Silver*
" *Greater and Lesser Coverts*—Steel blue, or metallic black, forming a wide bar across the wing
" *Primaries*—Straw white on the outside web, dark on the inside web.
" *Secondaries*—White on the outside web, black on the inside, and on the end of the feathers.
Saddle—Clear straw color Clear white in *Silver*
Breast, Underpart of Body, and Thighs—Rich black.
Tail—Black.
Sickle Feathers, and Tail Coverts—Rich metallic green black. Lesser tail coverts slightly edged with white in *Silver*
Legs—Willow, yellow, or olive. Or bronze or blue in *Silver*.

COLOR OF HEN.

Head—Grey. Silvery in *Silver*.
Comb, Face, Deaf ear and Wattles—Bright red.
Neck—White, striped with black Silvery in *Silver*.
Breast—Salmon red, shading off to ashy grey towards the thighs. Silver or ashy grey in *Silver*.
Back and Shoulder Coverts—Bluish or slatey grey, shaft of feather white. Silvery in *Silver*.
Wing, Shoulder and Bow—Slatey or bluish grey, shaft of feather white. Red or brown on the wing very objectionable
Wing Coverts, and Flight—Slatey or bluish grey.
Tail—Dark grey, the inside approaching black.
Thighs—Ashy grey.
Legs—To match those of the cock.

POINTS IN GAME.

Shape of Head and Neck	2
Body and wings	2
Tail	2
Thighs, legs and toes	2
Color of plumage	2
Symmetry, handling	2
Condition, and hardness of plumage	3
	15

DISQUALIFICATIONS.

Color of legs or plumage, not matching in the pen crooked backs or breasts, adult cocks not dubbed.

DORKINGS.

GENERAL SHAPE—COCK.

Beak—Rather short and stout.
Comb—Either single or rose, if single, erect, straight, serrated, free from side sprigs; if rose-combed square in front, straight on the head, without hollow in the middle, large peak behind, inclining very slightly upwards.
Head—Neat.
Wattles—Broad, stout, rounded on the lower edge.
Neck—Very taper and well hackled.
Breast—Very deep, broad, and full. Breast-bone long
Body—Large, deep, compact and plump, the back, belly, breast, and behind, almost forming a square.
Back—Very broad
Wings—Large.
Tail—Very large, expanded, feathers broad and carried well up
Sickle Feathers and Tail Coverts—Long, broad, sound and well arched.
Thighs—Short, stout, and straight
Legs—Straight, short, stout, clean, and perfectly free from feathers, spurred on the inside.
Feet—Five toed, the extra or supernumerary toe well developed, distinctly separated from the others, and pointing upwards.
Carriage and Appearance—Noble, bulky, and grand.

GENERAL SHAPE—HEN.

Beak—Rather short.
Comb—If single, to be well developed, and falling over one side of the face; if rose, square in front, straight on the head, peak behind, inclining slightly upwards.
Wattles—Broad, rounded on the lower edge.
Head—Neat.
Neck—Short and taper
Breast—Very deep, broad, and full.
Body—Large, compact, plump, and deep.
Back—Broad.
Wings—Large.
Tail—Large, expanded, the feathers broad.
Thighs—Short and stout
Legs—Short, straight, thick and strong.
Feet—Five toed, the extra toe well developed, distinctly separated from the others and inclining upwards.
Carriage and Appearance—Bulky.

SILVER GREY DORKINGS.

COLOR OF COCK.

Head and Neck Hackle—Clear white
Comb, Face, and Wattles—Bright red.
Breast, Underpart of Body and Thighs—Rich glossy black
Back and Shoulder Coverts—Silvery white
Saddle—Clear white.
Wing Bow—Silvery white
" *Coverts*—Metallic green black, forming a wide bar across the wing.
" *Primaries*—White on the outside edge of the outer web, black on the inside web.
" *Secondaries*—Clear white on the outside web, black on the inside web, and also on the end of the feather
Tail—Rich black.
Sickle Feathers—Rich metallic green black
Tail Coverts—Rich metallic green black, the lesser ones silvered on the edge.
Legs—White with a flesh colored tinge betwixt the scales

COLOR OF HEN.

Head—Silvery or ashy grey
Comb, Face and Wattles—Bright red.
Neck—Silvery white striped with black
Breast—Salmon red, shading off to grey towards the thighs.
Back and Shoulder Coverts—Silvery or slatey grey, free from dark bars or marks across the feathers, shaft of feathers white.
Wing Bow—Silvery or slatey grey, shaft of feathers white. Any tendency to red on the wings is highly objectionable
Coverts and Flights—Slatey grey.
Tail—Dark grey, inside approaching black.
Thighs—Ashy grey.
Legs—White, with a flesh colored tinge betwixt the scales.

POINTS IN SILVER GREY DORKINGS.

Size	3
Color	3
Head and Comb	2
Legs, feet, and toes	2
Symmetry	3
Condition	2
	15

DISQUALIFICATIONS.

Birds without the fifth toe, or with crooked backs, wry tails, combs not uniform in the pen, white in cock's breast or tail, legs of any color except white.

WHITE DORKINGS.

Comb, Face, and Wattles—Rich red.

The whole of the plumage in both cock and hen pure white, the more free from yellow tinge the better.

Legs—White.

POINTS IN WHITE DORKINGS.

Size	4
Purity of white plumage	3
Head and comb	2
Legs, feet, and toes	2
Symmetry	3
Condition	2
	15

DISQUALIFICATIONS.

Birds without the fifth toe, or with crooked backs or wry tails combs not uniform in the pen, colored feathers in any part of the plumage.

The Apiary.

Purity of Italian Queens.

It appears from a foreign paper that Mr. John Lowe, of Edinburgh, with a view to test the Dzierzon Theory, set to work to obtain hybrids between *Apis Mellifica* and *Apis Fasciata*, and also between *Apis Mellifica* and *Apis Ligustica*, and the result of his experiments, which we give in his own words, was, "That Ligurian queen bees fertilized by English drones, and Egyptian queen bees fertilized by English drones, both produced drones which, as well as the workers, were hybrid in their characters, and bore unmistakeable evidence of the male parent." From this Mr. Lowe drew the conclusion, "that the eggs of a queen bee which have been fertilized by a drone of another race, whether they develop into drones or workers, are in some way affected by the act of fecundation, and that both sexes of the progeny partake of the paternal and maternal character of the parent or race, from which it follows that Dzier-

zon's is not the true theory of reproduction in the honey-bee." Now, while we fully endorse the conclusion arrived at by Mr. Lowe, "that drones are in some way affected by the act of fecundation," yet we cannot say with him, "that the Dzierzon theory is not the true theory of reproduction in the honey-bee." We fail to see that the Dzierzon theory is materially crippled by the fact of the drones being in *some way* affected by the act of fecundation. The pith of the Dzierzon theory is, that all eggs in the ovaries of the queen bee are unimpregnated; that the eggs which produce workers are impregnated when passing through the oviduct by coming in contact with a sperm reservoir and receiving a minute portion of its contents, while the eggs that produce drones pass the sperm reservoir without coming in contact with it, and hence are not impregnated. This may be true, and still it may be a fact that drone eggs are in "some way" affected by the act of fecundation; but the deduction generally drawn from the Dzierzon theory, that drones are therefore *pure*, cannot be strictly true if a queen has mated with a drone of another race. Neither is Mr. Lowe correct in saying that such drones are hybrid in their characters. The truth lies between the two extremes. Mr. Lowe has simply discovered what others had discovered before him, viz., that drones are in *some way* affected by the act of fecundation. He does not attempt, however, to explain that "some way," but jumps at the conclusion that they are hybrids. We will, therefore, for the benefit of the honest breeder of the Italian queens, explain how drones are affected by the act of fecundation. The truth is, that the whole system of the queen bee is affected or changed by the act of coition. In other words, the life-giving principle received from the drone, into the sperm reservoir of the queen bee, is also, by absorption and circulation, carried through the whole system, and becomes a part of her very nature, and hence is transmitted to her progeny. It will then at once be seen, that if a pure Italian queen cohabit with a black drone, her eggs, which are a part of herself, will partake to a certain extent of the nature of the drone. Therefore, her drone progeny, although not hybrids, will show unmistakable evidence of the influence of the male parent. Not only so, but the eggs of a queen bee are affected by the impregnation that produced herself. In other words, the impregnation of an egg does not end with the production of a queen bee, but through her system is transmitted to her eggs in a sufficient degree to cause them to produce drones. In this way we can, without difficulty, account for the production of drones from the eggs of an unimpregnated queen. If breeders of Italian queens will accept and acknowledge the above truths, there is an end to all discussion as to the purity or non-purity of the "three banded," "two-banded," and "one banded" bees. For it must be clearly seen that if queens continue to mate or cohabit with drones produced from the eggs of a queen that has mated with a common drone, their progenies, though not hybrids, will show the influence of the black race by the number of bands—some of the bees losing one, and perhaps two bands. Hybrid bees, however, not only loose *one* and *two*, but even three bands, appearing as black as the native bee, showing the Italian blood, however, in the shape of the abdomen, which is more pointed than that of the black bee. In order, then, to improve the purity (if we may be allowed the expression) of our Italian bees, it is only necessary for breeders of Italian queens to destroy all drones produced by what we call hybrid queens, or queens that have mated with common drones. This every honest breeder will endeavour to do when purity of race alone is desired.

BEES SHOULD NOT TRAVEL FAR.—Bees that have to travel a long distance, store but little honey. Hives should be so constructed that the bees can deposit their honey quickly, as time is money with them. I lined a swarm two years ago, in a large white ash tree. I cut the tree this winter, expecting, as the swarm was large, to find plenty of honey stored; but imagine my surprise: I found bees and comb, but the honey was minus. They were located in a good honey section, but those bees had to travel 14 feet from the entrance to the comb to deposit their stores. It is my experience and belief that the sooner the deposit is made, as the honey season is short, the more benefit is derived.—*Cor. Co. Gent.*

Entomology.

The Clothes-Moth.

THE following account of this well-known plague of the careful housewife is condensed from an interesting article by Dr. Packard, in the October number of the *American Naturalist*, a periodical that we can most cordially recommend to our readers:—

"For over a fortnight we once enjoyed the company of the caterpillar of a common Clothes-moth. It is a little, pale, delicate worm, about the size of a darning needle, not half an inch long, with sixteen feet, the first six of them well developed, and constantly in use to draw the slender body in and out of its case. Its head is armed with a formidable pair of jaws, with which, like a scythe, it mows its way through thick and thin.

But the case is the most remarkable feature in the history of this caterpillar. Hardly has the helpless, tiny worm broken the egg, previously laid in some old garment of fur, or wool, or perhaps in the hair-cloth of a sofa, when it proceeds to make a shelter by cutting the woolly fibres or soft hairs up into bits, which it places at each end in successive layers, and, joining them together by silken threads, constructs a cylindrical tube of thick, warm felt, lined within with the finest silk the tiny worm can spin. The case before us is of a stone-gray colour, with a black stripe along the middle and with rings of the same colour round each opening at the ends. Had the caterpillar fed on blue or yellow cloth, the case would, of course, have been of those colors.

Days go by. A vigorous course of dieting on its feast of wool has given stature to our hero. His case has grown uncomfortably small. Shall he leave it and make another? No housewife is more prudent and saving. Out come those scissor-jaws, and lo! a fearful rent along each side of one end of the case. Two wedge-shaped patches mend the breach, caterpillar retires for a moment; reappears at the other end; scissors once more pulled out; two rents to be filled up by two more patches or gores, and our caterpillar once more breathes freer, laughs and grows fat upon horse-hair and lamb's wool. In this way he enlarges his case till he stops growing.

Our caterpillar seeming to be full-grown, and hence out of employment, we cut the end of his case half off. Two or three days after, he had mended it from the inside, drawing the two edges together by silken threads, and though he had not touched the outside, yet so neatly were the two parts joined together, that we had to search for some time with a lens to find the scar.

To keep our friend busy during the cold, cheerless weather, for it was in mid-winter, we next cut a third of the case off entirely. Nothing daunted, the little fellow bustled about, drew in a mass of the woolly fibres, filling up the whole mouth of his den, and began to build on afresh, and from the inside, so that the new-made portion was smaller than the rest of the case. The creature worked very slowly, and the addition was left in a rough, unfinished state.

We could easily spare these voracious little worms hairs enough to serve as food, and to afford material for the construction of their paltry cases; but that restless spirit that ever urges on all beings endowed with life and the power of motion, never forsakes the young Clothes-moth for a moment. He will not be forced to drag his heavy case over rough hairs and fuzzy wool, hence, he cuts his way through with those keen jaws; thus, the more he travels the more mischief he does.

After taking his fill of this sort of life he changes to a pupa, and soon appears as one of those delicate, tiny, but richly variegated moths that fly in such numbers from early spring until the fall. Very many do not recognize these moths in their perfect stage, so small are they, and vent their wrath on those great millers that fly around lamps in warm summer evenings. It need scarcely be said that these large millers are utterly guiltless of any attempts on our wardrobes; they expend their attacks in a more open form on our gardens and orchards. The Clothes-moths begin to fly in May, and last all through the season, fluttering with a noiseless, stealthy flight in our apartments, and laying their eggs in our woollens.

Strawberry Worms.

WE have lately received from Mr. Charles Arnold, the well-known horticulturist of Paris, Ontario, some specimens of strawberry plants, which are considerably affected by two small worms or grubs. He writes as follows:—"I now send you a portion of a strawberry plant containing at least one species of insect that is injuring the plants in this neighbourhood. In dissecting the root, you may find several little worms, two of the more mature ones having already made their escape. As they approach maturity, they become red in colour, and are very quick in motion."

On examining the plants sent, we found two very different kinds of worms; one is white, with *six* legs, and is the larva of a beetle; the other is reddish, with *sixteen* legs, and is the larva of a moth. The former is slow and inactive in its movements, while the latter is very active, and makes good use of its ten additional legs. It is very difficult, indeed, to determine with any degree of certainty the name of the genus and species of an insect merely from an examination of a *minute* larva, unless one happens to be well acquainted with the kind in question; to make a determination without some such special acquaintance with the particular specimen, is out of the power of most entomologists. We shall not, then, presume to affix a name to the two tiny worms before us, but shall be content to wait till they become developed into their perfect forms, provided we are so fortunate as to succeed in rearing them.

The larva of the beetle—it may be of the small black beetle sent us by Mr. Arnold some months ago, and which was described as infesting strawberry plants, (CANADA FARMER, Aug. 1, 1867, p. 238)—is about one-fifth of an inch long, and a third as broad; the body is white, and very much wrinkled; the head is amber colour, with darker mouth and jaws; the three pair of feet are claw-shaped, slender, and almost transparent, the tips of the two front pairs being black. It had burrowed into the fleshy root of the strawberry plant to a considerable extent, and would no doubt ultimately kill it. Until something further is known about its economy and habits, it is almost impossible to suggest a remedy, except that of pulling up and burning any plants that are found to be affected by it.

The larva of the moth is nearly a quarter of an inch long, and much more slender than that of the beetle; the whole of the body is semi-transparent, and with the exception of the head and neck, and final segment, which are discoloured with blackish, of a pale reddish colour; on each segment there are a number of tiny warts arranged like those on the larva of the Fall Web-worm (*Hyphantria textor*), and from these proceed some fine scattered hairs; there are eight pairs of legs, arranged in the usual manner, viz., three prehensile pairs near the head, four pairs of pro-legs supporting the middle of the body, and a terminal pair. It is not at all improbable that this caterpillar is a more mature specimen of the one we noticed some time ago (C. F., p. 238) as sent by Mr. Arnold, but from which we have reared nothing as yet. Caterpillars frequently change wonderfully at their last moulting; for instance, the false-caterpillar of the Gooseberry Saw-fly is at first covered all over with shining black tubercles and short hair, which give it a peculiarly speckled appearance, but at its last moult it comes out smooth and pale green, except at either end, where it is bright yellow—as different as possible from its former aspect.

Mr. Arnold appears unfortunate in the peculiar foes of his strawberry plants; besides those he complains of, there are others also that frequently commit great havoc among the beds of this delicious fruit. The well-known fat white grub of the common cock-chafer frequently destroys the roots of whole beds; at other times the roots are attacked by a "Thousand-legged worm," (*Polydesmus*) which, by the way, can be destroyed with hot water; and the larvæ of a Saw-fly (*Emphytus maculatus*) devour the leaves in some parts of the Western States. And then, when the fruit becomes ripe, snails, and slugs, and toads, and birds, come and eat their share—often more than their share—and the poor gardener, amongst them all, has hard work to secure a proper return for his time and toil.

Patent Method of Preserving Meat.

To the Editor of THE CANADA FARMER:

SIR.—I see by an extract taken from the *Medical Times*, (London, England) inserted in your impression of the 16th September last mention is therein made of Messrs Medlock and Bailey's patent process for the preservation of meat using the Bisulphite of lime as the basis

I beg to inform you that I am the patentee for that identical process in the Dominion of Canada, and it was from experiments made by them on meat, turkeys, geese, and chickens, sent by me from Toronto in the fall of 1865 and 66 together with information furnished by me to Messrs Medlock & Bailey of the process I adopted, that those gentlemen were induced to secure Royal Letters Patent in England for the same.

These observations may act as a caution, and prevent any person (through ignorance) from infringing on my patent rights, now held jointly between my son, John Martin Collett, and myself I send you an analytical report from Wentworth Lascelles Scott, which you are at liberty to publish if you think proper. MARTIN COLLETT.
468 Yonge St., Toronto.

Oct. 9th, 1867.

NOTE BY ED. C. F.—We had the opportunity some time since of examining a joint of meat that had been subjected to Mr. Collett's process, and were favorably impressed in regard to its efficacy and feasibility When we inserted the extract referred to by our correspondent, we suspected that the process there mentioned and commended was identical with that of Mr. Collett. We have great pleasure in publishing the following favorable testimony in reference to its merits, from the analytical report of W. L. Scott, Esq., upon this new preserving process, of which Messrs. Medlock & Bailey are the patentees in England, and Mr. Collett for Canada. It is unnecessary to add that Mr. Scott stands high in his profession, and is thoroughly qualified to pronounce an opinion on the subject. He thus certifies:—

"I have carefully examined the standard solution of Bisulphite of Calcium (known commercially as "Bisulphite of Lime"), prepared under Messrs. Medlock and Bailey's Patent, and I find the same to be a limpid fluid of the specific gravity of 1.050 at 60° F. possessing very remarkable antiseptic properties

The Bisulphite of Lime Solution" has been repeatedly analysed by me, both with and without the knowledge of the patentees, but the results have always shown the *entire absence of all foreign salts*, organic matter, or other deleterious substances.

Unlike the generality of commercial antiseptics, the Bisulphite of Lime, as employed in Meldock and Bailey's and Collett's Patent Process, communicates no unpleasant taste or appearance to meat, &c., impregnated therewith, and can therefore be safely used for the preservation of all kinds of animal food, however delicate their structure or flavour may be, while substances so treated, although they remain fresh and sweet for an almost indefinite period, retain their original wholesomeness and nutritive powers unimpaired.

I have experimented very largely with the new preservative, which I find will instantly arrest the "*putrefactive*," "*acetic*," and other fermentations, it being absolutely fatal to all the lower forms of organic life, whether of animal or vegetable origin, and I have much pleasure in certifying it to be the simplest, safest, and most effective means for the "preservation of animal substances" that has yet been brought before the public: this patent being of decided utility to the wealthier classes, and a positive boon to the people at large, may, and possibly at no very distant day, be the means of adding considerably to the food supplies of this country.

Very numerous specimens of flesh, fish, and fowl, preserved by this process (in Great Britain, Canada, and elsewhere), have been subjected by me to rigid chemical and microscopical scrutiny, with unvarying results of a highly satisfactory character.

I consider Messrs. Medlock and Bailey's and Collett's patent process to be capable of a hundred useful applications in the preparation and preservation of food.

(*Signed*) WENTWORTH L. SCOTT

Chemical and Microscopical Analyst; Member and Medallist of the Society of Arts; Author of "Food, its Adulterations and the Methods of Detecting them, &c., &c."

WILD OATS.—A "Subscriber" writing from Huron sends the following enquiry, which we publish without immediate comment, in the hope that some practical farmer will give the desired information.

"Can you, or some one of your numerous correspondents, inform me through the columns of the CANADA FARMER, so that other people may benefit thereby as well as myself, which is the most effectual method of destroying wild oats? As many farms in this vicinity are infested with them, any information on this subject would be thankfully received."

NASAL GLEET.—Ira Fulford, of Teeswater, Co. Bruce, writes as follows I have a five year old horse troubled with nasal gleet, or what I take to be such from a description of that disease given in THE CANADA FARMER of June 1st, 1867. I wish to enquire through your journal if there is a veterinary surgeon within fifty miles of this place, or even one hundred, that I could apply to? I also wish to ask if this disease is contagious, and if it is anything like glanders? My horse is in fine condition, eats well, and has no appearance of disease, except an occasional discharge from the nose and a slight cough."

NOTE BY ED. C. F.—Mr. Wm. Elliott, a graduate of the Toronto Veterinary School, is located in Elora, and practising his profession in that neighbourhood; and Mr John Coates, another graduate, resides in Stratford. Nasal gleet is not a contagious disease, and the mucous membrane of the nose does not present the ulcerative patches characteristic of glanders. We have already described the symptoms of nasal gleet in a previous number.

The Canada Farmer.

TORONTO, CANADA, OCT. 15, 1867.

New York State Fair.

A NEW YORK State Fair, held at Buffalo, is very like a Canadian Provincial Exhibition held at London or Kingston. The point is an extreme, and to many, therefore, an inconvenient one; but, as with us, local reasons and influences appear to demand that the Annual Show should be held at other places besides those which are central. Hence the present year Buffalo became the place of rendezvous. A tract of land, of about seventy acres, known as the Cold Spring Trotting Course, and situated on Erie Street, about two and a half miles from the Liberty Pole, was chosen for the Fair ground, and on it temporary buildings were put up, there being none on the spot that could be turned to account. Seven exhibition halls were built, and so located as to form an arc of a circle. These were severally designated "Mechanics' Hall," "Dairy Hall," "Stove Hall," "Vegetable Hall," "Floral Hall," "Domestic Hall," and "Carriage Hall." Besides these "Halls" devoted to Exhibition purposes, there was a "Hall" put to a very different use, "Dining Hall," a society institution, where the officers, guests, judges and employees were supplied with refreshments. A similar building adjoined this, and was appropriated to the supply of the general public. Horse stalls to the number of 250, cattle stalls of a like number, all arranged for giving a side view of the animals; 150 sheep pens, 100 hog pens, and a poultry shed 16 by 150 feet, furnished accommodation for the live stock; while a large feed barn, located near the horse and cattle stalls, held a store of provender. The entries were as follows: Cattle 150; horses, 114, sheep, swine and poultry 361, implements and machinery, 420; grain, seeds, and dairy, 215; domestic manufactures and needle-work, 229; miscellaneous, a large class, embracing paintings, drawings, photographs, silver ware, cutlery, stoves, harness, cabinet ware, upholstery, carriages, hats and furs, safes, sewing machines, arms, musical instruments, and, in short, any articles not enumerated in the premium lists, 726, fruits and flowers 122 The total number of entries was 2,340—not very much more than one half the number entered at our recent Provincial Exhibition at Kingston and scarcely more than one-third the number of entries at our last Provincial show at Toronto. Taking the various classes in their order, as enumerated above, we pay our respects first to the cattle. Not much need be said about them, for with so limited a representation as the entry list shows, no great array could be expected of any one breed. The Alderneys mustered best; and of these there were a number of very fine animals, chiefly from the herd of Mr. W. B. Dinsmore, of Staatsburg, Dutchess county, who is, next to Mr. John Giles, perhaps the most noted Alderney breeder in the United States. The Herefords were also a conspicuous feature in the cattle department. Mr Erastus Corning, Jr., of Albany, is the owner of a fine herd of Herefords, and had several specimens on the ground. Mr. F. W. Stone, of Guelph, was there also, with seven picked animals from his herd of Herefords. Mr. Corning's are larger in frame than Mr. Stone's, but not so neat, fine and compact. If the two herds could be shaken together it would not be amiss, for both comprise really fine samples of this valuable family. A few good Ayrshires were shown; among them an imported bull owned by Mr. James Bradie, Rural Hill. The Short-Horns did not by any means occupy a position in harmony with their importance and rank among cattle. Mr. Ezra Cornell, of Ithaca, had seven specimens, a bull and six females of various ages. The other exhibitors in this class were J. & S. Kinsley, of Darien; John D. Wing, of Maple Shade; Walter Cole, of Batavia; A. R. Conger, of Waldberg, and F. W. Stone, of Guelph. Several of these gentlemen only showed a single animal, Mr. Stone, for example, had only his prize bull, "Grand Duke of Moreton." The Hon. D. Christie was expected with a full array of Short-Horns from his noted herd, but for some reason or other, both he and they failed to put in an appearance. As at the Michigan State Fair this year, so at the New York Show, a single Galloway bull represented that peculiar and valuable breed, and awakened much curiosity. The owner of his New York Gallowayship is Mr. Levi Gillet, of Niagara county Of the Devons, grades, working oxen and fat cattle, there were a few specimens, but among them nothing calling for special mention. In class number two, the best display by all odds was that of carriage horses and roadsters. Some very beautiful teams were on the ground; among them, the splendid pair owned by Mr. J. M. Davis, of Richmond Hill, Ontario, and two span all the way from Chicago. There were also some good specimens of general purpose horses—beasts of all work—a class in the breeding of which our American cousins excel. Some fine stallions and two or three excellent brood mares were also on the ground. On the whole, however, the horse department of the Exhibition was meagre, if we take into account the tastes and predilections of Americans in this direction. The display of sheep was a very creditable one, not so disproportionate as is usual across the lines, through the preponderance of Merinoes, which were, however, very well represented, while there was a better sprinkling of long-wooled varieties. Mr. John D. Wing, of Maple Shade Farm, Washington Hollow, Dutchess County, had some very fine Cotswolds on the ground, among them the ram "Golden Fleece," of which an engraving appeared not long since in the CANADA FARMER. Messrs. Stone, of Guelph, and Snell, of Edmonton, maintained the

reputation of Canadian flockmasters by showing a *goodly array of Cotswolds, South Downs, &c., and* by carrying off numerous prizes. The Merinoes were divided into two classes, and described as "Merinoes bred for form of body," and Merinoes bred for weight of fleece, a singular arrangement surely. Perhaps, however, it was an innocent device for multiplying premiums in favor of this breed of sheep, so much be-petted by our American neighbours. Among them were shown a lot of Silesian Merinoes, seventeen of them imported animals, owned by Mr. W. Chamberlain, of Red Hook, Dutchess county, and considered by him to yield finer wool, and to possess better form of body than the American Merinoes—positions that would be stoutly resisted by the Vermont sheep-men. One exhibitor showed the Merino ram "Kilpatrick," and proclaimed, both by placard and word of mouth, that he had refused $12,000 for him! A clear case of lunacy—for either he must have imagined the offer, or been stark mad not to take it. Each recurring Exhibition in the United States affords evidence that our nighbours are abandoning the folly of breeding Merinoes exclusively, and are fast finding out *the merits of other breeds, alike for wool and* meat. Taking the stock as a whole, the pigs carried off the palm. There was a very fine display of porkers, chiefly of the Yorkshire, Cheshire, and Suffolk varieties. Most of these animals hailed from Jefferson county, which to all appearance must be a paradise for pigs. One Jeffersonian exhibitor had thirty-nine Yorkshires; another, thirty-seven Cheshires; a third, twenty-five Yorkshires; and a fourth, fifty specimens of various breeds. Mr. Dinsmore, of Staatsburg, had some Prince Albert pigs, which looked like extra fine undersized Suffolks; and one or two parties exhibited very fair Berkshires. The show of swine was hardly marred by a single coarse or inferior animal. The poultry show was a very poor one, and comprised very few really good specimens. Among them were two coops of very nice Brahmas; a few excellent grey Dorkings, and some only mediocre Spanish fowls. Two or three Canadian poultry fanciers were in attendance to buy choice specimens, but found none they could not beat all to pieces in their own yards. Implements and machinery always form the most conspicious feature in American exhibitions, and *the recent New York Fair* was no exception to the rule. Most of the staple articles in this class have been so often described in these columns, that it is needless to go over the ground again. It may, however, be mentioned, that mowers and reapers, single and combined, have seldom, if ever, been shown in greater number or of better workmanship. The same is true of some other classes of implements. A few novelties, or articles particularly deserving mention, may be briefly characterized. Among these there was a new style of horse-power, so constructed that the team or single horse always travels on a straight flexible plank instead of narrow slats or rolls, and these planks run on large barrel rollers, giving very great leverage. The pieces of plank are about a foot wide and two feet long, corrugated or grooved so that the animal cannot slip. The friction rollers are four in number, and eighteen inches in diameter. Judging by the operation of two machines on the ground, one a single and the other a two horse-power, we formed a very favourable opinion of this machine. The maker is R. L. Howard, of Buffalo. Two styles of dumping waggons were on the ground, both apparently effective. A waggon of this sort has all the advantages of a cart without its disadvantages, and would prove a great convenience to any farmer. One style is made by L. M. Osborne, Hamilton, N.Y.; the other by N. Clute, Schenectady, N.Y.; and either can be attached to an ordinary waggon at a comparatively small expense. The first is the cheaper of the two. "Austin's Milk Agitator" is a contrivance well worthy the attention of dairymen and proprietors of cheese factories. It is intended to keep milk gently agitated while standing over night. Its cost is $20 per vat. *Grinmon Austin, of Denmark, Lewis* Co., N.Y., is the patentee of this invention. If any of our farmers have a desire to ride while ploughing and harrowing, they can be accommodated. John C. Rogers, of Alden, N. Y., exhibited a "sulky plough," which received the natural, but not very complimentary title of the "lazy man's plough," from the bystanders, and B. Randall, of Adams, N.Y., had a "riding attachment for harrows." Without pronouncing approvingly upon either invention, we beg of those who compl[illegible] farming as terribly hard work to make a [illegible] both. To parody a well-known nursery rhyme, Ride away, ride! the farmer shall ride!" No fewer than seven different styles of potato diggers were on the ground, but in the absence of a field of potatoes to dig, no opinion could be formed of their performance. A flexible harrow of peculiar construction, was shown by Gibson & Inglis, New York Mills, Oneida county. A patent carriage wheel, the spokes consisting of rod iron, rimmed with wood and tired in the usual way, was exhibited by M. L. Smith, of Bergen, Genessee county, New York. Cheapness and freedom from *the risk of the tire ever coming off, are the chief advan*tages claimed for this wheel. A set costs from $18 to $20 American money, ready boxed for use. A vertical milk rack and table, forming a very compact and useful piece of furniture for a dairy, was shown by John McConn, of Lockport, N.Y. Its cost is only $8, United States currency. A patent adjustable tine hay and manure fork attracted much attention. By keeping extra tines and handles, breakages can be remedied without loss of time, a great advantage when work presses. The Montgomery Fork Company, 254 Pearl Street, New York, have this implement for sale.

Class 5, including grain, seeds, and dairy, was very poorly filled. Domestic manufactures and needle-work presented an attractive scene, giving proof of the skill and ingenuity of the fair fingers that had been busy in this department. Class 7, miscellaneous, the largest of all the departments, contained articles "too numerous to mention," still less to describe; but one little contrivance in this class we cannot forbear noticing. It was a "combined carpet stretcher and tack driver," by the use of *which any one can easily strain out and tack down a* carpet. The tacks are driven by a spring hammer, that does its work at the signal given by pulling a string. Sore fingers and aching backs need no longer be the penalty of laying down carpets. $4, American currency, remitted to W. A. Case, Buffalo, will secure this admirable and useful tool. Class 8, fruits and flowers, though not crowded, made "Floral Hall" decidedly attractive. Among the fruits, grapes were most conspicuous, and Hammondsport, N.Y., sent a very large proportion of the samples. Without entering into detail, it may be observed that the display of grapes was all that could be desired, *proving at once the adaptation of this climate to the* vine, and the great interest which is being taken in grape culture.

The usual evening discussions were held during the Fair:

TUESDAY EVENING, Oct. 1.—Has not the culture of the apple occupied as much of our State as is profitable?

WEDNESDAY EVENING, Oct. 2.—Cooking and cutting food for stock—its importance.

THURSDAY EVENING, Oct. 3.—Soiling cattle—is it profitable?

Of these discussions it must suffice for the present *to say that they were for the most part animated and* instructive, and that they formed a very valuable part of the proceedings of the exhibition.

Crop Reports.

WE publish in the present number the harvest returns from those portions of the country north and west of Toronto through which the Grand Trunk Railway passes. This report would have been given in the previous number of this journal had space permitted, but so large a portion of its columns was occupied with matters relating to the Provincial Exhibition that it was found necessary to defer the crop returns till the present issue. Now that they are before the public, their favorable character will perhaps excite some surprise in the minds of those especially who are apt to look on the dark side of things, and who have been prognosticating unfavorably from the long-continued drought by which so large a portion of the country has been affected.

It is to be presumed that the report gives a fair account of the harvest yield in the various sections of country referred to; and summing up all the returns, the following conclusions will be drawn:—The hay crop has been almost universally a bountiful yield; the root crop in the majority of instances a failure, though by no means to the extent that might have been expected; the cereals have been on the whole abundant, with the exception of Fall wheat, which in a considerable, but by no means excessive number of instances, has been very light; Spring wheat has been an average yield; the same may be said of barley; while peas and oats especially have, in a majority of places, been over the average. Rye seems to have been but little sown, but where included among the farm crops appears to have turned out well. Only a limited breadth of flax has been sown, and the reports are of a mixed character, the yield having been in some places below and in others above last year's. Hops, in the few instances mentioned, have mostly yielded well.

If we may take the foregoing as a sample of the harvest throughout the country, there is indeed abundant cause for congratulation and thankfulness, and with the prospect of at least good prices, farmers will in most cases realize a fair return for their labors.

The following tabular view of the Grand Trunk returns will show at a glance the relative productiveness of the principal crops during the past year. The number of places in the list amounts to forty-six, and these of course represent others not specified. Of these forty-six returns we find the various crops reported as follows:—

Crops.	Below average.	Average.	Above average.
Fall wheat	13	21	12
Spring wheat	15	21	10
Barley	9	25	12
Oats	8	18	20
Peas	9	18	19
Roots	26	18	2
Hay	1	5	40

These statistics are extremely valuable, and not only furnish the best means of ascertaining the amount of crops raised, but will point also, in many cases, to the sources of success or failure, and will therefore often indicate the true policy for the future. It is greatly to be desired that such reports were multiplied, and our Agricultural Societies would be turning their opportunities to useful account by collecting and publishing correct information in regard to the crops in their various localities. Isolated reports are comparatively of little account; but multiplied and extended over a large section of country they become of very great value.

Michael Faraday.

CHEMICAL science has become the chief hand-maid of modern agriculture, almost every step in whose progress, of late years, has been connected directly or indirectly with the discoveries or applications of chemistry. The agriculturist has, therefore, a more than ordinary concern in any *important event in the* history of the sister science, and will regard every eminent chemist as a fellow-labourer in whose career he has a special interest. For years no name has been more prominent or more honoured in the annals of chemical philosophy than that of Michael Faraday, one of the most indefatigable, patient and clear-sighted inquirers after truth, endowed with a rare faculty of imparting to others the results of his own investigations and acquirements, and withal one of the most modest and amiable of men. This great and

good man has finished a laborious life, leaving the whole civilized world to deplore his loss and revere his memory. By his own countrymen especially, who have ever been foremost to appreciate genuine worth, the tidings of his death will be received with profound regret.

We have not space for any lengthened account of his life, or record of his discoveries, which were neither few nor unimportant. The following brief notice of his career is taken from the *Mark Lane Express*, and will serve to give some idea of his success and of the high estimation in which he was held both in his own country and on the continent of Europe :—

"The death of Professor Faraday took place on Sunday, August 25th, near Hampton Court. Michael Faraday was born in 1791, in the Parish of Newington, Surrey, and like many others who have illustrated the page of British history, was entirely a self-made man. His father was a smith, and he himself, after a very imperfect education, was apprenticed to a bookbinder named Riebau, in Blandford-street. He obtained admission to the chemical lectures which Sir Humphrey Davy was delivering at the Royal Institution in 1812, and not only attended the lectures, but took copious notes of them, which he re-wrote and sent to Sir Humphrey, begging his assistance in his desire 'to escape from trade and to enter into the service of science.' Sir Humphrey warmly praised the powers shown in the notes of his lectures, and hoped he might be able to meet the writer's wishes. Early in 1813 the opportunity came. The post of assistant in the laboratory in Albemarle-street became vacant, and Sir Humphrey offered it to Faraday, who accepted it with a pleasure which can easily be imagined, and thus commenced, in March 1813, the connexion between Faraday and the Royal Institution, which only terminated with his life. The chair of chemistry was founded at the Royal Institution in 1833, and Faraday was appointed the first professor. In 1835 he was recommended by Lord Melbourne for a pension of £300 a year, in recognition of his great distinction as a discoverer. Oxford conferred upon him an honorary degree upon the first occasion of the meeting of the British Association at the university. He was raised from the position of corresponding member to be one of the eight foreign associates of the Academy of Sciences. He was an officer of the Legion of Honour, and Prussia and Italy decorated him with the crosses of different orders. The Royal Society conferred on him its own medal and the Romford medal. In 1858, the Queen allotted to him a residence at Hampton Court, between which and Albemarle-street he spent the last years of his life, and where he died."

Valuable Importation.

We have great pleasure in learning that the Short Horn bull, "Knight of St. George," purchased by the Hon. D. Christie, from his breeder, Mr. Carr, of Stackhouse, Yorkshire, England, arrived safely at his new home on Monday, 30th September, having come by the steamship Peruvian.

"Knight of St. George" is about six months old. His colour is red and a little white ; he is a fine, large and symmetrical young animal. He is a *pure* Booth bull—we believe the *only* one now in America. His *contour* is exactly that of his illustrious grandsire—Mr. Richard Booth's "Windsor." He was got by "Prince of the Realm" (22627), dam Windsor's Queen, by Windsor (14013), and cost in England 200 guineas. We subjoin his pedigree :—

"Knight of St. George," got by Prince of the Realm (22627) Carr.

Dam Windsor's Queen (Carr) by Windsor (14013) (Booth.)

Dam Wide Awake (Booth) by Royal Buck (10750) (Booth.)

Dam Bonnet (Booth) by Buckingham (3239) (Booth.)

Dam Bliss (Booth) by Leonard (4210) (Booth.)

Dam Young Broughton (Booth) by Young Matchem (2282) (Booth.)

Dam Broughton (Booth) by Jerry (4097) (Booth.)

Dam ——— (Booth) by Young Pilot (497) (Booth.)

Dam ——— (Booth) by Pilot (496) (R. Colling.)

Dam ——— (Booth) by Son of Apollo (36) (Booth.)

His dam, Windsor's Queen, is one of the finest cows in England. Mr. Carr refused for her when a month old 250 guineas, and subsequently 600 guineas. She is a large, symmetrical and substantial cow, and inherits largely the valuable qualities of her sire. She belongs to the "Bliss" tribe of Short Horns at Warlaby. As an illustration of the value of this tribe, we quote from *Bell's Weekly Messenger* of Oct., 1865 : "For Lady of the Valley, when a yearling, Mr. Carr declined an offer of 400 guineas; a similar sum of money for Wide Awake when nine years old; and 250 guineas for Windsor's Queen, Wide Awake's daughter, when a monthling: no less than 1050 guineas for three animals. These we know were *bona fide* offers.

"Windsor (14013), the grandsire of Knight of St. George, was a grand bull—the best of his day in Great Britain. He was ten times exhibited, and took *nine* first prizes and *one* second. At the Yorkshire at Sheffield, in 1852, *first* as a *bull calf*. At the Royal English at Gloucester, *first* as a *yearling*, in 1853; same year at Yorkshire, *first;* also at the North Lancashire, silver medal as best male animal and silver cup offered by Col. Towneley. In 1854 *first* prize at Royal Irish at Armagh; and *first* prize at the Highland Society's Show at Berwick-on-Tweed. In 1855 the *first* at the Royal English Show at Carlisle; and *first* at the Yorkshire at Malton. After the Royal Agricultural meeting at Carlisle, Mr. Booth refused an offer of 1,000 guineas for him from an Australian breeder, who subsequently raised his bid to 1,100 guineas. He was justly styled the Comet of modern times."

We sincerely hope that "Knight of St. George" may realize the expectations formed of him, and that he may be a source of profit to his owner as well as benefit to the country. Our readers may expect an engraving of him at some future day.

Reports of the Harvest of 1867 in the Different Sections of Country through which the Grand Trunk Railway passes.

BUFFALO AND GODERICH DISTRICT.

Goderich.—The area of country contributing to the grain business of Goderich does not extend beyond six or eight miles to the south or south-east, the country beyond being tapped by Clinton and Seaforth, and will be embraced in the report from those stations.

In the area referred to the chief cereals grown are Spring and Fall wheat, of which there has been an abundant yield—the former giving an average of twenty bushels, and the latter of twenty-five bushels per acre. There have also been some oats and barley put down, but not to any extent in this vicinity; while comparatively no root crops have been attempted, excepting for home and farm purposes.

The weather has been all that could be desired, and there is no doubt of the entire crop being harvested in good condition.

Clinton.—The crops in this section of the country are excellent, and more than an average yield. Fall wheat of a superior quality averages from thirty to thirty-five bushels to the acre ; Spring wheat from eighteen to twenty bushels, and of good quality; oats, good quality, averages thirty-five to forty bushels per acre ; barley, peas and other coarse grains are of good quality, and more than average yield.

The root crop is doing well, and will be fully an average crop, but no more. Little or no flax grown in this section.

The weather has been very favourable for securing the grain, and at the present time nearly all the grain is harvested. The crops will give a large yield and better samples this year than for many years previous.

Seaforth.—The weather has been exceedingly favourable for harvesting, and the crops, as a general thing, have been secured, with but little, if any, damage from insects or other causes.

Spring and Fall wheat yield twenty bushels per acre; quality good. Peas yield twenty-five bushels per acre; quality good. Barley yields thirty bushels per acre; quality good. Potatoes and other root crops are an average yield, and quality good. Flax: none grown in this vicinity.

Carronbrooke.—There is a larger breadth of land under crop in this than in any previous season. Fall wheat, of which there is but little raised, was somewhat damaged by the spring frosts, and will not yield as abundantly as expected. The average per acre will not exceed eighteen bushels. Spring wheat will turn out rather better than it did last year, and will probably average fifteen bushels per acre. Oats are good. Peas are also good. Barley not much attended to, but where sown has done well. Root crops will be a fair average. Hay above an average.

Mitchell.—The crops in the vicinity of this station are good, although the early part of the season was rather dry. Fall wheat will average from twenty to twenty-five bushels to the acre. Spring wheat rather more. The yield of peas and oats are very good indeed, at least forty or fifty bushels per acre. Root crops are not quite as good as usual. Corn is not cultivated to any extent. Flax promises well, but is not cultivated much.

Tavistock.—The crops in the vicinity of this station are very good indeed. The averages are as follows :—White wheat, from fifteen to twenty bushels per acre; Spring wheat, from twenty to twenty-five do; barley, from twenty-five to thirty do; peas, from twenty-five to thirty do; oats, an extra crop, from thirty to thirty-five do.

The root crops are not so good as last year, owing to the very dry weather, but of very good quality. Corn, not grown in this vicinity. Flax grown in very large quantities this year, there being a flax mill in operation in this place; the average yield will be, say ten to fifteen bushels per acre.

Bright.—In the country tributary to this station the harvest is generally poor, on account of the late and wet spring at seeding time, followed by excessive heat, turning into drought, which affected all grains, no crops in particular. In addition, fall wheat has suffered from midge. The only exception are peas, which are a good crop, over average.

Fall wheat is only half a crop. Spring wheat is a very light crop, below average. Barley light, only half a crop. Oats the same.

Hay an average crop. Of flax there is little sown in this vicinity and this is short, not higher than a foot.

Drumbo.—Harvest weather has been unusually fine, grains of all kinds and hay having been secured without injury from rain. Fall wheat is the staple crop in this vicinity, and was largely sown, but is a light crop, averaging about fifteen bushels per acre, but the quality is superior to that of former years. Spring wheat was also largely sown, but will not be an average crop, yielding from nine to ten bushels per acre.

Barley extensively sown, and will be an average crop.

A great deal of peas and oats sown—the former an excellent crop, the latter middling, will average about forty bushels per acre.

Flax short and generally light. Coated seed good; about 900 acres sown.

Hay an excellent crop. Turnips affected by drought, but improved by late rains ; and if the weather continues favourable will be an average crop. Carrots and mangold wurtzel good, but not much of either.

Potatoes light, very small, but quality good.

Paris—Fall wheat extensively cultivated, and is a good average crop ; some farmers complain of injury by the midge ; but on the whole, fall wheat in this vicinity will give a good yield and a fine bright sample.

Spring Wheat is good ; will yield well. A full average crop expected.

Barley—A large breadth of land sown. The crop is good, and a large yield expected; it is thought the sample will be much finer than last year.

Oats, good crop, and will yield well.

Peas not largely cultivated, but will turn out well.

Corn, buckwheat, rye, and flax, not cultivated to any extent, but what there is promises a good yield.

Hay an exceedingly good crop—the best known for years—and well saved.

Root crops promise well, and a large yield expected.

Fruit is very abundant.

In enquiries among the farmers of South Dumfries, Blenheim and Brantford Townships, the general opinion is that it will be the most abundant harvest, in every respect, known for many years.'

Caledonia.—Fall wheat will average about twenty-two bushels per acre.

Spring wheat will average about ten bushels per acre.

Barley will average about 20 bushels per acre.

Oats " " 35 " "

Peas " " 25 " "

Hay is a very large crop this season—considerably over the average of previous years.

Potatoes are not very extensively planted here, and will only be a middling crop.

Turnips and carrots are never much cultivated in this immediate neighbourhood, but what of them are sown will be about an average crop.

Flax is not sown around here.

CANFIELD.—Wheat—Very little fall wheat sown, owing to the unfavourable state of the weather last fall. Sample good; yield fifteen to twenty bushels per acre. Spring wheat rather below an average crop; yield fifteen to twenty bushels per acre. Large breadth of barley sown; but, owing to drought straw will be very short; still the yield will be a fair average, *say twenty to twenty-five bushels per acre.* Oats good; thirty to thirty-five bushels per acre. Peas only an average crop; varying in yield as regards early or late sowing, twenty to thirty bushels per acre. Rye good; thirty to thirty-five bushels per acre. Hay in new seeded meadows good; on old meadows light. Potatoes and roots generally will be a very poor yield for want of rain.

DUNVILLE.—Fall wheat (but little sown) will average about twenty bushels to the acre. Spring wheat will yield from eighteen to twenty bushels. There is a good crop of barley, which will yield, say, twenty-five bushels per acre. Oats, a very good crop, averaging thirty-five bushels. The root crops are good; potatoes yielding forty bushels and turnips eighty bushels per acre.

FORT ERIE.—Fall wheat a good average crop, twenty bushels to the acre. Spring wheat very poor, owing to the drought; all spring crops are light. Oats turn out an average crop. Barley and peas also light. Hay crop good. No rye or corn sown here. Roots: Potatoes only a very poor crop, owing to the drought; turnips not much sown here.

WESTERN DISTRICT.

DETROIT.—Wheat, barley, rye, and oats are considerably above an average in the Western States As far as the crop of corn is concerned, there is no decided opinion given; some think that it may be nearly an average, while others think it must fall far short, owing to the excessive drought.

UTICA.—Fall wheat plump and good: average, twelve bushels per acre. Spring wheat, none sown. Rye good; average, ten bushels per acre. Barley an average crop. Corn an average crop. Peas a light crop. Oats good: average, thirty-five bushels per acre. Buckwheat late; will likely be poor. Potatoes and root crops of all kinds poor. Hay an excellent crop. Flax, none sown. Fruit crop good.

MOUNT CLEMENS.—Fall wheat per acre: average twenty bushels; quality good. Spring wheat; fifteen bushels; quality good. Oats, thirty bushels; quality good. Barley, twenty-five bushels; quality good. Coarse grains of all kinds under an average crop. Root crops, from present appearances, an average crop. Fruit of all kinds an average crop. Flax; none raised here.

SMITH'S CREEK.—The crops generally in this vicinity are over an average yield. Fall wheat is a fair crop, but not as good as was expected. Spring wheat is over an average crop, as likewise oats, corn, buckwheat. Roots are a fair crop; potatoes very good; flax is very little grown here. Fruit of all kinds is a good yield. Apples very plentiful.

PORT HURON.—Fall wheat, very little grown; but what has been sown will yield a full average crop. Spring wheat, good average. Oats, more than an average. Corn, over an average crop. Buckwheat, barley, and peas are excellent, and likely to turn out well. Hay, very heavy crop this year, and generally well saved. Root crops have an excellent appearance, and at present admit the anticipation of a large yield. Flax, none grown in this vicinity.

SARNIA.—Fall wheat: the greater part destroyed by midge; that portion uninjured is very good. Spring wheat: the yield will be an average crop; some samples shown gave sixty-five pounds to the bushel—well saved, and fine berry. Oats: there will be a fine crop in every respect. No rye grown. Barley fully the average yield. Peas: quality very nice; the crop will be above the average. Hay will be very abundant. Clover, a good crop, and a good second crop secured. Roots of all descriptions good, and above an average yield.

FOREST.—Fall wheat a poor crop; little sown; will average ten bushels to the acre.

Spring wheat will average fifteen bushels to the acre.

Coarse grains good; not much threshed yet.

Root crops poor.

Potatoes an average crop and sound.

No flax in this neighbourhood.

WIDDER.—Fall wheat, the great staple heretofore in this section, has this year proved almost a total failure, owing to the ravages of the midge; the yield will not exceed seven bushels to the acre. That variety known as midge-proof has turned out very well, and averages about twenty-five bushels to the acre. The quantity sown is, however, limited; and what there is will be in demand for seeding purposes.

Spring wheat is about an average; not much raised in this section.

Peas are unusually good, and there will no doubt, be a considerable shipment.

Barley has been well harvested; there has not been so much sown in proportion to other seasons. It will be an average yield.

Oats are unusually heavy, and are being harvested in good order.

Corn is a full crop; there is a larger quantity than usual sown.

Root crops have progressed favourably so far, but *the continued drought is beginning to injure them,* and the yield will be much diminished.

Flax and rye are not raised in this section.

AILSA CRAIG.—Fall wheat, owing to the ravages of the midge, is almost a total failure, with the exception of midge-proof, which will average from ten to twelve bushels per acre.

Spring wheat, about the same

Barley, an average crop.

Oats, a splendid yield.

Potatoes and turnips, owing to the extreme dryness of the season, will be rather a small crop, but there is no sign of potato disease in this vicinity.

PARK HILL.—Fall wheat—white fall is almost totally destroyed by the midge, in some instances not yielding more than four bushels to the acre. Midge-proof is good—yield above the general average.

Spring wheat excellent—will average nearly fifteen bushels per acre.

Oats and Barley good.

Peas, a little thin on the ground, but a fair average crop.

Potatoes, very fine crops, though it is feared there are symptoms of rot.

Turnips promise well. No flax in this vicinity.

LUCAN.—Fall wheat, poor crop, damaged by weevil, sample only middling; yield average twelve bushels per acre. Midge-proof wheat very good both in yield and sample; average, about eighteen bushels per acre.

Spring wheat, middling crop, well saved and sample good; yield about fifteen bushels per acre.

Barley, *not much sown this season,* average sample; yield, about twenty-five bushels per acre.

Peas, good; average forty bushels per acre.

Turnips good, but yield small, on account of the dry season.

Flax—none in the vicinity.

Hay—crop large and well saved.

GRANTON.—Fall wheat in this section of country is but very little sown, and with those who have any is comparatively speaking a failure; the yield will not on an average exceed ten or twelve bushels per acre.

Spring wheat, although somewhat short in the straw, is a very fair crop, and will average from twenty to twenty-five bushels. The quantity of this grain sown is large.

Oats and barley are good, and will go from thirty to forty bushels per acre.

Peas are also good.

Of flax there is but very little sown.

Potatoes and turnips, considering the great continuance of dry weather throughout the summer, are good, and there is reason to believe will be at least an average crop. All kinds of grain have been saved in excellent condition; and with the exception of fall wheat, the sample will be better than that of last year. The shipments of grain from this station for the coming autumn and winter, will be about one hundred thousand bushels.

THORNDALE.—Fall wheat, crop a failure; little sown; yield average, about four to ten bushels per acre. Spring wheat, fine crop; plump grain, average yield seventeen bushels per acre. Peas very good, about thirty-five bushels per acre. Oats, splendid crop; will average thirty-five bushels per acre. Barley, excellent yield, forty to forty-five bushels. Flax, none raised. Hops, numerous yards; fair yield. Potatoes good, but below the average yield. Other root crops looking well.

LONDON.—All cereals this year in Middlesex, Westminster and Elgin, have been good, viz., fall and spring wheat, the former about an average, the latter in yield not better than last, but in quality far superior. Barley better than last; sample good. Peas, a full average; double the quantity was sown this year. Oats, the crop will be very large. Hay, abundant and well saved. Farmers never had a better year for cutting and housing their produce; fine weather the whole time. Flax, good; not much sown in this neighbourhood, principally in Elgin. Apples will be very plentiful. Grapes, very fine, double the quantity in the market to what there was last year. Potatoes—the early crop very good; late ones will not be equal to last year's yield. Turnips improving and likely to be good.

ST. MARY'S.—The crops in this locality will be fully up to the average of the more favourable of past years, and far exceeding the crops of 1866 in quantity and quality. Fall wheat, very good sample; yield very abundant, except in some few fields injured by midge; it was harvested in splendid order. Spring wheat, a much heavier crop than last year; rather short in the straw, from want of rain. The prospects of its being housed in a good, dry condition, are excellent. Flax—this article is fast becoming a leading staple in the neighbourhood. The crop is very fine. The dry weather during harvest will have a most favorable effect on the quality of the seed. There will be none of the sand and earth mixed with the seed, as was the case last year. *Potatoes and other root crops suffering for want of rain.*

STRATFORD.—Fall wheat partially a failure in the immediate vicinity; will not be more than three-fourths of an average. Spring wheat is about an average crop near here, while further north both spring and fall wheat are about an average. Every description of coarse grain a very heavy crop; will considerably exceed the average. Root crops are doing exceedingly well, and have not suffered from want of rain so severely as the grain crops. There is a considerable extent of flax cultivated in this district, and the crop has succeeded tolerably well. The general summary is, that in the immediate neighbourhood of Stratford fall wheat is particularly a failure, and spring wheat an average, while a little further north both crops are heavy. Coarse grains and roots are a great crop in all sections.

SHAKESPEARE.—Very little fall wheat has been sown in this vicinity, but what there is, is a good average crop. Spring wheat is an average crop and of very good quality; all coarse grains are good. Roots, with the exception of potatoes, will be a good crop. Flax: very little sown, what there is, is good.

HAMBURG.—Fall wheat is over the average crop, plump and good; the quality never was better; free from damage of any kind. The quantity sown is not nearly so large as of spring wheat. In the immediate vicinity of Hamburg the spring wheat is light in straw, but the quality is good and free from damage. There will not be an average crop. A few miles from here, both north and south, it is much better, and will be over the average and a good quality. Peas, *oats and barley have suffered by the dry season.* In the immediate neighborhood of this station, although light, the quality is good. A few miles from here, both north and south, they are excellent in quantity and quality. Flax is considered a good average crop. Potatoes will be a very small yield, but the quality is good. The late rain has very much improved the other root crops, and they are promising well.

BADEN.—Fall wheat is more than an average crop both as to quantity and quality. Spring wheat is not of so good a yield as to quantity, but the quality is very fine. Peas, oats, and barley, are very fine, and all these crops were never better saved. Root crops are good with the exception of potatoes, which are expected to be rather small as to size. Flax is somewhat shorter than usual.

PETERSBURG.—Wheat will far surpass last year in yield. It is expected there will be about twenty bushels spring and twenty-two bushels fall wheat per acre. Coarse grains and roots will not be so abundant as previous year, on account of the drought. Flax is being more extensively grown, and is considered a good average crop.

BERLIN.—Fall wheat: the quality of all kinds of Fall wheat is excellent, and from twenty to twenty-five bushels to the acre. The yield of midge-proof is a full crop, of white only half a crop. Spring wheat is also of excellent quality, but, being very thin, is hardly an average crop. Oats and barley good, but not an average crop. Flax: thick but short, and therefore not an average crop. Root crops: very poor; *the dry weather has terribly affected them.* This calculation is made only for the county of Waterloo. In the counties back of this the crops are not only excellent in quality, but full crops, provided they are well secured.

BRESLAU.—Fall and Spring wheat is a good average crop, and of good quality. Coarse grains and roots poor, owing to the dry weather. Flax, also, is short, owing to the same cause.

GUELPH.—Fall wheat is a good average crop, not having suffered from winter killing so much as of late years. Several instances have come to notice lately, in which it has turned out at the rate of thirty bushels per acre. Spring wheat is a lighter crop than usual, owing to the wet and late spring, and drought directly afterwards, although the berry is of good quality, and may turn out better than expected. Peas, barley, and oats, are generally good, although the latter crop (oats) has suffered in this neighbourhood considerably by rust, which is rather unusual. Flax has increased largely as a crop this season, *through the townships north of Guelph,* and will be an average crop. Root crops have suffered in some localities by the dry season, and are not so forward as at this time last year; but still there is prospect for even an average crop of these esculents, with the present showers. Hay is an excellent crop throughout this section of country, and got in in excellent order.

ROCKWOOD.—Fall wheat is an average crop; about

twenty-five bushels per acre. Spring do, about fifteen to twenty bushels per acre.

Coarse grains—Oats about thirty bushels per acre; peas about twenty do; barley about twenty do. The root crop looks well, and may turn out an average crop. No flax grown around here.

Acton West.—Fall wheat good, and will average about twenty-two bushels to the acre. Spring wheat will not exceed a third, owing to the severe drought. Coarse grains and root crops will be short from the same cause. Hay is an extra crop, and well saved. No flax grown in this vicinity.

Limehouse.—Fall wheat is a fair average crop, say about twenty-two bushels per acre, of a good quality; the kind mostly sown this year was the "midge-proof." Spring wheat is very poor, both in quantity and quality, and will not average above ten bushels per acre. Very little barley sown; what there is is a poor crop. Oats is a middling good crop. Peas, a small crop. No flax sown here. Potatoes promise to be a poor crop. Turnips are growing fast, and promise to be a fair crop; there was a very good crop of hay, and well got in.

Georgetown.—Fall wheat has turned out exceedingly well. Quite a large breadth was sown, which almost entirely escaped the midge, and harvested in excellent condition. Owing to the absence of rain during June and July, Spring wheat will not reach the average of former years. The same may be said of oats. Barley and peas will give a fair average return. Flax (of which a good deal is grown here) will not come up to the crop of last year, the growth being seriously retarded by the drought already alluded to. Root crops promise very well. The cultivation of hops was introduced here a couple of years since. The result so far has been very good.

Norval.—The crop in this vicinity is the best that has been harvested for several years. All kinds of grain yield well, being free from midge and rust. Fall wheat yields from twenty-five to twenty-eight bushels per acre. Spring wheat will average twenty-two bushels per acre, and coarse grains will turn out well. Root crops will be very light in this section, owing to the scarcity of rain. Hay on new meadows is good; on old meadows it is very light.

Brampton.—Fall wheat over an average; Spring wheat an average. Peas good; barley and oats very fair: hay light. Root crops rather backward, owing to so much dry weather.

Malton.—Fall wheat is an excellent crop. On account of the ravages of the midge for the last few years, the midge-proof variety has been principally sown, which does not yield so much to the acre as the kinds which were raised before the appearance of the midge. The grain this year is full and plump, and will yield from twenty to twenty-five bushels per acre. Barley will weigh well, and may be reckoned at thirty-five bushels per acre. Peas not as good a crop as usual, on account of the dry season; not much straw; and though the vines are well covered with pods, the grain is small, and will not turn out above twenty-five bushels per acre. Oats an average crop, viz.: about thirty-five bushels. Root crops not half an average yield, caused by want of rain. Flax will also turn out badly for same reason. Potatoes will yield very little, not more than fifty bushels to the acre, the vines being withered up by the excessive heat and drought of the past few weeks. Hay has been a good crop, and was saved in excellent order. Apples, the principal fruit crop in this neighbourhood, will yield about one-fourth less than an average.

Weston.—Fall wheat—what there is—is good both in quantity and quality. Spring wheat rather light. Coarse grains, medium crop. Root crop generally poor on account of drought. Flax very good, what little there has been sown. The drought, in general, has been the cause of light crops about here.

Carleton.—Fall wheat very good, as is also Spring wheat. Coarse grain is not so good, but will be near an average crop. The root crop is bad in consequence of there not being enough rain in the early part of the season. No flax sown in this vicinity.

Toronto.—Fall wheat, housed in good condition, is a good crop, mostly midge-proof, this variety having been generally substituted for Soules' and others that are frequently liable to damage by insects; not very widely sown; average yield, twenty bushels per acre. Spring wheat, a fair crop, suffered for want of rain as did all spring crops in this vicinity. The grain is plump and good, average yield fifteen bushels per acre. Barley, very superior in quality, but lacking in quantity; it was not so widely sown as last year, and the weather was too dry; there will be a falling off of one million of bushels on the shipments from Lake Ontario ports as compared with last year; average yield twenty-five bushels per acre. Peas, a very fine crop, average yield twenty-five bushels per acre. Oats, a good deal sown, crop short; average yield forty bushels per acre. Flax, not much sown here. Potatoes suffered from drought; turnips partially destroyed by the fly.

Fall Exhibtions.

We publish as we have received them, brief notices of the County Agicultural Exhibitions in various parts of the country. Of some we have not seen any account, and many yet remain to be held. We shall, as far as possible, refer to others as they come under our notice.

Simcoe (North).—The fall exhibition of the Agricultural Association of this riding took place here yesterday (Thursday, the 3rd), and was, besides being in many respects an improvement on last year's show, better attended. The horned cattle, horses, sheep and pigs, were really a credit to their exhibitors, as were also the few implements exposed. The specimens of roots, fruit, &c., though not numerous, were the best we ever saw shown in Barrie. In the department for manufactures the display was meagre in the extreme—there appearing to be almost a studied or premeditated determination on the part of our local artizans not to let the world of North Simcoe witness their handicraft.—*Barrie Examiner.*

Simcoe (South).—The fall show of the Agricultural Society of the south riding of this county took place at Bradford, on Tuesday and Wednesday of this week, and was, as usual, a very creditable affair—the various departments being very well filled, and the attendance good.—*Barrie Examiner.*

Wentworth and Hamilton Show.—The united exhibition of the county of Wentworth and Hamilton Societies was held at Hamilton, on Tuesday and Wednesday, the 8th and 9th Oct., and was on the whole successful as regards the articles exhibited, though the weather was extremely unfavorable for visitors. The detailed account of the exhibition reached us too late for any lengthened notice in the present issue, but we hope to give a fuller description in our next.

York Township Show.—The annual show of the York Township Agricultural Society took place in Yorkville on Thursday, the 10th., a most unfavorable day. The attendance was, in consequence, small, but the exhibition itself, though not extensive, was creditable. There was a fair display of good stock, and, taking the season into account, a very good collection of field products and fruits, as well as garden vegetables. It was, perhaps, too late in the year to expect much in the way of flowers, which would have been the most meagre portion of the show but for a collection of greenhouse plants furnished for ornament, and not for competition, by the Hon. D. L. Macpherson.

Wellington (South).—The Fall Exhibition of the South Wellington and Guelph township agricultural societies opened in the drill shed on Wednesday. Owing to the re-institution of the Eramosa and Puslinch local societies—by which the competition of those townships is in a great measure withdrawn—the show was not so large as formerly, though the quality of the articles was in nowise inferior to the exhibition of 1866. The dairy produce was very superior, and some few specimens of butter were of exceeding relish and beauty. Home and factory cheeses were also well represented. The ladies' work attracted general admiration, and a greater variety was exhibited in it than in any other department. The grain and roots were pronounced first-rate, especially the wheat, peas, potatoes, and mangel wurzel. The cabbages and horse carrots were also excellent. The show of woollens was superior to anything we have had in Guelph. There was not a very extensive show of implements. There was a fine show of horses in all classes. The young horses generally were very good, and we think gave evidence that the farmers in this section are now bestowing more care than they formerly did on the rearing of good horses. There was a splendid collection of cattle, large, well-bred, and possessing all the points so highly thought of by breeders. The show of sheep excelled every other department. A long range of pens was occupied with the different classes, and a continuous stream of people kept around them all day. The Leicesters were more numerous than any of the other breeds, and it would be hard to match some of them in any part of Canada.—*Guelph Advertiser.*

The South Riding of Waterloo.—The Annual Exhibition of the South Riding of the County of Waterloo was held at Ayr, on Wednesday, Oct. 2, in the large field at the rear of Mr. John Watson's Foundry. The new Drill Shed was improvised into an Exhibition Room and answered the purpose capitally. The attendance of people was very large, and notwithstanding the premonitory symptoms of a disagreeable day which threatened to spoil the proceedings, the show was a success. The show of sheep was fully up to the mark as respects quality, but in numbers there was a slight falling off. Leicesters showed a large increase, there being 104 entries against 81 last year; Merinoes, 50 against 46 last year; and Southdowns 34 against 38 last year—in all 214 entries against 218 in the show of 1866. In cattle also there was a slight decrease—112 entries against 125 last year—but the stock was splendid. The show of horses was the largest, and excelled that of any former exhibition. 239 entries were recorded, and good judges affirm that such a display has seldom been seen in Canada. In Agricultural Implements the Ayr Foundry perfectly overwhelmed all competitors with the number of articles exhibited from it. Mr. Watson's name was entered for something over 33 articles in this department. The management of the Exhibition reflects much credit on the Directors, Secretary and Local Committee of Ayr, who worked most industriously to secure its success.—*Galt Reformer.*

Hastings (South.)—There was a finer show of agricultural implements than at any previous fair. The show of stock was far superior to that of last year in most respects. Of sheep particularly, there was the finest show we have ever seen at any county exhibition. There was also a large variety, comprising Leicesters, Southdowns, Merinoes and common sheep, and it was the opinion of those who were at the provincial exhibition, that some of the Southdowns and Leicesters would have carried off prizes there had they been on exhibition. Of pigs there was also a better show than last year, particularly of young animals. The show of horses was also far ahead of last year, particularly of young animals. We don't remember ever having seen, at our county fair, so fine a collection of two and three year olds as was on the ground to-day. Finely proportioned, well-bred, and having all the "points" which horse fanciers desire, there was the making of a lot of fine roadsters on exhibition amongst the young stock. Of brood mares with colt there was a meagre show. In carriage horses, single and double, there was a fine show; some of the turn-outs would have done credit to large cities like Toronto or Montreal. Of draught horses there were but few on exhibition. Of cattle, the show on the whole was about what it was last year, though in milch cows it was considered a great deal better. Take the stock as a whole, it was an improvement upon the exhibitions of the last two or three years, and we hope we may have the satisfaction of chronicling further improvements in future. In the grain department there was a great variety, and some of the samples were particularly choice. Of cheese there was a great variety, better stamp, quality, and more of it than was ever exhibited at one county fair; but of butter there was but a meagre display. But if it was limited in quantity it was choice in quality. One or two lots of ducks and geese and hens, comprised the show of poultry. It is to be regretted that our principal poultry breeders did not give the society and the public the benefit of their enterprise in improving the breed. The vegetable department was not so large as we have seen it. In the galleries of the skating rink the ladies made a display of their handiwork, in the form of quilts, counterpanes, rugs, worsted and hairwork, and a great variety of other work both useful and ornamental. The fruit department was the crowning feature of the exhibition. The show of apples embraced nearly every variety, and the quantity was treble that of any previous year, while the quality gave evidence of a steady improvement. There was also a large variety of pears, and of grapes, which would have been considered a creditable display at the horticultural exhibitions of Toronto or Hamilton. Of both hot-house and out-door grapes there was a large variety, and the specimens shown produced no little wonderment in the minds of those who were not aware of the extent to which they are grown here. There was a large attendance of visitors during the day to both outside and inside exhibitions, and on the whole the fair may be said to have been successful.—*Belleville Intelligencer.*

Elgin (East).—The fall Exhibition was held on Tuesday, the first inst. The day was fine—very favourable to the business which brought several hundreds—probably a thousand—from their homes to the show grounds. In this respect there was no falling off, and, we might add with safety, that there was no falling off in the general merit or quality of the animals and articles entered for competition; but there was a decided falling off in the number of entries made in almost every class of the prize list. Of mares, carriage horses, horses for general purposes, draught horses, buggy horses, saddle horses, &c., there were little more than half the number of entries made last year. In thorough-breds there was also a slight decline. In grade cattle there was also a decided falling off, and especially in the younger animals. This was attributed to the adverse season. It was so dry, that it is only in a few instances that animals look like themselves. In fat cattle, however, good as the show was last year, this

was far superior. The show of Leicesters was very fair, although the animals were not in such good condition as they were last year. There were no Merinoes, and but two or three Cotswolds. In hogs of large breed there was a decided improvement, both in the numbers exhibited and in the quality. In the small breeds the show stood very much as it did at the previous fall exhibition. In grains of all kinds the show came up to that of last year in quantity, and surpassed it in quality. The same may be remarked of roots and vegetables of all kinds. The fruit was better this year also—pears and peaches being well represented, while last year we had none. Of farming implements the ground was very bare in home-made manufactures and ladies' handiwork the exhibition was rather barren.—*St Thomas Home Journal.*

North Riding of Oxford Agricultural Exhibition.—Mr. R. W. Sawtell sends us the following account: "Very great success has attended our Township Shows throughout, and the North Riding Exhibition in particular. The Show lasted only one day, and the whole town was literally crammed. It is computed that 4,000 visitors were in town, and that 3,000 were on the fair grounds at one time. There were entered, 191 horses, 120 sheep, 500 bshls. of grain, 80 cheeses, 18 packages of packed butter, and 28 specimens of table butter; also, large displays of fruit and ladies' work. All appeared well pleased with the day's proceedings, and not a disorderly case or accident occurred during the day."

Perth.—Yesterday (Thursday, the 3rd) was the first day of the annual fall exhibition of the County Agricultural Society, and as usual the spacious Town Hall was filled with the various articles entered for exhibition—the show of cattle, agrioultural implements, &c., not taking place until to-day. On entering the hall, the visitor could not fail to have his attention attracted to the magnificent display of fruit, which completely filled two tables placed longitudinally, and was by far the best evidence of horticultural skill ever before put forth in the county. Contrasted with the growth of ten years ago, when Perth could boast of little more than a few apples and wild plums, the specimens of cultivated fruits on exhibition were a cheering indication of the capabilities of this county in horticulture as well as in agriculture. There were other proofs of advance, such as millinery goods, fancy work, photographs, and many other things which we have not time now to enumerate. Home manufactures were about the average; but we hope before many years to see a good exhibition of factory-made goods. There were some very fine factory cheeses on view, and the bread and butter, honey, &c., were of the first quality. Considering the season, the garden stuffs and field roots showed well.—*Stratford Beacon.*

Middlesex (West)—The annual fall fair of the West Middlesex Agricultural Society took place on Thursday, the 3rd, on the society's grounds at Strathroy. The weather was delightfully cool and pleasant. The attendance evinced great interest in agricultural matters, between 3,000 and 4,000 persons being upon the ground. The show of horses was pretty large, but not anything extraordinary in quality. One or two fine teams, several young and aged stallions, and a few likely colts, made up the display. Cattle were largely exhibited and Pincombe's fine herd of Devons was much admired. No Durhams of any consequence shown. A noticeable feature, as showing the comparative newness of a portion of that district, were the numerous yokes of fine oxen exhibited. One or two Galloways were worthy of mention. The sheep, mostly Leicesters, were ahead of those shown last year both in quality and numbers. The swine good; poultry very fair. In fruit, the display of apples, plums, peaches, pears, grapes, melons, &c., was very fine. The roots will compare with any we have seen this year. The dairy and home department was excellent. The ladies' department was very meagre and nothing to compare with last year's. On the whole, the show was spirited and successful, and probably not inferior to any ever held under the auspices of the society.—*London Free Press.*

Ontario (South).—The show of wheat, barley, peas and all kinds of grain, was such as to afford ample proof of the industry of our yeomanry, the quality of the soil and climate being well adapted for agricultural purposes. There was also a good show of well cultivated roots. A better quality of potatoes, turnips, beets and carrots has seldom been presented, and the cabbage, kale and cauliflowers were of superior quality. The array of fine apples, well suited for the various seasons of the year, and of pears, plums and grapes, was of the most inviting kind and quality. The cheering advancement in manufacturing articles for home consumption or foreign market, is evinced by the exhibition of a superior quality of cotton and woollen cloths, and a rich variety of flannel and satinetts, woollen blankets, sheets and superior plaids. There was also an excellent display of rag rugs and carpets, and an excellent show of knit and piece-worked counterpanes, equal, if not excelling, anything we have seen on any similar occasion. The quality of butter and cheese cannot be surpassed in any part of our Dominion. The specimens of maple sugar, bees-wax and honey, were excellent. The show of cattle and horses was really superior. It was very encouraging to find the entries comparing favorably with those at the provincial exhibition, and we do not think the stock was at all inferior. The show of implements, &c., was not so good as we could wish to see in this county, but those exhibited were good. It is supposed that not less than ten thousand people were present.—*Whitby Gazette.*

☞ The cattle plague has assumed such formidable dimensions in the province of Girgenti, Palermo, that nearly all the cattle in the district have perished through its ravages.—*Farmer* (Scottish).

☞ The cultivated lands of Australia are increasing rapidly with the encouragement of the steam-plough. Vast reservoirs are being built for irrigation.

☞ Roofing-slates are being exported from Newfoundland to the States, Quebec, and Halifax. Two vessels cleared from Smith's Sound on the 15th and 16th August, with 127,000 slates.

☞ Fires in the woods are doing great damage in Newfoundland. One village in Green Bay has been completely destroyed. Three persons have been convicted of raising fires, and are undergoing punishment.

Chicago Cattle Market.—Parton, in the *Atlantic Monthly*, some time since, described the stock yards near Chicago as "The great bovine city of the world." Two millions of dollars have been expended in fitting up the grounds. About 350 acres are enclosed in cattle pens—150 of them being floored. There have been at times as many as 25,000 cattle, 20,000 to 30,000 sheep, and 75,000 hogs stored in the place at one time.

The Cattle Plague in England.—For the week ending the 24th of August, one fresh outbreak has been reported—viz., at Low Esh, in Durham The diseased animal was killed. There was one healthy animal slaughtered to prevent the spread of the disease. The total number of cattle reported to have been attacked in Great Britain since the commencement of the plague is 278,924, and 56,901 healthy cattle have been slaughtered to prevent the spread of the disease.—*Farmer* (Scottish).

Poisoned Cider.—The death of an agricultural labourer having occurred recently in Herefordshire, England, in consequence of drinking cider, enquiry was made into the circumstance, and it was ascertained that white lead had been used between the staves of the barrels in which the cider had been kept; and this was, no doubt, the cause of the fatal poisoning. "These casks," says the *Farmer* (Scottish), "were some of a lot (200 or 300) consigned for sale from a Liverpool or London cooperage last autumn, and disposed of by auction in Hereford market. They were distributed throughout the county, and the fact throws some light upon the cramps, spasms, nausea and paralysis, that have for some months been disabling a number of labourers in the county. The coroner has summoned the assistance of the farmers of the district and the medical men of Hereford to assist him in trying to avert a wholesale poisoning.

Irish Agriculture.—The exhibition of the Royal Agricultural Society of Ireland, this year, was a great success, the greater because the show was omitted last year on account of the rinderpest. Two hundred and fifty prizes were offered, varying in value from one pound to one hundred and fifty pounds. The most striking feature was the show of horses. The famous Irish horse of tradition had become a sorry object when the society took him in hand, but he is coming up again very fast. There were no less than two hundred and fifty-eight entries. The entries of short-horn cattle were eighty-five; of Herefords, fourteen, of other breeds, about one hundred; of sheep, one hundred and forty-five, and of swine twenty-eight. The show of machinery and farming implements was very large. The society has three objects, to hold three annual shows in the leading Irish towns, to foster local Agricultural Societies, and assist them in the improvement of farming methods and the breed of cattle; to make the dwellings of the farming class and their manner of life more comfortable and pleasant. In this crusade against ignorance, waste and misery, it is doing more to make Ireland a contented, and therefore a quiet country, than all the politicians in London and Dublin.

Union Exhibitions.—The St. Catharines *Journal* urges the formation of union shows in some eligible places in that section of the peninsula. The Grantham Agricultural Society and the St. Catharines Horticultural Society have gone into partnership for the nonce, and will hold an united exhibition at the Town Hall; and as the prize list is on a liberal scale there will be some incentive for exhibitors to do their best. We hope, too, that this beginning will lead the way for a great union show, in which at least the whole county of Lincoln, if not the county of Welland, will be represented. If all the town, township and county shows in the two counties were merged into one, the result would be a display second only to the Provincial Exhibition.

New York State Trial of Agricultural Implements. This trial, comprehending principally implements used in preparing the ground for crops and their after culture, up to the time of harvesting, commenced at the city of Utica, Sept. 11th. So far as we have been able to learn from our exchanges, the interest manifested in the trial, by the farmers of the State, was very limited.

The trial continued through six days, and is reported to have been one of the most thorough ever held in this country. The use of the dynamometer for testing the draft of machines, cost the N. Y. State Agricultural Society $500, and undoubtedly gave the most accurate results ever obtained.

The report of the judges will probably appear some time next month, and will be very complete in all its details.—*Prairie Farmer.*

Fall Exhibition of the Toronto Electoral Division Society. This Show is to take place on Monday, the 21st instant, in the Music Hall of the Mechanics' Institute, instead of on the 15th and 16th of the month, as previously announced. The military occupying the Crystal Palace and grounds, and no other suitable place being available for the purpose, the Society has been compelled to dispense with the show of live stock, and to confine the prize list to fruits, vegetables, grains, roots, dairy products, ladies' work, and the fine arts. The cultivation of grapes has rapidly extended in this city and neighbourhood, both by professionals and amateurs; and as the prize list is so framed as to embrace nearly all the leading varieties, we hope to see a very lively competition in this, and in the other sections of the fruit department; and a large crowd of visitors also, to encourage the Society in its efforts to promote the progress of the various industries to be represented.

Short-horn Sales.—Mr. Snell sends us the following list of recent sales, which we publish for the information of farmers, who should keep track of all the best stock in the country:

"Among my recent sales of Short-horns, are the following: To Messrs. Simpson and Shaw, Darlington, 'Clayton Duke,' calved 22nd Oct., 1866. By Duke of Bourbon, 184, dam Blanche, by Prince of the West, 588. To Mr. A. Watt, Elora, 'Galaxy,' calved 24th Oct, 1866. By Duke of Bourbon, dam Jennie, by Prince of Wales, 378. To Messrs. Graham, Bearman and Dawson, Ottawa, 'Bourbon Baron,' calved 10th November, 1866. By Duke of Bourbon, dam Nina, by Baron Solway, 45. To Mr. John Sharp, Ernestown, 'Bell Duke of Bourbon,' calved 16th November, 1866. By Duke of Bourbon, dam Bessie Bell, by Young England, 822."

Sheep for Michigan.—Mr. A. Babcock has for the last few days been engaged in making purchases from some of the choicest Leicester and Cotswold flocks in this neighbourhood, and recently shipped a car load. The following are some of his purchases we have heard of: From Thomas McCrae, Esq., eight shearling ewes, two ram lambs, and twenty-two ewe lambs; L. Parkinson, Esq., ten shearling ewes; Joseph Parkinson, Esq., one ram lamb—all pure bred Leicester stock. From Evan Macdonald, Esq., two shearling Cotswold ewes, one ram lamb, and two ewe lambs; also from Mr. John Iles, nine ewe lambs, and four ewe lambs from Mr. George Rudd. They make a total of sixty-one sheep. They were purchased for the Hon. Mr. Crapo, Governor of Michigan, and are destined for his farm of 1,000 acres, near Flint, Genessee County, in that State. We may state that the sheep were the pick of the flocks, and high prices were paid for them. This is another proof of the enterprise of the farmers in this section, and shows how profitable it is to keep and raise first-class stock, for they not only fetch better prices at home, but entice parties from a distance to become customers. —*Guelph Herald.*

Amateur Grape Culture.

Not many years ago, few persons thought of attempting grape culture in Canada, excepting under glass; and as ground vineries were then unknown, the trouble and the expense of growing this fruit, especially when artificial heat is employed, deterred from the attempt all but a few, who were either very enthusiastic, or possessed of superfluous wealth to bestow on a favorite undertaking. Recent experience has, however, abundantly proved that the climate of Canada is well adapted for out-door grape growing The extensive experiments at Cooksville and elsewhere, have established this beyond question. Not a few in the neighborhood of these large vineyards have commenced the culture of this fruit either for home consumption or as a means of adding to their resources in the market; and where ordinary judgment, industry and patience have been displayed, the results have been most encouraging. We strongly recommend all farmers living in those sections of the country where there is good reason to expect success, to plant at least a few vines. No plant is more beautiful and ornamental in growth, and no fruit more delicious and wholesome.

We have been surprised and gratified to see, even within the narrow compass of a small city garden, the most bountiful crop of out-door grapes. We visited recently the garden of a gentleman residing in Toronto, and had the pleasure of witnessing the results of his successful enterprise in grape-growing. He commenced some eight or nine years ago, and now the walls of his dwelling-house and every available space of his garden are covered with a most luxuriant and prolific growth of vines. On the west side of the house are two or three vines which have attained a magnificent growth, and cover the whole extent of the wall. These vines and others trained on trellises, mostly on the horizontal plan, have yielded abundantly during the past season. In several instances, we were informed, upwards of a hundred pounds of fruit have been gathered from single vines. This had been ascertained, not like some crop returns, by the *estimated* quantity, but by actual measurement; and from the crowded and luscious clusters that yet remained, it seemed likely that the yield of other vines would be equally abundant. The varieties in greatest force were the Isabella and the Clinton; but other and newer sorts had place in this model garden. If such results can be attained in a small plot of city land, what should hinder the farmer from adding this excellent fruit to the treasures of his homestead? The attention and work required are such that the females of the family might undertake a large portion of the care demanded, and would thus be most fitly employed in contributing to the comfort and attractiveness of their homes.

Meeting of the American Pomological Society.

The *Ohio Farmer* gives the following account of the meeting of the American Pomological Society.

This biennial gathering of the nurserymen and fruit growers of the Union occured this year for the first time on the west side of the Mississippi, at St. Louis, Sept. 11-13. Liberal preparations for the event had been made by the Missouri State Horticultural Society and citizens of St. Louis. The two very large and splendid halls of the Polytechnic Institution were used for the occasion, one devoted to the exhibition of fruits and the other to meetings for discussion, &c.

The display of fruits was pronounced the finest ever witnessed in this country, comprising over two thousand plates or samples—Apples, Pears, Peaches, and Grapes in good proportion, and excellent in quality as well as variety; the peaches and grapes being especially remarkable in quality and excellence.

Among the exhibitors of pears, Marshall P. Wilder, of Boston, President of the Society, had 112 varieties, and Ellwanger and Barry, of Rochester, 50 varieties. Judge Hoadley and others, of Cincinnati, had a large collection, also the Fruit Growers' Society of Southern Illinois. The apples came from a very wide range, embracing half a dozen or more States. The peaches and grapes were mostly from Missouri and Illinois, though many of the newer varieties were from Ohio and farther east. Samples of the new blackberries were exhibited from New Jersey, and autumn-bearing raspberries from Ohio. There was also a large display of native wines under the supervision of the Mississippi Valley Wine Growers' Association.

The number of delegates and members in attendance was about 300, representing twenty or more States of the Union. The chair was occupied by the *venerable Col. M. P. Wilder, of Massachusetts, who has* filled the office of President ever since the organization of the Society, eighteen years ago, and had just returned from Europe in order to be present at this meeting; Mr. Barry, of Rochester, had been his companion of travel, and together they had given attention to the exhibition of American wines at the Paris Exposition, and visited some of the best vineyardists of Europe.

The discussions at this meeting were quite varied and interesting, relating to varieties of fruits, their culture, marketing, &c.; also the difficulties and discouragements of fruit culture, blight, mildew, and other causes of failure. Grapes and grape culture, in this as in other meetings of late, occupied more time than any other topic, in spite of some efforts to the contrary.

Mr. Wm. Saunders, of the National Gardens, Washington, read an interesting essay on rot and mildew in grapes. Mr. A. Fendler, of St. Louis, read a valuable paper on the same subject. Mr. Meehan, editor of the *Gardener's Monthly*, Philadelphia, gave an able treatise on blight in fruit trees; Mr. Dunlap, of Chicago, on packing and transporting fruits; and Dr. Trimble, of New Jersey, on the curculio and codlin moth. The address of President Wilder embraces quite a number of interesting and important topics. Most of these productions were immediately printed, with a full report of the proceedings, in the St. Louis daily papers, and will be included in the volume of transactions, soon to be published for the members of the Society.

Edinburgh Working-Men's Flower Show.

The Third Annual Exhibition of Flowers and Plants grown by the working classes of Edinburgh in windows, back greens, areas, and city garden plots, was held in the Grassmarket Corn Exchange, on Saturday, August 3rd, when the products sent in for competition presented such a marked improvement and increase in numbers over those of the two preceding years as should induce not only the promoters of this philanthropic movement to go on perseveringly in extending a taste for flowers and flower culture among the artizans of the Scottish capital, and their children, but serve to show an example well worthy of imitation in other towns by those who have the means of fostering a love for the instructive, humanizing and elevating pastime of flower-growing among their less opulent neighbours.

Before distributing the numerous awards, the chairman, Mr. Balfour, professor of botany, said he had to congratulate the meeting on this most successful show. The committee had examined the articles sent in for competition, and they had unanimously declared it to be one of the best shows they had seen. This year they had about 100 more competitors than last. The improvement in the keeping of window gardens and areas was quite remarkable. He was delighted to see the working classes taking so much interest in plants. It was natural to man to do so. His existence, as a worker, began in the garden; whether in health or sickness, flowers and plants afforded him a solace and delight. He believed the culture of flowers had a most humanizing influence, and even in the most crowded parts of the city they would spring up; and where they were carefully tended, they could not fail to have an excellent effect upon the temper, conduct and life of those who bestowed on them their care. He hailed this as a most auspicious occasion, and he was delighted to see that the whole collection was remarkably good. Some of the plants here, even those cultivated by Juveniles, were equal to what they would find in the Botanic Garden. The collection of John Heseltine, embracing 200 plants, well grown, delicate in form, and rich in colour, was really wonderful. The window frames were admirable, great taste being shown in the contrast of colour, and in the training of the plants. The committee appointed to visit the areas reported that they were this year greatly improved, all owing to this movement.—*Farmer* (Scottish.)

To Make Superior Cider.

The apples should be ripe, cleaned when picked, and put in a bin and there remain for several days until they become mellow, then ground (not too fine so as to be pulpy), then laid up in a cheese with rye straw, the straw dampened with water. After the cheese is laid up, let it stand about twelve hours before pressing, then press gradually. Put the juice in clean whisky barrels. After the cheese is pressed out, put the barrels containing the cider in a cool place, upon blocks, for working or fermenting; be particular to keep the barrels full while the fermentation is going on. After the fermentation is done—which can be told by a coarse froth on the bung hole, rack or drain off the cider (not disturbing the barrel), and put the barrels containing it in a cellar or cool place; take out the bung and let the cider again work, the barrels to be kept full while working. When done working, again rack off and put in clean barrels as before.

It is necessary to rack three times, repeating the same process; and when the racking and the fermentation is all gone through, the barrels must be put on blocks about six inches from the floor; drain out of each barrel one gallon of cider, and put in the barrel one gallon of St. Cruz rum, and a piece of codfish as big as a medium-sized man's hand; then bung up tight and let it remain for thirty days or longer before using.—R. F. Johnson.

Facts in Fruit Culture.

Dr. Trimble, of Newark, N. J., who has paid great attention to fruit culture, gives the following as his views—the result of many years' experience:—

1. That the most successful way to conquer the curculio is to gather the fruit as it falls and feed to stock to destroy it, as it is by this fallen fruit that the curculio propagates its species.

2. That the fruit of the apple tree can be protected from the apple-tree moth by wrapping around each tree, two or three times, a rope made of straw. The moths will harbor in the rope and can then be destroyed.

3. That the only way to kill the peach-tree borer is to cut him out with a knife, not once only in a season, but to follow him up every two weeks until exterminated. After the first "going over" of an orchard this will be little or no trouble, as each tree can be attended to in two or three minutes.

Pronunciation of Gladiolus.—Mr. Beaton says, that "It may be as well to put you on your guard against a common provincial way some people have of pronouncing the word Gladiolus, by putting the accent or stress on the letter *o*; whereas the true way of uttering the same is as if written Glad-eye-o-lus, putting the accent on the *i*." This warning was given in one of the earliest volumes of the *London Cottage Gardener*, and is now brought up again in evidence against those who adhere to the condemned pronunciation.

Grapes.—The Guelph *Advertiser* says:—Three years ago Mr. Wm. Stevenson, of the Guelph Nursery, planted a very choice assortment of vines, with the intention of introducing them for extensive cultivation throughout the county. He has just gathered in his first crop—a rich and heavy one, that sells readily for 50c per pound. We believe Mr. David Allan and others have planted some vines also, but more for experiment and ornament than for the purpose of raising a marketable crop. We hope our farmers will inquire into the subject, and introduce into their own gardens this important product. Wherever it has been tried throughout the Province it has proved a success.

Strawberries.—The strawberry is occupying more attention in the United States than any other fruit, if we may judge by the number and length of the articles concerning it that appear in the papers. One of these, in the *Advance*, the new religious paper of Chicago, gives the statistics of the crop around that city this last summer, in figures almost incredible for magnitude. In the height of the season, one hundred tons, or 5,000 bushels, were received daily in Chicago, of this delicious fruit! In the New York *Observer*, there is a detailed statement from the Oneida Communists, of Wallingford, Connecticut, showing the results of cultivating nine acres and a quarter in strawberries, four and a quarter of which only bore for the first time. The entire crop averaged one hundred bushels an acre, which they consider a partial failure; and their gross sales amounted to $5,915, at about twenty cents per quart The expenses of cultivation were $1,739, and of harvesting and marketing, $1,875,—leaving a net profit of $2,299, or about $250 per acre. And this was considered a poor crop.

The Household.

CEMENT FOR IVORY, MOTHER-OF-PEARL, ECT.—Dissolve one part of isinglass and two of white glue in thirty of water; strain and evaporate to six parts. Add one-thirtieth part of gum mastic, dissolved in half of one part of alcohol, and one part of white zinc. When required for use, warm and shake up.

WATERPROOF BOOTS.—A correspondent writes that six years' experience has convinced him that a coat of gum copal varnish applied to the soles of boots and shoes, and repeated as it dries until the pores are filled and the surface shines like polished mahogany, will make the soles water-proof, and also cause them to last three times as long as ordinary ones.—*Northwest, Freeport, Ill.*

ACID STAINS.—These may generally be known by reddening black, brown, and violet dyes, and all blue colours except Prussian blue and indigo. Yellow colours are generally rendered paler, except the colour of annato, which becomes orange. These stains are neutralized by alkalies. A spot, for instance, on a woollen coat, from strong vinegar or sulphuric acid, may be entirely removed by applying a solution of saleratus. Apply it cautiously until the acid is exactly neutralized, which may be known by the restoration of colour; and then sponge off the salt thus made by means of a sponge. Ammonia is better for delicate fabrics. Sweet stains are chiefly occasioned by a little muriate of soda and acetic acid, which produce nearly the same effects as acids generally, and are to be removed in the same way, operating cautiously.— *Growcantemn Telegraph.*

THE COST OF LIVING.—On the question of how large a sum may be saved from a small salary, a lady says in an exchange: "My income is $8 per week, which I spend in the following manner: Board and washing, $4 25; church contributions, 25 cents; car fare and books, 50 cents; clothes, $1 50; total, $6 50. The balance, $1 50, I deposit in the bank." A young man gives his experience thus: "My income is $20 a week. My average expenses are, for board and room, $7 60; clothing, $6; billiards, $4 50 (I play a poor game); drinks, $1 50; horse hire, $3; literary, *True Flag* and *Police Gazette*, 10 cents; washing, 25 cents; church contributions, 5 cents; total, $23. For the balance I draw on the old man. My washing bill last year was $48, but as my necessary expenses were so high, I was able to pay only $13 of it, which gives the average of 25 cents a week! I would like to marry, but don't see how I can. The ladies are so extravagant and have so many expensive habits, that I can't support a wife."

WHAT A GOOD WIFE IS WORTH.—A Kentucky farmer furnishes the following evidence of the money value of a wife. The companionship of such a wife was even more precious than her industry and economy:—"I have been farming twenty-two years. The first four years I was unmarried. I began farming with 250 acres, in the Blue-Grass region. I handled cattle, hogs, sheep, and horses—principally the first two named—and lived, I thought, tolerably economically, spent none of the money for tobacco, never betting a cent or dissipating in any way; and yet at the end of four years I had made little or no clear money. I then married a young lady eighteen years of age—one who never had done any house-work or work of any kind, except making a portion of her own clothes. She had never made a shirt, drawers, pants, or waistcoat, or even sewed a stitch on a coat; and yet before we had been married a year she had made for me every one of the articles of clothing named, and knit numbers of pairs of socks for me—yes, and mended divers articles for me, not excepting an old hat or two. She had also made butter, sold eggs, chickens, and other fowls, and vegetables, to the amount of near 600 dols. in cash, at the end of the year; whereas, during the four years that I was single, I never had sold five cents' worth, besides making me purely happy and contented with and at my own home. And as to making money, we have made money clear of expenses every year since we were married, in everything that we have undertaken on the farm, and she has made from 350 to 500 dols. every year except one, during the time, selling butter, eggs, and marketing of different kinds. My yearly expenses for fine clothing, &c., before I was married were more than my yearly expenses were after I was married combined with the expenses of my wife and children, and our farm has increased from 250 to 650 acres; and I believe that if I had not married it would have increased but little, if any; and I have never been absent from home six nights when my wife was at our home, since we were married, and her cheeks kiss as sweetly to me as they did the morning after I was married."

Poetry.

Contentment

ORIGINAL.

With dazzling light the Lord of Day
Kindles the mountain's glittering brow,
And purples o'er with softened ray
The violet in the vale below.

The shower and dew of Heaven are shed,
Like all-embracing Love, upon
The greensward's crushed and trodden blade,
And towering kings of Lebanon.

And the same Maker's guardian eye
Knows, with impartial care for all,
The eagle's pathway in the sky,
The stricken sparrow's hapless fall.

Then learn, desponding child of man,
To look with thankful heart abroad,
And Nature's holy lesson scan,—
Whate'er thy portion, TRUST IN GOD!

For not to lofty state is given,
More than to humble walk and name,
The peace-imparting smile of Heaven,
Whose tender mercy all may claim.

Exulting hymns of sounding praise
May hail a Saul among the throng,
While oft in green "untrodden ways"
Contentment pours her sweeter song —

"Thy path of life is in the day,
And mine a lowly shaded road,
Yet each may be the appointed way
To lead the wanderer home to God."

Miscellaneous.

Laying Sawed Shingles.

A CORRESPONDENT of the *Maine Farmer* gives the following directions for laying sawed shingles.

"Almost all sawed shingles have a rough side and a smooth one, *i.e.*, they are sawn from the bolt somewhat across the grain of the wood; the grains lapping one over the other on the sides of the shingles should be laid so that the water will run over and not into them as it flows from the roof; in other words, lay them "right side up with care." If perfectly dry, they should be laid about one-eighth of an inch apart, to give them room to swell in wet weather; and should have but one nail in each shingle. Here is where most persons fail. In nailing, it is often said that we cannot nail shingles too well. "That's so;" but we can, and there is danger of nailing sawed shingles too much. Where they are nailed down too close they retain moisture, and consequently rot sooner than they would if one nail only were used in each shingle, which gives them a chance to curl up a little, and admit the air to circulate on the under side. I have had much experience, not only in Maine, but in other States, in this matter of shingling and I find that the most practical or experienced builden prefer the above method of laying loosely all kinds of sawed shingles. To make the most durable roof with such materials, I would have it first covered with narrow boards, put about three inches apart, across the rafters, and then lay the shingles on them as I have described, and I doubt not that it will pay to immerse them in lime water, as suggested by Mr. Mansur."

☞ Pure paraffine is a good preservative for the polished surface of iron and steel. The paraffine should be warmed, rubbed on, and then wiped off with a woollen rag. It will not change the colour, whether bright or blue, and will protect the surface better than any varnish.

WHEN TO APPLY PAINT.—Paint, to last long, should be put on early in winter or spring, when it is cold and no dust flying. Paint put on in cold weather forms a body or coat upon the surface of the wood that becomes hard and resists weather, or an edge tool even, like slate.

POLISH FOR SADDLES.—*T. F. H.* asks for a receipt for the best polish or gloss for saddles and bridles:—We take the following from the 3rd vol. of "The Field Library:"—Apply the albumen or white of an egg to the saddle, and give it plenty of elbow-grease, with the aid of a piece of flannel. The same application to a new saddle, two or three times repeated, will produce that rich dark-brown so much desired. *Farmer* (Scottish.)

Advertisements.

Markets.

Toronto Markets.

"CANADA FARMER" Office, Oct. 12th, 1867

SINCE our last report there has been an active business in produce. Prices in the principal eastern markets have advanced, which has had a corresponding effect here, and has greatly stimulated business.

Flour—The market has not been very active, but prices have steadily advanced. No. 1 superfine has gradually advanced, until now $7 is freely paid, with however, only a light demand.

Wheat—The market has been excited and active, and has advanced fully 10c for spring, and 15c for fall. Spring wheat is now held in car lots at from $1 50 to $1 52, and changes hands freely at these figures. Fall wheat in car lots, held at $1 65 to $1 66, with very little offering. On the street markets the receipts have been light, and prices have advanced. The range is now as follows: Spring, $1 45 to $1 52, Fall $1 60 to $1 66.

Oats—Scarce and in good demand. Stocks are very light, and high prices would be paid for choice loads. On the street from 50c to 53c is the price paid.

Barley—Since our last report the demand for this grain has been active, and prices have advanced fully 10c. Round lots are held at 80c, and choice lots sell freely at that price. On the street market the receipts have been light and prices have advanced, and now range from 75c to 80c.

Peas—There has been little doing except on the street market. A round lot sold for $2½c per bush. On the street prices have advanced 4c since last report, and now range at 80c.

Pork—There has been some enquiry for mess during the past week, and a few sales have been made at $18 75. Prime mess, nothing doing, nominally, $14 50 to $15.

Bacon—Stocks are light; city cured, none in the market, nominally, 8½c to 9c; country cured, 8½c to 8¾c.

Cut Meats—The demand is slack; smoked hams, 11¾c to 12c, rolled bacon, 11c; smoked shoulders, 8½c.

Butter—A large quantity of store packed coming in, but for the most part of rather inferior quality, selling at 13c to 13½c in small lots; for shipping lots, 11c to 12½c; dairy-packed, choice tubs, 13½c to 14c, rolls on the market, 25c.

Lard—Little doing, nominally, 9c to 10c.

Eggs—Market steady with fair demand for shipping, selling at 11c to 11½c in shipping lots. On the street, from 10c to 10½c is paid for small lots.

Cheese—A fair demand at from 9¼c to 10c for factory; dairy neglected.

Hops—Firm, first class hops scarce, prices range from 35c to 50c; sales made at from 40c to 45c.

Hay and Straw.—Hay selling at from $12 to $16, straw at from $9 to $10.

Wool—Selling at 24c.

Dressed Hogs—Beginning to arrive pretty freely, selling at from $4 50 to $5 per 100lbs dressed weight from farmers' waggons.

HIDES AND SKINS.

Green butchers' hides, inspected, buying at 8c, rough, 6½c. Green calfskins, 12½c. Murrain hides, 5½c to 6c. No. 1 inspected hides selling at 8½c; No. 2 inspected at from 7½c to 7¾c.

THE CATTLE MARKET.

The market has been well supplied with cattle, but the animals offering were mostly very inferior. Butchers complain very much of the want of first class cattle. The dry summer and the poorness of the grass crop, is given as the cause of the present scarcity of first-class animals. The high prices which are likely to rule this winter for beef, and the comparative low price of feed, should encourage farmers to pay more attention to the fattening of their stock. At the late fairs at Guelph and Elora good cattle were very scarce, and intending purchasers had, in a great many cases, to return home unable to procure their supplies. In this market there have also been few large transactions in cattle, the animals offering being too inferior for the Montreal or American markets. The following are the quotations per 100 lbs, dressed weight.—1st class cattle anxiously enquired for at $6 50 to $6 75. 2nd class, $5 50 to $6. Inferior sell as low as $4 50 to $5, with a glutted market for that quality.

Sheep—Have been very plentiful of late with light demand. Prices have fallen considerably on account of the large supply of pork and poultry arriving:—

1st class sheep, each	$4 25 to $4 50
2nd " "	3 50 to 3 75
Inferior " "	2 75 to 3 00

Lambs have also declined on account of the large consumption of pork and poultry. The following are the quotations:—

1st class, each	$2 50
2nd " "	2 20
3rd " "	1 50 to $1 75

Calves.—Only a few offering, selling at from $5 to $6 each.

Venison—Has commenced to come in, and is generally sold by the carcass at from $7 to $8 for good bucks, and $2 to $2 50 for does and fawns.

Hogs, Dressed—Have been arriving in considerable numbers, and bring from $4 to $5 per 100 lbs, dressed weight.

Hogs, Live—One or two sales took place at $4 per 100 lbs live weight for mess pork.

Hamilton Markets, Oct 8.—*Fall wheat* per bushel, $1 43 to $1 45, spring wheat per bushel, $1 35 to $1 40. *Barley*, per bushel, 70c to 75c. *Oats*, per bushel, 40c to 43c. *Peas*, 75c to 77c per bushel.

London Markets, Oct 8.—*Fall wheat*, $1 45 to $1 62½c, midge-proof, $1 44 to $1 50, spring wheat, $1 38 to $1 41. *Barley*, 65c to 70c. *Peas*, 73c to 75c. *Oats*, 36c to 38c. *Butter*—prime dairy-packed, 10c to 12½c; No. 2, 8c to 10c per lb; fresh, in rolls, by the basket, 15c per lb. *Eggs*, 12c per doz.

Guelph Markets, October, 8.—*Fall wheat*, per bush., $1 45 to $1 60, spring wheat, $1 45 to $1 46. *Oats*, 35c to 40c. *Peas*, 68c to 70c. *Barley*, 68c to [illegible]. *Wool*, [illegible] to 28c. *Eggs*, 11c to 12c. *Butter*, 13c to 14c.

Galt Markets.—*Fall wheat*, per bushel, $1 45 to $1 50, amber wheat per bushel, $1 32 to $1 37½, spring wheat per bushel, $1 32 to $1 40. *Barley* per bushel, 60c to 70c. *Oats* per bushel, 40 to 45c. *Butter*, per lb, 14c to 16c. *Eggs*, per dozen, 11c to 12½c.

Clinton Markets, Oct. 8.—*Fall wheat*, $1 45 to $1 55; spring do, $1 33 to $1 37. *Oats*, 28c to 32c. *Barley*, 68c to 65c. *Peas*, 62c to 65c. *Butter*, 12½c to 14c. *Eggs*, 8c to 10c.

Contents of this Number.

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