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THE CANADA FARMER

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The Field.

Bushwhacking.

Weeds have been defined to be "plants out of place," and in like manner we may define bushes to be shrubs out of place, or thickets of little trees growing where trees ought not to grow. They are not, like weeds, annuals and biennials, with delicate roots easily eradicated, but long-rooted and tough-rooted perennials, "least willing still to quit the ground." Cut them down, and, like the hydra, a dozen heads will often sprout out where one grew before.

Bushes, like everything else that God has made, have, I think, appropriate place and use; but their place is not by the side of the division fence nor in the meadow or pasture. Here they are occupying land which may be devoted to better purposes. Bushes cannot live on air alone. Their roots go more deeply and widely in search of food than is commonly supposed, and every thorn-bush by the fence, and every hardhack in the pasture is a thief stealthily robbing the farmer of what is not its due. It is an alarming feature of this, as of all other kinds of thieving, that it increases rapidly unless visited with righteous retribution. One successful pickpocket no more certainly gives encouragement to a dozen other evil spirits than does one well-rooted hardhack to a community of hardhacks. Bushes are social in their nature. They do not love solitude. Their tendency always is to live in clusters, and they fully understand the command to multiply and replenish and fill the earth.

What is very singular about these thieving bushes is that they are so sly and insinuating that farmers are very apt not to notice their depredations till they have pretty full possession of a field or fence.

We have seen hardhacks and alder-bushes slowly but surely extending their dominion over a farm, while the owner looked on, and saw the trespass year after year, with apparently no indignation against the marauders. We have even heard the wonder expressed why these hardhacked pastures did not carry so much stock as formerly, and the cause assigned as old age, degeneracy, or drought, rather than to the obvious one that grass and bushes cannot occupy the same space at the same time.

We have no doubt about the degeneracy of some of these old bush-ridden pastures. The land has become exhausted of some of the elements necessary for the growth of grass. They have been carried off in the milk, beef, and wool that have been sold from the farm. As the pasture could no longer produce a good crop of grass for the want of potash, lime, phosphorus, &c., from which it is compounded, and as the land dislikes to be idle, it turned its attention to the growth of bushes, as the roots of these can run deeper in search for food than can the roots of grasses. This is simply nature's plan for the rotation of crops. A little bone dust, or plaster, or some wood ashes, might have kept the pasture in good heart for the production of grass, and thus barricaded the land against the encroachments of the bushes. If our observation is not greatly at fault, there are few weeds or bushes that can find an abiding place in well-manured, well-swarded land. Give grass a good chance and it will choke out almost everything else. Grass in the vegetable world is like truth in the moral; it is mighty and will prevail.

But in multitudes of meadows and pastures it is too late to consider about the prevention of bushes. The grass is not and the bushes are; and the only question is how shall we get rid of them? We must declare war against them, must turn bushwhackers, and give them such a whacking that they will retire discomfited. We once asked an aged man, half physician and half farmer, and keen in his observations in both professions, "How can we get rid of the willows and other bushes that are creeping in upon our cultivated fields?" "Cut them down in the old of the moon in August," was his curt reply. We are not such lunatics as to put much faith in the influences of the moon upon vegetation, but we are satisfied that the best time to kill bushes, by cutting, is when they have attained maturity of growth for the season. At this time the vitality of the tree is mostly in the branches and trunk, and if separated from its roots at this time, they are in such an exhausted state that they are the least able to send up [illegible]. This maturity of growth is very likely to occur in August, but whether the moon is young, middle-aged, or old, we should not stop to inquire.

We have cut willows and hardhacks after they had attained their full growth for the season, and they succumbed to our rough surgery. One man cut them in the winter and in the spring, and his bush-whacking was so much labor lost. We have found cutting bushes to be very analagous to cutting weeds. If, then, we cut while in vigorous growth, and before they have blossomed, they start up again with renewed resolution to accomplish their mission in life—the production of seed; but, cut after the blossoms have well developed, their vitality is rarely sufficient to produce much show of second growth.

It greatly conduces to the extirpation of bushes, after they are cut, to pile them over the roots, and, when they are dry, to burn them. This cauterizing is pretty certain to perfect the work of bushwhacking, and there is generally no better mode of disposing of the vile trash. The ashes will be some small compensation for the damage done by the bushes.

In the case of hardhacks, which in some parts of the country have usurped such dominion over the land, they can best be eradicated by ploughing, if not of too rank a growth, and after cultivating a hoed crop for a year or two, of buckwheat; if the soil is not sufficiently mellow for the hoe, re-stock with grass-seed. So long as the land is kept under the plough or scythe, this pesky bush will not put in an appearance. It is only in pastures that hardhacks find their home. There they luxuriate—sometimes to such an extent that cattle cannot penetrate them, and, of course, the plough must give way to the log-hoe or grappling-iron. If a horse is attached to the latter, he will rip out a great quantity of these bushes in a day, and after lying for a few days to dry, they may be thrown, roots, dirt, and all, into piles, and be burned. The ashes and burned earth furnish a most excellent fertilizer.

August and September are good months for bush-whacking, and whoever desires a tidy and productive farm will not let these months pass away without exterminating all the bushes which infest the fences and fields. Like Time in the primer, he will cut down all, both great and small.—*Alexander Hyde, in N. Y. Times.*

Experiments with Oats.

The following extract is from the London (England), *Agricultural Gazette*:

The first year we got the best sample we could of black oats of 40 lbs. weight, and sowed them to the extent of a sack an acre; and, the result of this first trial was about 30 bushels to the acre, weighing 38 lbs. to the bushel. Of course the grain was thin, and there was also an increase of that limited hairiness at the base of many of the cones which point to a retrogression from the characters of the plumper seed. Our next trials were with the white oats of the weight of 47 lbs. per bushel; seeded a sack to the acre. The results in this case were 40 bushels to the acre of a good even seed, but weighing only 45 lbs. per bushel, that is, 2 lbs. less than the sample sown. The next year our oat experiments were considerably modified, for we had determined to sow but two bushels of seed instead of four bushels to the acre; and casting about to get the heaviest seed in the market, we procured a sample weighing somewhere about 47 lbs. per bushel. These were sown at the rate of two bushels to the acre, and resulted in a crop of nearly 40 bushels to the acre, weighing as much as the sample sown. Now, it is worthy of remark that a neighbor's oat crop of the same year was not only of the nature of an experiment, but it was also a lesson on the subject of thick seeding which we shall not soon forget. This crop, like our own, was the white Canadian oat, sown in a field of the same kind of soil, but, if anything, the land was of better quality. On seeing the field while the crop was being cut, the first remark was, "You have seeded too thick;" and sure enough, upon the mistaken principle that "if you don't put it in, you can't expect to get it out," more than a sack an acre had been sown, and thus, while in our own case the straws were remarkably regular both in height and size, the average of the latter being that of a good-sized goose quill, surmounted by a panicle of from 100 to 300 grains of corn, the majority of the culms of the thick-sown crop, growing beneath a few of the taller and larger growth, might be compared to crow quills, their seeds numbering from five to twenty. These facts, then, tend to show that if a poor starved seed is used, it may only make matters worse to sow too thickly, as many are apt to do; and the result of last year's oat growth is a convincing proof that it is not a large number of small stems which make up a good crop, but a comparatively small number of fully developed ones.

Shade Trees.

Usually, at the spring of the year, it is the custom to inquire what trees to plant. Few know much about these things. They have a sort of an idea that something is required to protect them from the heats of summer, but what is the best or even good for that purpose, they do not know at all.

It is all very well just at the planting time to get the information what to plant, but now, when the trees are in leaf, is the opportunity to make personal acquaintance with the facts, so that when the season comes we can act understandingly. This is also the best season to study the subject, as we can fully appreciate the luxury of a tree's grateful shade.

The worst thing about taking up the subject at this season is that it will give so much encouragement to those trees which grow fast. For it must be confessed

that very few of fast-growing trees are handsome, or afford much pleasure beyond the sensual one of shade One thing, most of them are great robbers of the ground, and very few things get a chance to grow well near them. The willows, poplar, silver maple and some others which will make trees as thick as our body in a few years, have roots so numerous that not even a blade of grass is allowed to grow anywhere near them.

Trees which do not grow so very fast are the best for final purposes. Many of them will permit of grass or other vegetation growing quite up to their trunks without injury. People often ask what kind of things will grow under the shade of trees; but it makes a great difference what trees made the shade, as to what things will grow under them.

We see many people bravely planting slow-growing trees for shade, contending that what if they are slow, they are worth waiting for. It is well enough, however, to talk this way in the spring with the thermometer at 90 deg, and not much choice between an overdose of roast meat and a fast-growing tree, it is not in human nature to hesitate as to the choice.

But why not combine the two? If we need to plant two trees before our door, why not plant three, and let one—the middle one—be a fast grower, and the rest of some beautiful slow-growing kind? For instance, there might be two American lindens with a black or some other poplar between them, or two horse chestnuts flanking a silver maple, two Norway maples with a paulownia or other similar combinations, and when the trees are likely to crowd, cut the fast grower away. The labor and cost of an extra tree is nothing to half a dozen years of pleasant shade.

Of each of this class of trees there are now some numbers. Of the fast grower, there are the weeping willow, European alder, silver maple, ailanthus, paulownia, silver poplar, Carolina poplar, cottonwood poplar, grey poplar, black poplar, and American aspen poplar. Of the slower growing trees, which might be planted for permanent ones to occupy the whole space when the more rapid ones are taken away, are the sugar, sycamore, and Norway maples and red maples, tulip tree, magnolia tripeteta, and acuminata, American linden, a beautiful tree for this region, where the European does not thrive so well, the European and American white ashes, the horse chestnut, the English elm, where it is free from the elm leaf bug, and the American elm, which does not suffer quite so badly; and the different kinds of oak, which complete the list of really desirable shade trees Of oaks, there are, we suppose, a good list in most nurseries, as we have seen about Philadelphia many kinds, here and there, that have been set out the few past years We might name the English royal oak, pin oak, burr oak, chestnut oak, swamp white oak, red oak, black oak, scarlet oak and white oak

This, as we have said, is the proper season to study them It would not only afford a great deal of pleasure in study itself, but will be found worth some dollars when the planting time comes round.—*Germantown Telegraph*

Manure on Wheat.

If L. L. wishes the greatest benefit from his manure, he must apply it after his land is plowed, spread (at once) even, and leave so till the land is sowed, then mix well with the harrow or cultivator—if the application is heavy, use cultivator; sow immediately after that By leaving the spread manure on the surface after plowing up to the time of sowing, the rain will wash out the soluble parts and soak the soil—the top soil with them This is an even distribution—perfectly so, and it is the only way, save by liquid manure, that this can be done perfectly; in fact it is liquid manure the drenching and washing out by the rains Now, an equal distribution is of the utmost importance, as it enables the roots to come in constant contact with the fertilizer; they are immersed in it If the manure is mixed with the soil (plowed under or worked in with the cultivator) only that part of the soil that comes in contact with the manure will receive benefit, and that in excess. In the other case, where the strength is washed into the soil and the remaining manure is mixed with it by the harrow or cultivator, the seed will at once start and grow vigorously, and form by winter a thick pelt, which, with the manure, is a protection. The land, by this method, it will be found, is in excellent condition, the seed bed moist and mellow Where it is wanted to seed down the land, nothing is better than such a preparation. Sow the seed (grass seed, not clover) immediately after the harrow covering the wheat has left the field, and brush in at once.—*Cor. Country Gentleman.*

The Dairy.

EDITOR—L B ARNOLD, OF ROCHESTER, N Y, SECRETARY THE AMERICAN DAIRYMEN'S ASSOCIATION.

Raising Cream.

From time immemorial, cream has been separated from the other parts of milk for the purpose of making butter, yet the best method of effecting the separation is far from being settled.

Opposite practices, in many particulars, are advocated and adopted. A beginner in butter-making is always confused with the contradictory notions of old practitioners, and these differences of opinion and practice are likely to continue till the operators assemble and compare practices and products, and settle differences by discussion.

In the present unsettled state of opinion and modes of operating, an appeal to general principles becomes necessary The statement of a few leading facts will help us very much in deciding what is, and what is not, proper.

The first prominent fact in the separation of cream from milk is, that it rises by reason of its having a less specific gravity than the milk with which it is mingled. But in respect to specific gravity, cream varies very greatly in the milk of different cows; and even in the milk of the same cow, some globules are very much heavier than others, and hence they come to the surface very unequally. The specific gravity of a sample of cream, quoted by Professor Johnston, was 1024.4, of water being 1000, while we have sometimes found it to be .985. It sometimes sinks in water and sometimes floats on it; and the cream on one cow's milk may sink in the milk of another cow The milk and cream of the same cow occasionally differ so little, that the latter never rises so as to indicate any line of difference between the milk and the cream We have recently been experimenting with the milk of a grade Jersey, in which, after standing 24 hours, the cream is seen diminishing all the way from the top to the bottom of the per cent. glass, without showing any point of distinction.

The second essential point is the fact that fats expand and contract more with heat and cold than water, and more than the other elements of milk.—The difference in specific gravity between milk and cream is varied by the circumstance of temperature. It is greatest when hot, and least when cold, and this fact materially affects the rising of the cream.

A third important fact that affects the separation of cream, is the growth of minute organic germs in the milk, which, up to a certain point, is greater the higher the temperature.

There are thousands of germs in all milk exposed to the air, that are ready to start up and grow whenever the milk is warm enough for them to do so, and by their presence, hinder the upward passage of the cream globules The sour milk cells, illustrated in a previous number, are the principal obstructions in the way of the rising cream They begin to form long before the milk begins to appear thick. The growth of other germs does more injury by altering the flavor

Are these facts appreciated by butter makers? Most people seem to have the opinion that milk must be cooled to make the cream rise fast; and that the colder they can get it, the faster the cream will rise. The fact is exactly the reverse The colder the milk, the slower the cream rises, because there is less difference between the specific gravity of the cream and milk, and because the milk is more dense and offers more obstruction to the motion of the cream globules. It does not rise as fast at 60 as at 160 degrees. In cheese-making the waste of butyraceous matter is confined almost wholly to the minutest particles of cream. These rise with great difficulty and very slowly—Those who make butter from whey often heat the whey to 170 degrees, when the difference in specific gravity between the fat in the cream and the water in the whey becomes so great, that the cream all rises to the top in a short time. By cooling to 60 degrees, five or six times as much time is required to effect the same result.

Milk for butter-making should be cooled, not to make the cream rise faster, but to prevent souring, and other changes which would hinder the cream from getting up. The highest point at which these changes can be stopped, or held in check long enough for the cream to come to the surface, is the point to which milk should be cooled Every degree it sinks below that point hinders the creaming process, and prolongs the time necessary for the milk to stand in the dairy-house Not to reach that point is to make the milk thicken before the cream is all up, thus diminishing the yield. The great majority of experimenters agree in putting that point at 60 degrees, but variations that reach from five degrees above to five below are made by some parties with very fair success.

The common error in private dairies is to allow the milk to be too warm in hot weather, and too cold in cold weather. The cream will not rise perfectly in either case, and the resulting butter will be imperfect. The loss sustained in failing to get all the butter that a given quantity of milk is capable of making, is much greater than is generally suspected. Few farmers know how much milk they are taking to make a pound of butter. They seldom weigh or measure, or even guess, at the quantity they are using. From what we have seen, and from facts gathered during a series of years, it appears that 28 and 30 lbs. are usually required. Where the facts could be got at, the amount has varied all the way from 34 down to twenty pounds. If the practices in creaming and churning could be suddenly made so perfect as to get all the butter from milk that it is capable of yielding; every fifth cow could be thrown out of the dairy, and the same quantity as at present obtained. If farmers would take a little pains to know more precisely what they are doing, such losses would not be endured.

Creameries and butter factories usually give us precise figures, but even they are not always fortunate in showing the happiest results In factories recently visited, the difference in amount required for a pound of butter has run from 22 to 28 pounds, and this difference is due, not to the milk, but to the different modes of managing it In a future number, the practical operations of butter-making associations will be analysed and the effect of the different practices explained Comments are therefore omitted here.

There is no mode of raising cream so perfect as to separate all the cream from the milk. It has been already remarked that different parts of it rise unequally. The larger globules meet with less resistance in proportion to their bulk than the smaller ones and hence they get to the surface soonest. The smaller the globules, the slower they rise; and some of them dwindle down to such minuteness that they would not rise through three inches in a week, if the milk could be kept sweet that length of time Cream will continue to rise till the milk gets thick, be that time short or long. The best part rises first. If milk is skimmed every 12 hours, and the cream of each period churned separately, the product of the first period will be the highest flavored and the highest colored, and the color, quantity and flavor of each successive skimming will diminish to the last, but the keeping qualities will grow better. The 4th and 5th skimmings will be quite pale and insipid, but can be kept sound a long time. Where a high flavored article is desired, it is not advisable to continue the process of creaming too long. What will rise in 48 hours, at 60 degrees, on milk four inches deep, is all that is generally profitable to separate. What comes up after that is so white and tasteless as to do more injury, by depressing the flavor and color, that it can do good by increasing quantity.

There are other essential features in the creaming process, such as deep or shallow setting, the influence of light, manner of cooling, &c, that need especial attention, which will be discussed in subsequent numbers.

Agricultural Emplements.

Agricultural Food-Steamer.

As many, perhaps a majority of Canadian farmers are now giving a great deal of attention to cattle and cattle-feeding, it becomes a question of first importance, especially in these seasons of variable crops, how best to utilize the produce on hand, to renovate, if possible, the old, conserve the new, and spin out both to the very best advantage.

One years' scarcity in the fodder yield often proves a serious matter to the feeder. There are only certain productions which he finds serviceable as articles for feed, and when these fail he is driven to various necessitous expedients to keep his stock in anything like comfortable, or rather profitable circumstances through the winter, if indeed—as frequently happens—he is not obliged to sell off the one-half or more to obviate the starvation of the remainder. The old and mouldy productions of the last and preceding years are raked up and mingled in large quantities with much smaller proportions of new matter, and the compound thus produced is served up to animals that cannot properly relish it, and consequently do not derive that nourishment from it which it should and would yield if differently treated. How important then must be the knowledge how to render old mouldy remains serviceable. True it may be said that such remains constitute no loss since they can all be employed as manure.

This is all very good, but would it not be much better could we but hit upon a plan whereby they might first be applied to the use for which they were originally raised, and then after all, make a superior manure?

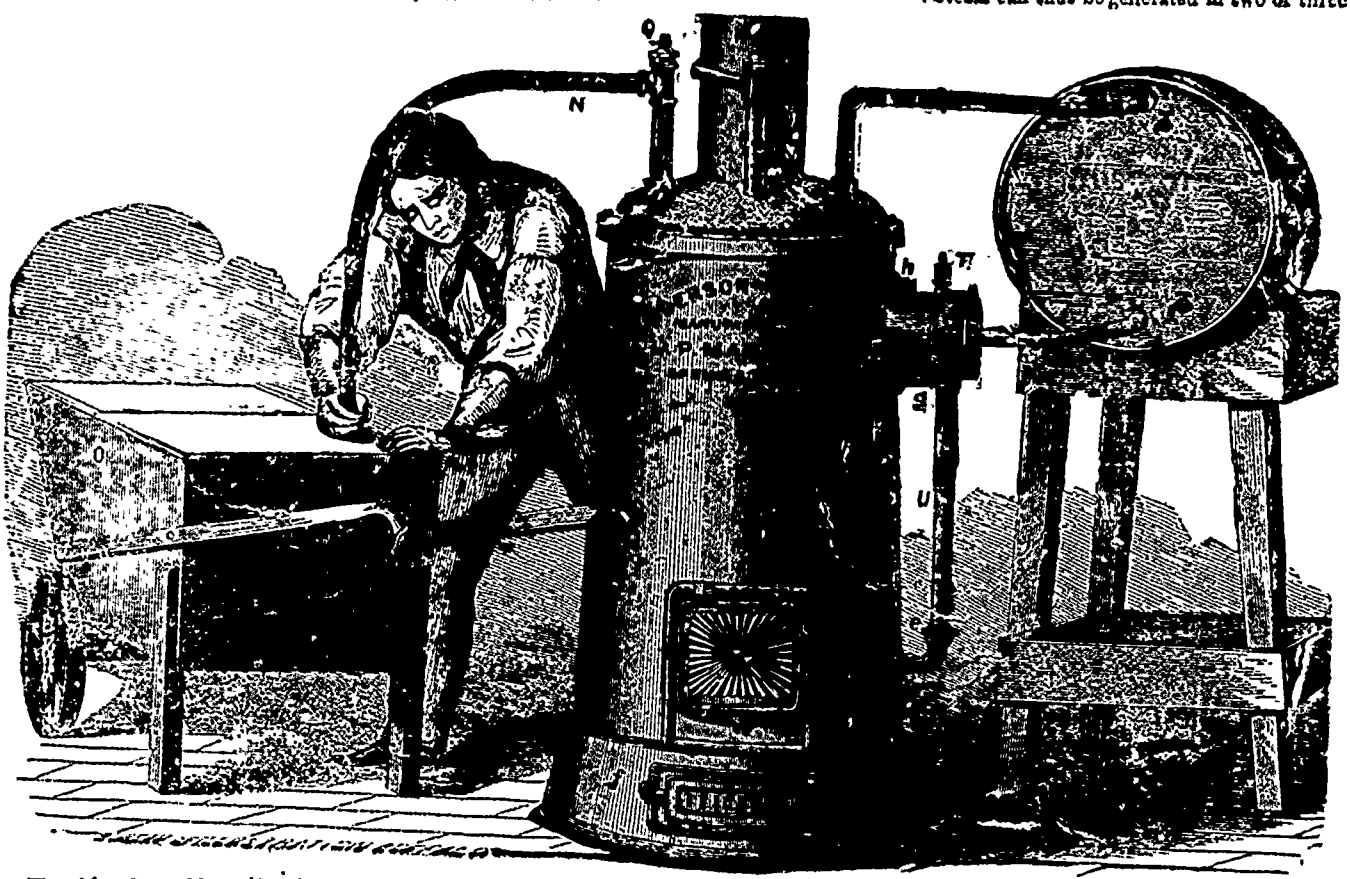
Such is the use of the "Food-Steamer." When feed is cooked in the ordinary old-fashioned manner, viz.: by boiling in water, a very considerable quantity of its strength is found to be boiled out, and to evaporate with the steam; and yet even when so treated, experience has repeatedly proved such feed to be more beneficial than the same article in a raw state. Now, if this is so, how much more advantageous still must that feed become when, by means of a thorough steaming, it is cooked to the same extent, but with all its elementary strength retained? We find in the *U. S. Agricultural Report* for 1865, the following stated as the results of steaming cattle feed—the writer having drawn up his statement after an experience of several years:—

"*First.* It renders *mouldy hay, straw and corn-stalks* perfectly sweet and *palatable.* Animals seem to relish straw taken from a stack which has been wet and badly damaged for ordinary use, and even in any condition except "dry-rot," *steaming will restore its sweetness.*

"*Second.* It diffuses the odor of the bran, corn meal, oil meal, carrots, or whatever is mixed with the food, through the whole mass, and thus it may cheaply be flavored to suit the animal.

"*Third. It softens the tough fibre of the dry corn-stalk, rye-straw,* and other hard material, rendering it almost like green succulent food, and easily masticated and digested by the animal.

"*Fourth.* It renders beans and peas agreeable food for horses, as well as other animals, and thus enables the feeder to combine more nitrogenous food in the diet of his animals.



"*Fifth.* It enables the feeder to *turn everything raised into food* for his stock, without lessening the value of his manure. Indeed the manure from steamed food decomposes more rapidly, and is therefore more valuable than when used in a fresh state. Manure made from steamed food is always ready for use, and is regarded by those who have used it as much more valuable for the same bulk than that made from uncooked food.

"*Sixth.* It saves, *at least, one-third of the food.* We have found two bushels of cut and cooked hay to satisfy cows as well as three bushels of uncooked hay, and the manure, in the case of the uncooked hay, contained much more fibrous matter unneutralized by the animal. This is particularly the case with horses. These have been the general results of our practice, and we presume do not materially differ from that of others who have *given cooked food a fair trial.*"

Then, as to the difference between dry and steamed food, another writes as follows:—

"Sir—In reply to your question of what difference I find in feeding raw and cooked feed, I would say I fed 21 hogs 26 bushels of corn, (72 lbs. ears to the bushel), shelled, ground and cooked. It fed them 13 days; they gained 520 pounds, or a trifle less than two pounds per day. I then fed the same hogs 25 bushels of the same kind of corn ground and soured. It fed them eight days; they gained 260 pounds, or a trifle over one and a half pounds per day. I weighed my hogs in both instances before commencing on each kind of feed and set it down in my scale book, and weighed them when each kind was fed out. You may judge I was surprised at the result. In one case I made 20 pounds of pork from 72 pounds of ear corn, in the other ten and a half. My corn cost me 75 cents per bushel, and I sold my hogs for 8 cents, live weight. In the one case I got $1.60 for my corn, in the other I got $3 1-5 cents. After deducting 75 cents—the price of my corn—I have as profit for feeding in the one case, 86 cents, in the other, $ 1-5 cents."

One of the best modern "steamers" we know of is illustrated by the accompanying cut. A small sized one, quite large enough for ordinary use, being capable of steaming for from 50 to 100 hogs, measures about 4 feet from base to top, and 2 feet in diameter. It is manufactured wholly of boiler-plate, is complete in itself, and consists essentially of a boiler within a boiler. The grate or fire-place near the base is fitted for either coal or wood. Within the outer cylinder, which forms one side of the boiler, is another circular plate, partly single and partly double, with water space between, and so constructed that the largest possible surface is exposed to the fire. Steam can thus be generated in two or three minutes after the match has been applied. To the right of the engraving is observed the water-supply barrel, communicating with the steamer by means of two india-rubber pipes, the higher leading from the top of the steamer to the upper part of the barrel, and the lower, or supply-pipe, which is furnished with a tap as shown, reaching from the lower part of the barrel into an enlarged entrance-funnel at the side of the steamer. This funnel is furnished internally with a float valve, which, when the water within has reached a certain height, rises up and closes the opening, thereby preventing the influx of any more until it is needed, when it falls down again of its own accord. The mode by which water is made to flow uniformly into the steamer by means of the upper pipe, illustrates a curious fact in the philosophy of hydraulics. What, it may be asked, is the use of that upper tube at all, for, at first sight, it certainly does seem superfluous. Well, but take it away and water will no longer flow through the lower one whilst steam is up! and why? Simply because the steam pressure within the boiler would prevent it. The advantage of the upper pipe then is this, Steam is conveyed through it into the upper portion of the barrel, and the pressure which this steam exerts there counterbalances that exerted in a contrary direction at the entrance-funnel, and consequently *destroys* it: so that when the top of the lower tube is opened the water flows along it in a uniform and steady stream, solely from its own gravity. A little experience,

therefore, with observation on the part of the attendant will enable him to adjust his supply-tap so as to admit just the quantity of water required, and no more. He can then leave it to feed itself, only remembering to keep the fire up, and the barrel supplied. As damage might ensue were the water supply not properly regulated over a brisk fire, there are several contrivances to render such an emergency next to impossible. There is first the float-valve, already noticed. Should the steam pressure be great enough to overcome the action of the valve, there is secondly a little steam whistle which gives warning instantly, and can be heard half a mile off. Failing both these, a tap is fixed in the steamer just at proper water-mark, by simply turning which, the supply may be known at once; and finally, to ensure safety under all circumstances, there is a safety-valve at the top, which will allow of only a certain pressure to the square inch when it rises and permits the steam to escape. Another tap at the bottom serves to empty the boiler when needed. The barrel likewise is furnished with two end taps, one to test its contents, the other to carry them off when no longer required.

The steaming-chest may be a box or trough of any kind, tightly made with a close lid. The barrow form, shown in the cut, is the handiest. The steaming-pipe is inserted into a hole (closely fitting, of course,) in the lid or top of the chest, and allowed to remain there for a longer or shorter time, according to the nature of the material to be cooked, after which it is withdrawn and immediately inserted into another, whilst the first is being served out. Some idea of the rapidity of the cooking process may be obtained from the fact that a pail of cold water has been made to boil in 4 minutes after the insertion in it of the tube, and just 7 minutes after the match had been applied to the fire.

The steamer is now becoming one of the essentials amongst our neighbouring stock farmers across the lines, and is used to a still larger extent in England and Scotland. We are not aware of its being at all common in our own country as yet, but we feel satisfied that when it comes to be better known, and its advantages appreciated, it will assume a prominent place on every Canadian farm. The size we have been describing will be found quite large enough for most farmers. Larger ones are, of course, made, all on the same principle. They range in price from $60 or $80 upwards.

Reaper Trials at Versailles.

The French Government, recognising the importance of improved agriculture, especially at the present time, issued, a few months ago, a programme of International trials of Reapers, to take place on the Government Farms, at Grignon. The American and English makers were there in full force. The former were Barber, Burdick, Johnston, Sprague, Whithley, and Wood. The latter were Hornsby, Howard, and Samuelson. Hornsby had 3 machines, Howard 2, and Samuelson 4. The machines were severely worked for several days on winter and summer wheat and oats, a good deal laid and twisted. After varied and protracted tests, the judges, all of whom were appointed by the Minister of Agriculture, made the following award:—Howard, Bedford, England, first. Burdick, Auburn, America, second; Wood, Hoosick Falls, America, third. Further trials were then made with selected machines in the English and French sections, and—in addition to the first prize—the judges gave Howard the gold medal of honor for the best machine in every class.—*N. B. Agriculturist.*

"As Dull as a Hoe."—This is an old favorite comparison, and it seems cruel to rob it of its poetry. But a free use of the file or grindstone is as rough on the comparison as the keen hoe is on the weeds. Certainly it is poor economy to save the wear of the hoe, of necessity only half killing the weeds and making heavy toil of otherwise light work. A file, even an old one cleaned with diluted acid, will answer every purpose, or a grindstone, if one has no file. Never mind if stones or gravel do dull, a sharp hoe, carefully used, will accomplish more than the noisy grubbing of a dull one. It is a pleasure to see the hoe daily narrow up and the corners gradually round off, for honorable age and constant service benefits the hoe, making the blade thinner and smaller. Sharpen the hoe, then; first, to save the hard labor; second, to do neater work, third, to keep it bright; finally, to have the pleasure of seeing it grow old in the service.—*Southern Farmer.*

Agricultural Chemistry.

Farm-Yard Manure.

We know that every crop takes certain constituents from the soil, and that no soil, however fertile, can continue to give up these constituents, year after year, for an indefinite period without becoming at least impoverished, unless some steps are taken to restore what is lost. To effect this restoration is the object of manures; and as farm-yard manure is the most commonly used of these agents, as well as the most convenient and the most important, it will deserve our earliest consideration.

To understand the true value of farm-yard manure as a means of supplying to soils the elements of plant food, it will be necessary to examine its composition in order that we may see how far its constituents are those of which the soil stands in need.

Farm-yard manure consists of the droppings of domestic animals mixed with the straw which has served for their bedding.

Both these ingredients are of great importance. First let us consider the straw. Straw is the entire plant of wheat, oats, &c., with the exception of the roots and the grain. It is composed partly of organic combustible materials, partly of inorganic matter or ash. The ash constituents were obtained entirely from the soil, the organic matter largely from the atmosphere. By returning, therefore, the straw to the field as manure, we restore to it all the elements of plant-food that were taken from it by the crop, *except those that are contained in the grain*, as well as much organic material obtained from the air. As the roots are always left in the ground they may be left out of consideration. If the whole crop is taken from the field it is clear that the soil is impoverished to the extent of the ash constituents which the crop contains, amounting, probably, to about 200 lbs. of inorganic matter per acre. It is equally clear that if the straw be returned to the land as manure that all its ash constituents, amounting to about 170 lbs. per acre, will be restored to the soil, which will, in this case, only lose the quantity of ash constituents contained in the grain, say about 30 lbs. per acre. A field so treated will, of course, continue to yield remunerative crops for a much longer period than one from which the entire crop is, year after year, removed without any compensation being made for the material which is in this way lost to the soil. So far as the absolute restoration of material to the soil is concerned, it is a matter of indifference whether the straw is left on the field and ploughed in, or taken to the farm-yard, trodden under-foot by cattle and then returned to the land. With regard to the immediate effect, however, here is a great difference. Straw, like all other dry vegetable matter, decomposes only very slowly under ordinary circumstances, and of course until entirely decomposed it is of no value as affording food for plants. When mixed with some readily decomposing substance, however, a kind of fermentation is, under favorable conditions, set up in the straw which rapidly brings about its disintegration, and reduces its constituent ingredients to the condition in which they are most readily absorbed. In the farm-yard the solid and liquid excrements of animals act in this way. By their decomposition they induce fermentation in the straw, and cause it also to decompose. This is what takes place during the "rotting" of the dung-hill. In consequence of this, when well fermented farm-yard manure is added to a field, the straw which it contains gives up to the soil at once. As much plant-food as the same straw, if left on the field, would have taken a long time to yield by slow spontaneous decay. During fermentation, no doubt, the straw loses something by evaporation, but this is chiefly its volatile inorganic constituents, that part which was obtained in the first place from the atmosphere. The inorganic ash constituents suffer little or no loss during the process. So much then for the straw which is contained in the farm-yard manure. So far as it goes, its use acts beneficially by restoring to the land the greater part of what had been taken from it in the crop, and restoring this in the form best adapted to be absorbed by plants and constitute their food.

In addition to the straw the manure heap contains the solid, and more or less of the liquid excrements of various domestic animals of the farm—the cow, horse, sheep, and pig. This is a very important part of farm-yard manure, and one which deserves consideration as to its capabilities and mode of action—what it can do, and how it does it.

The vital processes in an animal, in their chemical aspect, are in reality a kind of combustion—as truly so as the combustion of fuel in a stove, only more slow.

Light is not produced by this combustion, it is true. No bright blaze, no glowing coals mark the burning up of the animal tissues; but heat is always developed. The heat of the living body, not animal warmth, which is a constant attendant on animal life is the heat of this combustion, this hidden fire that is ever smouldering within the living frame.

A piece of firewood consists of vegetable matter made up of carbon, hydrogen, oxygen, and nitrogen, together with salts of potash and other inorganic matter. When it is burnt in a stove, the vegetable part of it, composed of carbon, hydrogen, oxygen, and nitrogen is oxidised, and passes off as carbonic acid, water and ammonia, and the inorganic matters, the salts of potash, &c., are left behind as ash. As the combustion is seldom complete, there is usually more or less imperfectly burnt vegetable matter also left behind as soot, charcoal, &c.

A bundle of hay has much the same composition as a stick of wood of the same weight, if the hay be set on fire, the results will be very similar to those which proceed from the combustion of wood. If, however, instead of burning the hay, it is given to a horse these very phenomena will take place, only more slowly, and the products of the operation will be identical or very similar in their chemical composition although not in appearance. As in the case of burning in the air, the organic part of the hay will be burnt off as carbonic acid, water and ammonia. The inorganic matter or ash, together with the products of imperfect combustion, will pass off as excrement.

Suppose an ox to be kept for some time in a field, and to receive no food but what is grown in that field. During this time the ox has been continually taking into his body in his food various inorganic materials derived from the soil, lime, potash, magnesia, phosphoric acid, &c., together with organic substances the element of which were originally obtained from the atmosphere. During the whole period too, he has been continually restoring these substances to the air and to the soil—carbonic acid and water to the air in his respirations; lime potash, magnesia, phosphoric acid, ammonia, &c. to the soil in his excretions. At the conclusion of the time, the soil, although some of its ingredients will be redistributed and placed in a more convenient shape for plant absorption, will be neither enriched nor impoverished *if he continues the same weight*. If he has gained in weight, the soil has of course lost in proportion. If a field was sown with hay and the hay sold, the field would loss from 200 lbs. to 300 lbs. of ash-ingredients per acre, whereas, as we have just seen, if this hay was fed to cattle, and if their droppings were added to the field as manure, a very large proportion of from two to three hundred pounds of ash-ingredients would be restored to the land—the only loss, in this case, would be the excess of what the cattle consumed over what they parted with; and, except in the case of growing stock, this would be very small. So again, a crop of turnips would contain 180 to 200 lbs of inorganic matter per acre, and if the turnips were fed to stock and all the manure preserved and returned to the land, this very considerable loss would be almost entirely obviated.

But it is not only the inorganic portion of the manure that is of service. All animal substances are rich in nitrogen and all decompose with great ease, ammonia being one of the products of their decomposition. The excrements of animals share this property with other animal substances, and to this cause they owe a great part of their fertilizing power. Ammonia being an extremely volatile substance, escapes very readily unless proper precautions are taken to prevent its doing so, and the quality of the manure and its fertilizing power are greatly deteriorated by its loss. If the manure is allowed to be completely fermented much ammonia will necessarily be lost. Fresh farm-yard manure equals or even exceeds in weight the food and bedding from which it has been produced; but after rotting it weighs much less. Part of this loss of weight is owing to evaporation of water, but a great part of it is due

to the escape of ammonia. If therefore the full benefit of the nitrogen contained in the manure is to be obtained, it should be added before it is perfectly fermented.

Another consideration in connection with this subject is that much of the most valuable portion of the inorganic ash-constituents of the manure are soluble in water. If therefore the dung-hill is allowed to remain for a long time exposed to every shower of rain a very large proportion of this saline matter will inevitably be dissolved out and wasted away.

From this glance at the mode of operation of farm-yard manure, we can form an idea of how very important it is as a means of preserving the fertility of the soil. Since in this agent we have the power of restoring to our fields the valuable morganic materials—the potash, lime, magnesia, phosphoric acid, &c. that have been removed from them in the crops, together with the nitrogen which it contains, in a condition most suitable for the food of plants, it is clear that the greatest care should be taken to use it to the best advantage and to avoid wasting the precious material which it contains.

Poetry.

An Apple-Orchard.

Oh, apples, on the apple-tree,
How fair you look! how thick you be.
Some red, some yellow, and some grey,
You ripen slowly day by day.
The sun has touched you, and the rain,
The calm, and then the hurricane.
The drought has dried you, and the dew
Has drenched; and still you grew and grew.
Oh, apples, on the orchard-tree,
Speak to this heart, its teachers be!
Where'er I find a settled place,
There I should grow with patient face.
Let bud yield room to blossom's suit,
And that in turn to forming fruit.
Below the surface of the mind
A secret sweetening I would find;
And in the heart's deep core enwrought
The mystic seeds of strong love-thought.
And by my neighbors I would stand,
And touch them with a gentle hand.
And I would not have over-care
If I be high, or low, or where;
But I desire, as time shall pass,
A gatherer coming through the grass,
With keen quick eye and ready touch
To pick all fruit ere ripe too much;
With a broad basket on his arm,
To save me from old Winter's harm,
Then, at the last, in garner stored,
An offering to the Orchard's Lord.

— *Chambers' Journal*

The Rain Drops.

A farmer had a field of corn of rather large extent,
In tending which, with anxious care, much time and toil he spent;
But after working long and hard, he saw, with grief and pain,
His corn began to droop and fade because it wanted rain

So sad and restless was his mind, at home he could not stop,
But to his fields repaired each day to view his withering crop.
One day when he looked up, despairing, at the sky.
Two little raindrops in the clouds his sad face chanced to spy.

'I feel so grieved and vexed," said one, "to see him look so sad,
I wish I could do him some good, indeed I should be glad.
Just see the trouble he has had, and if it should not rain,
Why all *his* toil, and time, and care he will have spent in vain"

"What use are you?" cried number two, "to water so much ground.
You are nothing but a raindrop, and could not wet one mound.'
"What you have said," his friend replied, "I know is very true,
But I'm resolved to do my best, and more I cannot do.

"I'll try to cheer his heart a bit, so now I'm off, here goes!"
And down the little raindrop fell upon the farmer's nose.
"Whatever's that?" the farmer cried; "was it a drop of rain?
I do believe it's come at last; I have not watched in vain!"

Now when the second raindrop saw his willing friend depart,
Said he "I'll go as well and try to cheer the farmer's heart."
But many raindrops by this time had been attracted out
To see and hear what their two friends were talking so about.

"We'll go as well," a number cried, "as our two friends are gone.
We shall not only cheer his heart, but water too his corn.
We're off! we're off! they shout with glee, and down they fell so fast,
"Oh thank the Lord the farmer cried, "the rain has come at last."

The corn it grew and ripened well, and into food was dressed,
Because one little raindrop said, "I'll try and do my best."
This useful lesson, workingmen, you'll not forget I'm sure.
Try, do your best, do what you can—angels can do no more—

N. Y. Graphic.

Horticulture.

EDITOR—D. W. BEADLE, CORRESPONDING MEMBER OF THE ROYAL HORTICULTURAL SOCIETY, ENGLAND.

The Fruit Display at the Provincial Exhibition.

To both the cultivator and consumer the collection of fruits which are annually brought together on the occasion of the Provincial Exhibition possess much interest. To the one it is very interesting to note from year to year the increase in the quantity and quality of the fruits grown among us, some portion of which is sure to find its way to our markets, and to the tables of many whose circumstances are such that they must content themselves with the pleasure of eating, but can never know the pleasure of growing choice and beautiful fruits. To the other it is peculiarly gratifying to have the opportunity which is thus afforded of comparing the productions of different cultivators, and of examining the several varieties as they appear under different treatment. Varieties of recent introduction are scrutinized with curious eye, and conclusions are thus reached as to the desirability of planting particular sorts. Opportunities are also afforded of learning in what parts of the Province particular varieties will thrive best, and what sections on the whole are best adapted to the cultivation of the fruit in general; information of much value to those who contemplate planting either for the supply of their own table or for market, and to those who wish to buy the finest samples.

In looking over the collections of fruit that were brought together at this Exhibition, we felt that there were not as many localities represented as usual, and that in the opportunity afforded for comparision of fruits from various parts of the Province, the ordinary facilities were not present. There was very little fruit shown from Toronto and vicinity, and as for Hamilton and its adjacent territory, it was made conspicuous by the extreme paucity of its contributions. We sadly missed the names of some of our best and oldest fruit growers, whose collections of fruit have always been more or less prominent at all these annual Exhibitions, and which were sure to contain many varieties of great interest to less extensive cultivators.

The causes of this deficiency in the fruit collections at this Exhibition are probably various, but that the holding of so many Central, Western and other large Exhibitions is gradually weakening the public interest in the Provincial, and centring it in the more local, can hardly be doubted. What the end will be, will depend much on the sagacity of those who may compose the Board of Agriculture, but that the approaching Central Fair at Hamilton had the effect to prevent the fruit growers in that vicinity from bringing their fruits to the Provincial Show cannot be denied.

Notwithstanding all, there was nevertheless a very good display of fruits. The GRAPES exhibited were something marvellous both in bunch and berry. It was very interesting to notice that at Goderich the climate and soil are so very favorable to their finest development that many of the first prizes were awarded to samples from that locality. The competition in skill, that skill which can succeed in swelling out the berries so much beyond their usual dimensions, was also interesting. Hitherto Mr. James Taylor, of St. Catharines, has taken the lead in grapes of mammoth proportion, but he has found in Mr. A. M. Ross, of Goderich, an adept in the art of grape enlargement who will put him to his trumps. Such grapes of several of Rogers' Hybrids as these gentlemen exhibited would have astonished Rogers himself, and serve to show what careful and skilful cultivation can accomplish. But we think that a separate section should be inserted in the prize list for these *artificial* grapes, so that those gentlemen who like to try their skill in this direction, may compete with each other, apart from those who seek only to produce naturally developed, high flavored and thoroughly ripened grapes. Grapes of enormous size produced by checking the return of the sap, either by removing the bark from the branch or applying a ligature, are more ornamental than useful, and should not be shewn in competition with those that are grown and ripened by natural processes. While it is possible to produce a few such dropsical bunches on a vine, it is quite impossible to produce them in quantity for market purposes at paying rates, hence the public do not gain any very valuable information when they learn that such and such variaties of grapes were awarded the first prize because they had been forced by art into such abnormal growth.

Several very fine bunches of the EUMELAN grape—that variety which was distributed a few years ago by the Fruit Growers' Association—were shown from Brantford, Hamilton, Goderich and Scarboro'; hence we infer that "it is a variety that is likely to succeed over a large part of the Province. It has a very good reputation for hardihood of vine and early ripening of fruit.

The CREVELING was shown in better filled bunches than have usually been exhibited, and we feel confident that this fine flavored sort will become a popular variety. It needs to be planted alternately with other grape vines which yield an abundance of pollen, the flowers of the Creveling being often deficient in this fertilizing agent.

AGAWAM, MASSASOIT, MERRIMACK, SALEM and WILDER, all hybrids raised by Mr. Rogers, of Salem, Mass., were shewn of large size and in considerable quantity, intimating that these succeed well in our climate.

Of the Concord, Delaware, Diana, Hartford Prolific and other varieties that have now been many years in cultivation it is not necessary to make any particular mention. Their merits are well known, and judging from the quantity and quality of the samples shown are highly appreciated.

There was the usual display of grapes grown under glass, the old favorites appearing still to take the lead, though we noticed that the first prize in white grapes was given to a new claimant for favor, the DUCHESS OF BUCCLEUCH.

We have been making great strides in Pear culture also. It is but a short time since attention has been turned towards the growing of the finer sorts of pears among us. Then a few plates of Bartlett and Flemish Beauty constituted the display in Pears; now we see a score or more of most delicious varieties. Among the sorts of more recent introduction, were very fine well colored samples of the BEURRE D'ANJOU. This truly noble fruit gives promise of becoming a very popular sort. It is of large size and high quality, ranking "very good to best," with a melting, juicy flesh, and is in use during the month of November. Such was the promise of value given by this variety that the Fruit Growers' Association distributed it to its members in order to test its usefulness in our Province. It is already taking a foremost place in the markets of Boston and New York, where it commands from twenty to thirty dollars per barrel. The NEGLEY is a very handsome medium sized Pear, as shown in Mr. Chas. Arnold's collection. The color, when quite ripe, is a beautiful yellow, shaded with a brilliant crimson on the exposed side. It is ripe in September, but we have never had an opportunity of sufficiently testing its quality to speak confidently of its claims upon public attention.

BEURRE BOSC is a fruit of the very highest excellence, large in size, almost always perfect in form, and of a yellowish cinnamon russet color, which is evidently growing in favor. Pomologists rank it as "best" in quality, and as it ripens in October it may be valuable for market. We believe that the tree is not sufficiently hardy to endure the cold of

our more severe latitudes, but where it will thrive it will give most abundant satisfaction.

The older favorites yet maintain their place on the tables, and Bartlett, Flemish Beauty, Belle Lucrative, Seckel, Louise, Bonne, Duchess St Angoulême, &c., were present in large quantity and great beauty.

Though the season was late for a large display of varieties of Plum, yet there was a goodly number of sorts exhibited. We are learning—thanks to the efforts of the Fruit Growers' Association in calling attention to the practicability of the thing—to catch and kill the curculio, and so secure to ourselves a share of this delicious fruit. There were some very fine samples of the General Hand, a variety that has not been often placed on our Exhibition tables. It is a very large fruit, of a deep golden yellow, marbled with light green, ripening in September. The Jefferson as shown were very fine, and the Victoria very large and attractive. Indeed, in Plums, Ontario takes the lead, excelling in their production any of the States of the adjoining republic.

Evergreens.

The last tree-planting done in the spring, is usually of evergreens. No one can question their being an ornament to the lawn, both in summer and winter, if tastefully grouped, or scattered singly among the deciduous trees and shrubs. They are generally and justly regarded as more difficult to transplant successfully than those that cast their leaves in autumn. The principal reason why a greater proportion of evergreens fail in transplanting than of deciduous trees is because they evaporate water more rapidly through their foliage, than do deciduous trees through their bark alone, and in consequence are liable to exhaust the moisture in the tree before new rootlets are started to renew the supply. If sufficient care be exercised in every stage of the operation, there need be no great risk in removing evergreens.

1. They should be dug so as to save as large a proportion of the roots as possible. This rule is applicable to all trees, shrubs, or plants, but is more imperative with evergreens than with those that are leafless when transplanted.

2. The roots should not be exposed to the drying effects of sun or wind, because that will delay the renewal of their growth until after the tree is past saving. If they are to be transported some distance, the roots should be immediately coated with thin mud, puddled as it is called, and wrapped in damp moss.

3. After they are transplanted, should the weather be drying, it is a good plan to shower the *foliage* every evening with tepid water to counteract the effects of their rapid evaporation. It will do no good to soak the earth around their roots, until new roots have started, and then, unless the drouth be very severe, they will take care of themselves.

When to Transplant.

There is a difference of opinion upon this point—some recommending to wait until the new growth is somewhat advanced, and the new shoots have grown two or three inches, but we think that in that case, the young shoots are very liable to wither and die, unless conditions are very favorable. Others favor transplanting quite early, before growth has commenced, but there are objections to this theory. The cap which covers the bud is very tough, requiring considerable force to break and eject it, and the vital power of the tree is so diminished by transplanting, that the first efforts of growth are too feeble to throw off this cap; and in consequence the buds become smothered and die. As the result of these observations many have concluded that the *best* time to transplant evergreens, is just after the buds have commenced swelling so as to break their covering. Of course, we do not suppose that this time can always be exactly observed, but where it can, we think it the best.

What Varieties to Plant.

This will depend in a great measure upon the extent of the ornamental grounds. In large grounds we would admit many that we would exclude from smaller ones, and the experience of the winter of 1871-72 has led us to distrust many that were previously supposed to be perfectly hardy. The following may still be recommended with confidence:—*Arbor Vitæ American; Arbor Vitæ Siberian; Cyprus Lawson's; Austrian or Black Pine; Scotch Pine; White or Weymouth Pine; Great Silver Fir; Noble Silver Fir; Nordmann's Silver Fir; Hemlock Spruce; Norway Spruce; White American Spruce;* and *Oriental Spruce.* These may be generally considered reliable in climates no more severe than that of Rochester.—*American Rural Home.*

THE FRUIT GARDEN.

Profits in Small Fruits.

"Competition is brisk, and this leads me to believe that there are but two classes of fruit growers who can make the business very profitable. The first are those who have an abundance of capital with which, in a measure, to control unfavorable circumstances. If they only make a profit of a penny per basket, and sell enough, it will amount to considerable in the aggregate. Cultivators without a large capital having to come in competition, would be ruined with prices which give the extensive producer a small margin for profits.

"The second class are those who have a home market, and raise their fruit without any considerable outlay for labor. A man who works in the field himself, and has a family to gather and market his fruit, will find small fruit culture quite profitable, inasmuch as he receives an immediate return for his labor; but should he attempt to extend his operations until a number of hired laborers have to be employed, he will very likely find the profits growing gradually less. It is just here that so many persons have made a most serious mistake in the culture of small fruits. At the beginning, they have probably produced a few hundred quarts of fine fruit upon a small plot of land, and this being disposed of in the home market, they resolve to extend operations in the same direction, without taking into consideration the amount of capital necessary to purchase baskets and crates, as well as the extra amount of labor required in production. Even if these things are considered, the fruit grower is very liable to forget that there is sometimes a run of bad weather during the harvest season, also low prices and short crops. Perhaps some may accuse me of drawing too strongly on the negative side of this question. I beg them to remember that for many years there has been a strong team on the other side. I do not wish to discourage any one from engaging in the culture of small fruits, but merely desire to put them on their guard against expecting too great results."—*A. S. Fuller at Pennsylvania Fruit Growers' Convention.*

Mulching.

"Among the more intelligent horticulturists of this country the plan of mulching the surface for a part of the summer months, with some cheap material, has long ago been accepted as a wise and economical method for fruit growers to adopt. That such a system will keep the soil moist in time of drought, and the soil loose and open during a wet season, there can be no doubt, as any fruit grower who has tried the experiment will testify. While talking to a successful small fruit grower about mulching a short time ago, he said: 'If I could find no material to mulch my berries with, I would abandon the business.' Another person remarked: 'I covered my acre of Kittatinny blackberries, last year, with a heavy coating of salt hay, and the effect was magnificent—large berries and plenty of them—while some of my neighbors, who did not mulch, suffered severely from the drought.' This kind of testimony could be given without limit, as the experience of practical men, who have given the subject careful thought, and practically tested the value of mulching. Until quite recently, strawberries seemed to be the only fruit that was benefitted by mulching, and that more on account of the mulch keeping the berries clean and free from dirt or gravel, than anything else. But the usefulness of a mulch is by no means confined to the strawberry; but where material can be had cheap, there is no question but it would pay well to mulch raspberries, blackberries, currants, gooseberries and pears. Nor is there any question but what the size of fruit will be increased, and growth more uniform. Where the surface is covered before hot weather sets in, the mulch will serve a three-fold purpose when put on heavy enough. As stated, it keeps the surface soil moist and of uniform temperature during the growing months, and therefore the crop of fruit is not checked, nor the growth of wood retarded by an excessive drought. Again, under a mulch, the surface never becomes compact, no matter how much rain may fall within a given time. The falling rain strikes the hay or straw, and then filters through gradually, giving the best condition for plant growth. Even on clay ground, where the surface has been mulched for three or four consecutive years, it is difficult to compact the surface.

"Another and important feature about mulching is, that the weeds are kept down without hoeing. This, in a large or small place, is of sufficient importance to arrest the attention of fruit growers, in a labor-saving point of view, if for nothing else. When the

THE VEGETABLE GARDEN.

The Best Early Beet.

The New York Tribune says that last year was the first that the dark red Egyptian beet has been grown to any extent by gardeners near New York, and the results were so favorable, that those who can get enough seed will sow nothing else for an early beet the coming [illegible]. With market-gardeners this beet is a great favorite, and it [illegible] with them supersede the [illegible] Blood Turnip. The Egyptian is, at least, twelve days earlier; it can be prepared for market with one-third the labor usually bestowed on the Blood Turnip, and last year the dark Egyptian brought [illegible] cents per dozen bunches more than any other variety of early beet in the market at the same time. The writer sowed the two varieties alongside of each other, and watched the growth closely, giving both the same treatment, and the Egyptian came [illegible]. At first there did not seem to be much difference in the growth, but just as soon as they began to make roots, the Egyptian took the lead and kept it.

There are hardly any small roots on this new beet when full grown, and therefore they require no trimming, can be cut in the tops as pulled, be thrown into the wash tub and washed and bunched. With the other varieties of early beets that are grown for market, it takes just as long a time to trim off the small roots as it does to bunch, so that when the Egyptian is grown, all of this labor is saved, which is an important item with the city market gardener.

In quality, the dark red Egyptian is fully equal to the early Blood Turnip, or any other variety that is commonly grown for market. Until now, the Early Bassano stood first on the list for home use, both for earliness and quality. Last year the writer missed sowing [illegible] of this variety, but will do so this season for the purpose of ascertaining how it compared in earliness and quality with the Egyptian. The Bassano will not sell in market, owing to its light color. But it has always been a popular table variety for home consumption.—*Fruit Recorder.*

Hoeing up Cabbage.—John Price, in the *Gardener's Magazine* (English), says: "The grand secret of cabbage growing is to continually stir the ground but keep the earth away from the stalk."

The Best Potato.—H. Biddle says in the *Practical Farmer*, that he considers the Early Rose and White Peach Blow the two best potatoes grown, and we think, take all things into consideration, over the greatest extent of country, that he is right.

The Best Tomato.—James Vick, in his last *Floral Guide*, says: "The best tomato in existence to-day, I believe, is Hathaway's Excelsior. This opinion has not been formed hastily, but after three year's trial in my own grounds, and after receiving reports from all parts of Europe and America, where I have sent it for trial."

Early Onions.—We understand that the onions that are taking the lead in our market this summer, both for earliness and quality, are the new Italian varieties, recently introduced into this country by our enterprising seedsmen. Sowed last August, and lightly covered with manure during the winter, they were ready to pull for green onions quite early, and were full grown early in the summer. The Early Flat White Italian Tripoli, Large Flat White Italian Tripoli, and Large Flat Red Italian Tripoli are said to be the best varieties. Our market gardeners would do well to investigate their merits.

Value and Earliness of Varieties of Sweet Corn.—We have this year planted and grown side by side a dozen or more hills each of fourteen named varieties of sweet corn, our object being to again test the earliness or comparative earliness of sorts, and their thus apparent value either for the market grower or the private family. Some years since we had a variety of Brill's Extra Early, which always has a reddish stalk, and was with us the earliest variety, but our planting of corns side by side for test of [illegible], gave our seed a mixture, and we have lost the Brill, nor have we been able to obtain it pure. The Minnesota comes next in earliness to Brill's, as per our test of years gone by, but this and last year, while we acknowledge the Minnesota an early sort, its ears are too small for market. Pratt's Early is very much like Minnesota and side by side is equally early, but it also has a trifle larger ear and is preferable. [illegible] Extra Early comes, when grown side by side with the forenamed only, one or two days later, and its ears are much larger and superior. All in all we consider Brill's Extra Early as the very best very early sweet corn yet known. Darling's Extra Early is next in value, and then comes Crosby's

or Boston Market Extra Early with the best sized ear of all before named. Campbell's Extra Early we have no desire to grow again, when we can obtain either of the foregoing. [illegible] has a good character and is said in the catalogues to be earlier than Moore's Concord, but when [illegible] Moore's Concord [illegible] [illegible] and [illegible] [illegible] to color, [illegible] not to [illegible] taste [illegible] on our table. [illegible] Mammoth Sugar and Evergreen, or as [illegible] called [illegible] [illegible] not yet matured, but [illegible] records give only credit to the [illegible]. The General Grant is a new sort, and [illegible] very late, ours certainly will be.—[illegible] *Herald.*

GREEN-HOUSE.

Melastoma Malabathrica.

This is an easily grown plant, and one which, if well attended to, makes a good bush, and even produces fine heads of bluish-purple flowers when not more than from one to two feet in height. Cuttings of it strike freely in bottom-heat under bell-glasses. Its foliage is of a purplish-green, very hairy, and contrasts well with those of its associates in a mixed stove. This species of Melastoma is very common in Malabar, where it is used by Indians in the same way as the common laurel is with us. It is therefore called Malabar laurel. Some of the melastomas are considered difficult to grow, but this one grows as freely as a pelargonium. It likes a soil consisting of equal parts of loam and peat, to which should be added a dash of sand.—*The Garden.*

Shade for Glass Houses.

The best permanent shade for plant houses is linseed oil and white of lead, in the proportion of about a tablespoonful of lead to a quart of oil, but the exact quantity must be governed by the amount of shade required, which can easily be proved by trying it upon pieces of waste glass. First wash the glass thoroughly clean, and then, on a dry, clear morning, take the oil mixture, and paint as thinly as possible over the glass with an ordinary paint brush. By dabbling it gently with a dry brush, it will impart to it the appearance of ground glass. The shading will stand for a season, and can be removed by washing it with a strong pearl-ash water. —*New Jersey Mechanic.*

Wood Lice in Greenhouses.

Mrs. D. E. H. Middleburg asks, "Will you please tell me through your *Monthly* how to rid my greenhouse of the lice, which trouble very much. At the time the greenhouse was built, an old building was removed to make room for it. With all my efforts the bugs infest the house."

[They are easily caught by putting pieces of boiled potatoes in flower pots, and some dry sweet hay loosely over this. These traps examined once a day, will soon clear a greenhouse of the pests.]—*Gardener's Monthly.*

"This same "catch trap" will answer for ants in the garden, and when covered with the "varmints" dip them in hot water.)—*Ed. Recorder.*

THE FLOWER GARDEN.

Influence of Flowers.

Though all may not possess hot-houses, or even fine flower-gardens, yet may each have a window-sill and flower pot. We cannot stroll through the dingiest streets of our great cities, where squalid misery is present on every hand, without sometimes noticing a stray verbena, a geranium, or a hyacinthe—slight, though unerring evidences of taste, refinement and appreciation of the beautiful. We are looking as we write, through a window into the cheerful room of the Bethel Mission, and are thereby reminded of an incident appropriate to our subject. A few months since a teacher in the Bethel sewing-school suggested the present of a hyacinthe to each of her scholars as a reward of merit. We offered to furnish the bulbs, and gave her minute instructions for their care, which she imparted to the young expectants. The day of award came, and with it such an array of glass and tin, iron and earthenware; broken and whole, colored and plain, as only a May day or a deluge could produce. The bulbs were treasured as if destined to produce flowers of gold, and the whole neighborhood was stirred with the anxious waitings for blossoms. One by one the reports came in. The most successful hyacinthe-growers became objects of envy. Emulation was excited; comparisons were made daily: and now there are scores of devoted flower-lovers among the young learners. But that which points the moral and adorns our tale, is the fact that progress in the sewing school has more than kept pace with the growth of the flowers. The listless and careless have become diligent. They are encouraged to feel their own importance—and all through the importance—to them—of their flowers. That the flowers have worked marked changes for good in many cases cannot be denied.—*New England Homestead.*

MELASTOMA MALABATHRICA.

Plants for the Window.

The selection of plants for winter window vases depends essentially upon which side is to be the point of view. If chiefly from the *outside* large leaves and large colors show best, such as bulbs, or well grown foliage plants, as begonias, &c., kept under glass shades to preserve the necessary air moisture, with the warmth which they require. But if the vase is seen chiefly from the *inside*, the case is very different. Colors will not show well against the light, but neatness of outline and graceful wantonness of spray will show with great elegance, especially if seen against the sky with only the panes of glass intervening. The pretty curls of the Coliseum ivy (*Linaria cymbalaria*), or the ringlety smilax, (*myrsiphyllum*), or the fine tufts of Gypsophila and some Saxifrages, Sedums, Galiums, and other Alpine plants and grasses are graceful in every turn, like the unstudied movements of a joyous child, and color will not be wanting. Leaves thin enough to show their tints transparently show them against the sky to great advantage. Most of these plants endure dry air very well.—*Country Gentleman.*

Plant-Growing in Windows.

Thousands who try to grow plants in pots, tubs or boxes, fail, mostly because they let the pots be exposed to the hot sun. Now we never see the roots—that is, the part which draws nutriment from the soil—fully exposed to the sun in a state of nature, and this should teach window-gardeners to shade the pots and boxes in which their plants grow. Another cause of failure is allowing the leaves (being in reality the lungs of the plant) to get dirty; it is imperative that they should be kept clean. I have often been asked why plants did not do well in windows, and it is often difficult to answer without seeing the plants, but the general failures occur from the causes above named, for it stands to reason that if half the roots of the plant are burned off repeatedly and the leaves are killed with dust, sickness will be the result. It is easy to clean off the dust by taking a little brush or broom and dipping it in water and flirting over the leaves of the plant two or three times in a week. Try it, ladies.—*Prairie Farmer.*

Preserving Flower Stakes.

I have now in my possession flower stakes which have been in constant use for over nine years, and their points are yet perfectly sound and good. I take common coal tar and bring it to the boiling point in a kettle some ten or twelve inches deep; I then place the lower part of the stake in the boiling tar immersing it as deeply as the pot will allow. After they have remained therein about ten minutes, I take them out, allow the surplus tar to drain off, and roll the hard portion in clean, sharp sand, covering every part of the tar. After they have become perfectly dry, I give them another coat of tar, completely covering the sanded part. Then, after being, thoroughly dried, they will last for years. Some of them I have painted three times with lead and oil paints on the upper part, and they are ready for the fourth, while the lower portion is still sound and good. To treat a lot of stakes in this manner costs but little and pays well, and it saves a great deal of future labor and annoyance.—*The Technologist.*

Ammonia for Verbenas.—The sulphate of ammonia, is an excellent manurial liquid, to apply to verbenas or any other flower, giving to the foliage a dark green luxuriant and healthy appearance. It is economical, and easily applied. Prepare it the evening before using, by dissolving one ounce of ammonia in two gallons of water. It may be applied once a week with safety.

To Grow Choice Roses.—The rose is one of the few cultivated plants that will withstand almost any amount of stimulating manure, provided it is not too fresh and rank. Let it be old and fine, and then apply as liberally as the supply will warrant. All roses do better in a rather heavy and compact soil than in one that is very light, containing too much sand or vegetable matter. The rose being a thirsty plant, it should be planted in a deep, moist soil, or where water can be freely given artificially. Those who plant single specimens of roses in sod or upon raised mounds in the garden, usually learn their mistake in July and August.—*Rural New Yorker.*

Soil for Floriculture.—Most flowers, if not all, succeed best in sandy loom, made rich by the addition of well-rotted manure, which should be thoroughly mixed with the soil. Such a soil, thus prepared, will not become hard or baked, but will become loose and porous. It will not only afford the small and tender plants a chance for existence, but it will also enable them to perfect themselves with vigor and beauty.

If your garden is composed of a stiff, heavy soil, a good dressing of sand and manure will assist it wonderfully in the way of plant development; and some of the most delicate plants that would not succeed at all in such soil, in its unimproved condition, will, after such preparation, flourish in the most satisfactory manner.

A heavy soil is greatly benefited by being roughly spaded up in the fall, and remaining in that condition through the winter. In all cases, before sowing the seed, it is of the utmost importance that the soil should be throughly pulverized. This important particular should never be overlooked.—*Boston Journal of Chemistry.*

Breeder and Grazier.

Stock Breeding.

The following article, [illegible] from the [illegible] *Horse Journal*, of Kentucky, [illegible] worth a careful reading. There are few [illegible] in which [illegible] growing, [illegible] First, make the pasture and arrange [illegible] feed, and then get good stock and there is money in it. In the wide field of agriculture, no [illegible] so important, [illegible] so interesting, [illegible] stock breeding. [illegible] farming; [illegible] upon which [illegible] depend; [illegible] tributes. The English people, who are [illegible] ably the best farmers in the world, and [illegible] been a farming people *par excellence*, have [illegible] this truth into three sentences: No cattle, no manure. No manure no grass. No grass no [illegible]. This is the true doctrine—the trinity of good farming the world over. Within these three sentences is expressed the whole philosophy of [illegible] husbandry—a philosophy found [illegible] fied by science. Let us look at the matter a little more in detail. It is an indisputable fact that all crops taken from the ground remove more or less plant food from the soil, and that in time the most fertile soil in the world will become exhausted by continued cropping without manure. [illegible] it is manifest that manure [illegible] absolutely necessary to the preservation of the fertility of any and every farm. The question then [illegible] every farmer should be, how can I best keep my land in heart? How most easily restore the plant food taken away [illegible] crop? For, by far the greater majority of farmers, the answer to these questions is, by keeping cattle to make manure. Farmers living near [illegible] may purchase manure enough to do them, and can, in [illegible] cases, devote all their land, [illegible] to growing crops that [illegible] Better [illegible] manure [illegible] use. [illegible] the cheapest, and the [illegible] manure the farmer [illegible] upon his own cattle.

Again, [illegible] with farm products as with other things, the manufactured article is always worth more than the raw material. Corn, oats, hay, etc., are the raw materials of the farm, while horses, mules, cattle, sheep and hogs are the manufactured articles. It is much more profitable then for the farmer to make his corn and hog into meat than to sell it raw. Again, the farmer who grows stock may always have something to sell, while he who only raises corn or any other crop to sell, is in the market but once a year. And, [illegible], no branch of farming requires so little heavy work, while none offers so inviting a field for the intelligent labor of the educated farmer. Hence it is that we place stock breeding at the head of the art of farming, as the most important, the most pleasant, and the most profitable.

The Horse in the Stable.

The following sensible remarks are made by a correspondent of the *Western Rural*:—

In selecting a site for the horse-barn, a high and dry situation is essential in order to drain the stable, purify the atmosphere around it, and preserve the health of its inmates. The stable should front the south to shelter stock from the prevailing cold winds, and give them the benefit of the warmth of the sun. It requires to be thoroughly drained and well ventilated. Damp, filthy stables, full of decayed vegetable matter and foul air, are the prominent causes of such fatal disorders as bring fevers, influenzas, farcy and glanders, that destroy annually so many valuable horses. Fresh air is indispensable to supply the place of that which has been once breathed, and take away the fumes of ammonia, always found in close stables, depriving the atmosphere of its life-sustaining elements, till it is not fit to breathe. Next to ventilation, light is essential to the health of horses. Blindness, as well as other diseases, have been attributed to dark, ill-ventilated stables.

The domesticated horse is more predisposed to become blind than any other animal. The cause must result from over exertion, or mismanagement in the stable. The wild horse is seldom found blind. This shows that close stables have a potent effect in spreading the infirmity. It has been said that dampness in back walls may be obviated by extending [illegible] the gable ends and [illegible] some two or three feet. The projection makes the barn cooler in summer, and warmer in winter, whether it diminishes the causes of disease or not. Apertures for [illegible] will renovate the stable [illegible] foul air, and the re[illegible].

[illegible] by breathing, be[illegible] the influence of pure [illegible] may be demonstrated [illegible] horses running at large escape [illegible] others compelled to breathe [illegible] stables. The infection [illegible] may be more conclusively [illegible] horses kept in perfectly ventilated [illegible] subject to one-tenth of the [illegible] dy, undrained, ill-ventilated [illegible] of the horse are the most [illegible] kept in condition. Some [illegible] require hand-rubbing to re[illegible] become feverish in the [illegible] wet bandages to relieve the [illegible] the legs in cold water can[illegible] except they are thereafter [illegible] Cracked heels and swelled legs are a [illegible] the limbs to dry by the [illegible] evaporation.

[illegible] are the natural and most essential food [illegible] Turning out to grass will prove a [illegible] for inflammatory diseases. It also [illegible] and sometimes entirely removes, chronic [illegible] Hard upland meadow hay is prefer[illegible] for trotting and running [illegible] a day being about the usual [illegible] workers. The draught, or slow [illegible] horse, should have all the hay he will eat. [illegible] sweeter, more nutritious, and easier di[illegible] new oats. They are the most profitable [illegible] year old. The roadster in active service [illegible] daily from twelve to sixteen quarts of [illegible] The draught horse will work on from ten to [illegible] quarts per day.

Regular hours of feeding are as necessary as a liberal allowance of food. The fast horse must be [illegible] in small feeds. They cannot go fast on a full stomach. The diver, boxer, wrestler or runner must regulate his diet to correspond with the active [illegible] required of his physical powers. Trotters [illegible] food or water on trotting days; runners are [illegible] to prevent eating or drinking until after their race is over; for all work that materially forces the breathing should be performed on an empty stomach. Young horses ought to be worked moderately, so as to gradually harden the flesh, enlarge the tendons, and develop a sound constitution. Overtaxing the muscular powers before they are matured, tends to weaken the joints, relax the cords and put up the legs, from which they may never recover; and the soft, half seasoned horse will take more food than those in good working condition.

When the work is such as to fall more severely on the legs than the body, they should be hand-rubbed, and the food must be so regulated as not to increase the inflammation. "The care of the legs and the body will take care of itself." Muscular exertion produces important changes. The motive power exists in different degrees, according to the state of the system. In one state, it has a slow and feeble action, in another it has a strong and powerful action. The muscles are the active instruments of motion. They are put in force by the power of the will. Condition implies that state of the muscular system that confers the most strength, speed, and endurance. Condition is the fruit of exertion that clears the wind, quickens the action of the vital forces, produces perspiration, which purifies the blood, and invigorates the body.

Water on Harness.

The *Harness and Carriage Journal* remonstrates in the following terms, against the too common practice of wetting harness before cleaning and oiling:—

Many of the instructions given under the guise of rules for preserving harness, are well calculated to cause permanent injury, and reduce the wearing qualities. Some recommend that all the straps be unbuckled and, as far as possible, removed, after which they are to be thrown into a tub of water to loosen the [illegible], &c., when they are to undergo a [illegible] process, this in turn, to be followed by [illegible] soft, penetrating oils, and other [illegible] prepared from harder grease and wax. A little common sense would seem to be sufficient to prevent persons following such instructions.

After a harness is made up, water becomes its greatest enemy; and unless extreme care is taken, the water will [illegible] the leather and drive the grease to the surface, when it will be rubbed off, and the leather rendered still more liable to injury from the same cause. Besides this, many of the straps are doubled and pasted together, or bent around iron bars, or perforated with holes and stitched; all these points are easily injured by water, and it will require but little soaking [illegible] to remove the wax from the thread on the surface, or to [illegible] it through the holes at the end of the stitches, the injurious effect of which is the [illegible] of the thread and fitting it to absorb the water when it is, soon rotting it. This is bad enough, but many of the straps which they can [illegible] well [illegible], but it is still worse under the loops around the buckle [illegible], &c., where, in addition to rotting the stitches, it rusts the iron, which further assists to destroy the life of the leather. The water also works in between the layers of the leather, softening the paste and opening receptacles for the moisture at all points, particularly around the buckle-holes and on the edges.

Were it not for the injury arising from a loss of reputation, the harness maker might well afford to employ agents to give instructions of this kind to his customers, as there is no doubt that by so doing he would be able to reduce the wearing qualities of the harness at least one-half. But the worst feature of all this is that, no matter how much these compounds injure a harness, the fault is never attributed to bad care, but to the harness maker instead, when, as a further proof of poor quality of the harness, the use of these preservatives is stated to have been insufficient to counteract the inherent fault.

Pulling in the Halter.

Some horses are very cunning and persevering in their efforts to get loose; they often succeed during the night, and wander over the stable in quest of food, quarrelling and playing with the other horses, disturbing their rest and laming them. Some slip the halter over their ears; these must be tied by a neck-strap, or the throat-lash, by being set out from the head-piece, can perform the office of a neck-strap. Others bite the rope through; the only remedy for them is a chain. In admitting a strange horse to a stable, it might be prudent to tie him up, as if he were known to be in the habit of getting loose; it will soon be seen whether or not the precaution be necessary. Many horses attempt to get free by falling back upon the haunches, and throwing their weight upon the halter-strap; there they hang for awhile till some part of the rein gives way, or till they find it too strong for them. This is the true breaking-loose; cutting the rope with the teeth, and casting the halter, are merely slipping loose. Such a forcible mode of getting free, or attempting to get free, is attended with some danger. If the tie suddenly gives way, Charlie falls back with such violence that he is generally lamed or injured. The haunch bones are sometimes broken, and the hocks seldom escape a severe contusion; occasionally the head is cut, either by the fall or the strain of the halter.

There are two ways in which a cure is attempted; one consists in giving the horse a good fright and a tumble, by freeing the rope at the moment he is trying to break it. This, however, is not a cure, as it seldom prevents the horse from repeating the attempt; it only puts him on his guard against the sudden rupture of the tie; he still persists in his efforts to break it, but he takes care not to fall backward. The other way is to tie him so strongly that no force he can exert will free him. After he has made a few unsuccessful trials, he appears to conclude that the thing is not practicable, and he desists. For an experiment of this kind a leather halter is too weak; the head-piece, upon which the stress falls, should be of strong rope, setting close behind the ears. If the manger is not sufficiently firm, the ring should be sunk deep in the wall. The use of a neck-strap, instead of the ordinary halter, deters many horses from this trick of breaking loose. As additional security, the halter may be put on too; it keeps the head straight, so that the neck may not be twisted when the strain is on the strap. The halter strap should be as long as the neck rein. Whenever the horse is observed hanging in the collar, with the purpose of breaking loose, he should be well flogged always from behind.

The trick is often the result of bad management. An awkward or rude man, by the manner in which he approaches a horse, or works about the head, often frightens or pains him. The horse should never be struck in the head or neck, nor a blow threatened by a person standing before him; it makes him draw back. The ordinary mode of filling the hay rack, may have something to do in producing the habit. A few horses of determined temper will not be tied up after they have succeeded several times in breaking loose. They struggle so long, and with such violence, that they injure themselves, even when they do not get free. A loose box is the proper place for these.—*Vermont Farmer.*

Poultry Yard.

Black Cochins.

An effort is now [illegible] in England to [illegible] this variety [illegible] with Buff, [illegible] annual from [illegible] or more of the [illegible] this year. [illegible] this variety [illegible] attention [illegible] nearly become [illegible]. [illegible] difficulty in breeding to feather [illegible] second year [illegible] reddish or golden feathers [illegible] and wings. [illegible] understand [illegible] still [illegible] up the breeding of Black [illegible] years but few [illegible] utility, and comparatively [illegible] an English journal says [illegible] deal of misapprehension [illegible] still some doubt as to whether [illegible]. Several years ago I obtained [illegible] direct from Shanghai; they [illegible] and never had the [illegible] feather. I have bred from them [illegible] chickens though light when first hatched [illegible] black and remain so. [illegible] under feathers of the cock [illegible] a mistake, [illegible] feathers. It is the cross [illegible] which produces bad [illegible] and after each moult become [illegible] colored. I maintain that there is a true and pure Black Cochin the result of no cross—as any Chinaman will tell you—and I hope to send [illegible] to the Crystal Palace show, at which I am [illegible] they will [illegible]."

Black Cochins should [illegible] formation of character with the other varieties of the Cochin family. They should have [illegible] rather short and well feathered, [illegible] extending to the extremities of the outer toes. The down abundant on thighs and under part of body, especially so in the hens. The backs [illegible] should be a glossy greenish-black color when seen in a strong light, the former to be free from brassy-colored feathers about the wings. The comb of the cock should be single and evenly serrated, deaf ears and wattles a bright red—although [illegible] experimental rules for obtaining pure black birds [illegible] shapes with other varieties, Mr. W[illegible] suggests the breeding in large quantities and then selecting on those which come nearest the true Cochin in size, shape and color, those that show [illegible] width, saddle or cushion, [illegible] feather, and [illegible] freedom from red or golden feathers, as the most likely method of securely arriving at good birds, and adds, that Black and White being to a great extent interchangeable colors, a cross from a fine white Cochin hen might be tried with advantage to give substance and quality, putting only one white hen in a run, and dyeing her black, the white might be bred out again without much difficulty. We are not aware of any Canadian [illegible] have Black Cochins at present, but in the United States there are several who have them.

Partiality Among Cocks.

A henwife in Massachusetts, says the *Massachusetts Ploughman*, when remonstrated with for keeping two cocks with a flock of twenty-five fowls, explained that one cock was partial to a part of the hens, and showed [illegible] to the others, and she was satisfied that was the reason why about half of the eggs she had set had proved to be rotten, while the balance would bring forth bright and lively chickens. If your readers will watch [illegible] their hens, they will often see the cock [illegible] run at and fight part of a flock, showing [illegible] dislike to them. Be sure not to set eggs from those rejected hens, as they would not prove fertile, but select eggs from hens to which the cock is partial.

Preserving Eggs.

A correspondent of the *Country Gentleman* writes as follows:—One of your correspondents asks for a method of preserving eggs through the winter. Here is a way that my wife has practised with perfect success ever since we were married, which is twenty-eight years. She puts a lump of lime as big as a man's fist in a bucket, and fills with water. After the lime falls, it is stirred up and allowed to settle, and it is then ready for use.

The eggs are put into a vessel, and the clear lime water is poured over them, together with some of the thick creamy part of the mixture from the bottom of the bucket. If only clear lime water is used, the eggs will not keep, and if too much lime from the bottom of the bucket is put on, then it will eat the shells. She says that she pours in the creamy part in about the proportion of a big bowlful to a bucketful of the clear water.

Once in a week or two she examines them and stirs them up. If the shells are rough, there is too much lime, and if any of the eggs were not good when put down, they will pop when she stirs them, which makes it necessary to take them all out and wash them before repacking. This never happened [illegible] once. The stirring is not for examination alone, but is necessary to the preservation of the eggs, for if they should lie too long in one position, the yolk would settle down to the lower part of the shell, and then spoil, she says. The stirring is accomplished by running her hand to the bottom of the vessel, which is easily done, as the eggs are almost floated by the water, and drawing it slowly to the top with the hand bent. This is a cold job in winter, for the eggs must be kept in a cold place of course, but must not be frozen.

Now for my part of the statement. We had eggs for breakfast this morning that were put down some time last summer, when they were plenty and cheap, and they seemed just the same as fresh eggs. We have plenty of eggs every winter, and all winter for cakes, puddings, poaching, boiling, or any other use they can be put to, and that at the lowest price of the year. Besides being a delicious luxury, they are cheaper than meat, my wife says, and she does all marketing.

A Queer Mother for Ducks.

There was, not long ago, a dog in England, whose whole family of pups were drowned, so that she was left alone, with nothing to love. Her name was Mop; and she was very sad when she found all her little ones taken away from her.

About the same time, a brood of nine little ducks had been left without any mother to take care of them; so what did Mop do but adopt the little ducks for her own? She would save her food for them; and when they went into the water, she would go with them.

The little ducks learned to love poor Mop very much. They would jump on her back; and if any strange dog came into the yard, thinking he could catch one of the little ducks to eat, Mop would growl so that the strange dog would run off pretty well frightened.

Mop was happy in her little family; for love makes even dogs happy; and when the ducks grew up, they did not forget the friend who took care of them.

Many a good time they would have swimming about in the pond, or eating their dinner together.—*The Nursery.*

Brahmas as Layers.

I have made many comparisons, not with one trio alone, guessing nothing; marking everything on paper, and the Brahmas have always proved themselves much superior to the common fowl, laying 20 to 30 eggs before becoming broody, while the common laid but 12 to 16; ready to commence again to lay in 10 or 12 days after breaking up, while the common require a rest of 3 weeks and longer; laying 12 to 16 eggs in the second clutch while the common was content with 6 to 8; or, if allowed to sit, ready when her chicks were a month old to produce another batch of 25 or 30 eggs, while the common required 2 or 3 months to begin again on her 12 or 16. This as to eggs, moreover they grow to so much larger size, they eat less, are quicker, tamer, more easily confined, for which a low fence suffices, consequently less troublesome; in every way superior. I once bought a setting of eggs from a prize strain, hatched a few light Brahmas, kept them 15 months and never got an egg; and I have been led to believe since then that failures are due in 9 cases out of 10 to improper feeding or bad selection. A Brahma pullet hatched in early spring should be through moulting and have commenced to lay when six months old; and hatched late may not moult until next spring and be ten months or more in age before her first egg, the latter being probably the finer looking bird and an equally good egg producer thereafter.

I may state the best soft feed, good in the order named: Oatmeal, ground fine, husks and all; Barley meal and shorts mixed occasionally potatoes or beets or turnips boiled and smashed and added to one of above. For grain: Buckwheat, as soon as the fowls become accustomed to its color: white oats, good malt barley, wheat and sometimes small white peas. I speak of laying hens; of course for growing chicks, corn, cracked and as meal, and other fattening articles, are very good.—*Cor. of Rural Press.*

Tying up Mothers.

Most poultry writers speak of confining hens with chickens in coops, as if no other mode of confinement were known or practised. Why a hen should necessarily be cooped up and confined to three or four feet of space, which must soon become filthy, is not very clear. A better plan in my judgment, one which I have almost always practised while the brood are quite young, is to tie the hen to a stake, post or billet of wood in open ground, and gave her the range of a circle from twenty to thirty feet in circumference. In this way she can get considerable exercise, can watch the chickens much better than in a coop, and the liability to accidents is no greater—is rather less, in fact. Most hens express at first some dislike at having a leg obstructed in its free use, and generally make a few tests as to the strength of the string, but on finding that it is sound, accept the situation. They have more liberty than when cooped up, are more comfortable, can do more for the chickens, and are no more liable to harm. When a stick of wood or a stone is used as an anchor, it can be picked up at any moment and the whole brood be removed to other quarters. At night the string can be detached in a moment from the leg, and the hen and her family be removed to a safe place. To guard against the danger of sudden showers when the owner is away, a coop can be placed near by, which will afford shelter from drenching rains. I have tried both plans, and much prefer open air confinement to the best coop I ever saw.

But no confinement of the hen is ordinarily necessary, except for a few days, while the chickens are small and weak. When confinement is necessary it is better to have an enclosure of a few rods, well grassed, where the mothers can be placed unfettered, and the chickens allowed to run out and in at will. They will not do much harm for a good many weeks—in many cases indeed will do good at insect catching. A lath fence, judiciously constructed, will afford ingress and egress to small chickens, and confine them as they attain size enough for the development of their scratching propensities.—*Country Gentleman.*

Influence of Food on Poultry.

The influence of the food of poultry upon the quality and flavor of their flesh, and eggs has not been taken into consideration; but it is now well ascertained that great care should be exercised in regard to this matter. In some instances it has been attempted to feed poultry on a large scale in France, on horse flesh, and although they devour this substance very greedily, it has been found to give them a very unpleasant flavor. The best fattening material for chickens is said to be Indian corn-meal and milk; and certain large poultry establishments in France use this entirely, to the advantage both of the flesh and of the eggs.

Brown Leghorns.—Here is a speculation in poultry which will set all the poultry fanciers agog. Read Watson, of East Windsor Hill, Ct., received one year ago last November a trio of Leghorn fowls, directly from Leghorn, Italy. They were 'brown Leghorns'—one being black, with variegated neck, the other one a reddish brown. They moulted that winter, and began to lay in February, laying every day. In April some of their eggs were set under other hens, and these April chicks began to lay on the 29th of July, and their eggs were hatched on Sept. 1st. Watson raised from those two hens, 150 chicks and has sold all but 10 pullets, for which he has received scores of orders. He has also sold the eggs, getting $3 for 13 eggs. These chicks and eggs have gone into every State, from Me. to Md.; and the orders are still coming. For the pullets he got $5 each, and $3 for cocks. In one year he has netted $450 cash from those 3 original fowls. That beats all the poultry stories yet read.—*Hartford Daily Times.*

Correspondence.

"Red Water" in Cattle.

(*To the Editor of the* CANADA FARMER.)

SIR,—May I ask, through your valuable paper, if any of your numerous correspondents can give me any information respecting the cause or cure for Red Water in cattle.

I have been farming in a thriving settlement in the Province of British Columbia for the past ten years, and have year after year suffered much, as well as many other persons residing in the same district, from the loss of cattle afflicted with this disease.

The description of stock most subject to Red Water here, are steers and working oxen, and, in a few instances, cows have been subject to the same malady, but this is not of frequent occurence.

When first the disease presents itself, the animal affected soon begins to have a half starved and unthrifty appearance, with but little apt. tude to fatten, although fed upon the most nutritious food available, and, even in the most obstinate cases, the urine of the animal will, at intervals, resemble in color that of a healthy beast, but quietly assumes again the color of blood.

Cattle, if not disposed of on the first appearance of the disease, will linger for two or three years, gradually becoming weaker, especially in the fall and winter, when decline is most apparent; and all remedies hitherto tried having failed, the animal at length becomes helpless and dies.

If any of your correspondents could suggest a preventative or cure; and an opinion whether the meat of an animal killed in the early stage of the disease is wholesome as human food, they would be conferring a great favor on one of your British Columbia subscribers.

A COMOX, VANCOUVER ISLAND, FARMER.

[REPLY.—Red Water is a disease that has been found to affect cattle more or less in many parts of the world. In some countries and in some districts it prevails to a great extent—many valuable animals yearly succumbing to its influence. Red water is a blood disease, and is dependent upon the nature of the food on which an animal lives; or it may be due to certain herbs, or plants which appear at certain seasons of the year. Rank and coarse herbage, and wet lands, are well known to be prolific causes of this complaint. In many parts of Great Britain and Ireland, some forty years ago, red water prevailed to an alarming extent, but since these lands, productive of the disease, have been improved by thorough drainage, and a better system of cultivation, the disease has entirely disappeared.

Although the disease shows itself so plainly in connection with the urine, the change in the appearance of that liquid is due to an altered condition of the blood; its several constituents becoming changed, and being drained away by the kidneys.

Our subscriber from British Columbia has well described the symptoms, &c., of this disease, so prevalent in his settlement, the cause of which, in all probability, is due to the condition of the soil or food.

In the treatment of red water, it is essential to give a change of food, and administer a mild laxative as half a pound of epsom salts, dissolved in two quarts of water, followed in a day or two by half ounce doses of the hyposulphite of soda, which may be continued for ten or twelve days.

Animals affected should have a regular supply of salt. Possibly in some districts of this country, this disease, as well as others, may be, to a great extent, prevented by keeping animals regularly supplied with salt, the use of which appears so necessary for maintaining the system in a healthy condition.

We do not think that animals affected with red water in an early stage or mild form, are unfit to be used as human food.]

Ornithology.

(*To the Editor of the* CANADA FARMER.)

SIR,—The "small greenish yellow bird, known as the golden wren," alluded to by your correspondent, S. R., p 298 of your last impression, was, probably, a "fly-catcher" or a "warbler." If the nest had been accurately described, the name of the bird might have been determined.

The "large greyish young bird, about the size of a young robin," fed by the smaller bird, was, undoubtedly, the "Cow Bunting," *Emberiza pecoris*, the adult female of which invariably lays her eggs in the nest of some small birds of a species different from her own.

Not long ago, I found, in my own garden, the nest of a "Chipping Sparrow," *Fringilla socialis*, containing, in addition to her own eggs, one laid by a "Cow Bunting."

The American Cuckoos make nests of their own, in which they lay their own eggs. S. R labors, therefore, under an erroneous impression when he suggests that "the young bird is probably a young cuckoo, and the American variety has the same habit of getting its young raised."

I saw, in a neighbor's garden, in the course of last spring, the flat, rough nest of a "Black-billed Cuckoo," *Coccyzus erythrophthalmus*, with the female sitting on her eggs.

VINCENT CLEMENTI.

NORTH DORO, *Sept 15th, 1873*

The Canada Farmer.

TORONTO, CANADA, SEPTEMBER 30, 1873.

The Great Short-Horn Sale.

In another part of this number will be found a full statement of the prices obtained for the several animals sold by the Hon. Samuel Campbell, at New York Mills, near Utica, N. Y., on the 10th September. It will be seen that one Short-horn cow sold for the enormous sum of $10,600,—and that 100 cows, heifers, and bulls brought in the aggregate $380,000, or an average of nearly $3,500 per head. Of course the affair is totally without parallel in any country and in any age.

A vast proportion of those who have read the newspaper reports of the proceedings at this sale, heartily unite in setting down the purchasers at it, as a body of hopeless lunatics. We confess, that on the face of it, there appears some ground for this conclusion; but a look below the surface—a careful investigation of the reasons that induced sagacious business men to pay such vast sums for a few animals, might possibly shake the confidence of these hasty critics.

The purchasers at Mr. Campbell's sale have no doubt as to the propriety of their investments. They state that the Short-horn is now established all over the world as the best and most profitable race of cattle, whether kept as a distinct family, or crossed with other races. They point to the enormous and yearly increasing demand from all parts of Europe, Asia and America, for drafts from the Short-horn herds of Great Britain,—and the great prices that are freely paid for high bred animals from the best herds. They allege, too, that all over Europe the demand for butcher-meat is rapidly increasing from the full employment and higher wages of the working classes; that to meet this great demand every available source of supply has been opened up and all but exhausted; and that high as the price of meat has risen in Europe, it is certain to go much higher yet. They aver that wherever kine are reared, the desire to share in the profits of supplying the great European markets has taken hold of enterprising farmers; and that first-class animals are eagerly sought to form the nucleus of good future herds, without much regard to the prices paid for them. They point to the numerous purchasers from all countries who now flock annually to England, to pick up everything in the shape of a well-bred Short-horn that can be secured, to the limited number of these animals now to be bought in Britain; and the vast sums with which the breeders are tempted to part with them, for foreign or colonial exportation. They contend further, that the Duchess family is the *Creme a la Creme* of the Short-horn race—that it stands unsurpassed and unsurpassable, throughout the world, as the very best that money can buy—and that for every member of this distinguished family in existence, a dozen of purchasers stand ready to buy. They do not omit, moreover, to call attention to the great prices now everywhere obtained for *all* the old families of short-horns, even for those classing much below the Duchesses in value; they claim that $2,000 is about the lowest figure at which a good animal of a "straight pedigree" can be purchased; that $3,000, $4,000 and $5,000 are common prices for such—and that far even beyond these figures many sales are being continually made. In short, they think that Short-horn is King—and that rare good times are coming for the breeders of pure Short-horns. And it is not to be denied that they have proved their faith by their works. Neither the Gloucester landed proprietor, who comes four thousand miles to buy a cow for $40,000—nor the sharp Kentuckian who pays down his $27,000 for a ten-months calf can for a moment have his sincerity doubted, when he declares his absolute belief in the good time come, and the still better time close at hand.

Without endorsing every argument thus put forth, we place entire faith in the firm position of the Short-horn as the first and best race of cattle, on good soil, whether for beef or milk, or crossing with other races. We believe that the cool, dry atmosphere of Canada, and the abundance of good forage crops, renders our Dominion peculiarly fitted for the raising of fine, healthy Short-horns; and that the day is not distant when the export of first-class animals from Canada to many parts of the world, will be a large and lucrative branch of our export trade. We hope to see the day when every enterprising farmer in Ontario will have at least one pure bred Short-horn cow in his stables, and when grade bulls will be driven from the cattle yard, and replaced by good, thorough-bred animals.

The Exhibitions.

The Guelph Central Fair and the Provincial Exhibition have been held, and as we go to press, the Hamilton Central Fair is in progress. The Guelph Central very shrewdly constituted itself the forerunner of the Provincial, and so secured a large number of animals, products and articles *en route* for London. It was in all respects a successful affair, well filled, wisely managed, largely attended, and pecuniarily profitable. For further details concerning it, we must refer our readers to the report which will be found under the head of "Agricultural Intelligence," on another page of this paper.

The Provincial Exhibition was one of the very best ever held in the country. Right nobly did the London people redeem the pledges they had given before hand, and well did they deserve the praise bestowed on them by the Treasurer of the Association at the annual meeting. Social interest, auspicious weather, numerous entries, crowds of visitors, and hearty good-will all round, conspired to make the occasion extremely pleasant, both in experience and memory. Very full particulars of those departments which are most closely allied to the farmers' calling, will be found under their appropriate headings in another place.

Some fears are entertained that the Hamilton Cen-

tral will suffer from following in the immediate wake of those just held in Guelph and London. Should this prove to be the case, it will raise the question, whether next year it will be wise, the Provincial being held in Toronto, to have exhibitions in Hamilton, Guelph, and London likewise. We hear half suppressed murmurings about "so many exhibitions," and apprehend that there may be danger of our having "too much of a good thing." Local ambition, rivalry, and jealousy, will, we fear, make this question very difficult of solution.

Provincial Agricultural and Arts Association.

The annual meeting of the above Association was held in the Court House, London, on Thursday evening of Exhibition week. The chair was occupied by President Andrew Wilson, of Maitland, who inaugurated the proceedings by reading the usual annual address, which dwelt mainly on the following points:—The harvest just gathered in; the excellence of the present Exhibition, and the general utility of such gatherings of farmers; comparison of this with previous Exhibitions; a glance at the adaptations of the different parts of the Province to certain farm and garden products; need of higher farming, underdraining, and more agricultural laborers; the aims and claims of the Ontario Agricultural College about to be established. A motion of thanks and request for publication of the address was carried. James Johnson, of London, and D. W. Beadle, of St. Catharines, were elected auditors. Toronto was chosen as the place for the Provincial Exhibition of 1874, and the same week in September in which it was held this year, fixed upon as the time of holding it next year. Votes of thanks to railway and steamboat companies, the Mayor, Corporation, and Local Committee of London, were carried, and after some desultory discussions on the best mode of appointing judges, the Association adjourned.

Fruit Growers' Association of Canada.

The annual meeting of this Society was held on Tuesday evening, 23rd Sept., 1873, in the Court House, London. There was a large attendance of members, and some new seedling fruits placed upon the table, among these two seedling grapes of unusual promise, the one raised by Mr. W. H. [illegible] of Hamilton, and the other by Mr. P. P. [illegible], of Albury, and both of them from seed of the [illegible]ford Prolific crossed with the Black Hamburgh.

The meeting was called to order by the President, and after the usual preliminary [illegible] to the discussion of [illegible] to the agricultural and arts act relating to the [illegible], a portion of which were approved and ordered to be transmitted to the Hon. Commissioner of Agriculture.

The President delivered his annual address, which was full of interesting thought and very valuable suggestions. From it we learned that in the competitions that recently came off in Boston, where prizes were offered to the State or Province that should exhibit the best collection of apples or of plums, or peaches, or pears, or grapes, or of any other fruit, the Province of Ontario carried away First Prize for plums, which was the Wilder Silver Medal and fifty dollars, the First Prize for the best collection of grapes grown in open air, which was another Wilder Silver Medal and fifty dollars, and the Second Prize for the second best collection of peaches, the State of Delaware taking the first prize, which second prize was the Wilder Bronze Medal and twenty-five dollars. In addition to these prizes won in competition with each State of the American Union, there was awarded to the Collection of Fruit shewn by Ontario, for its size and excellence, another Silver Medal, and to the Collection of Pears shewn by Ontario, which, though not sufficiently large to entitle it to either the first or second prize, these being won by the State of Massachusetts and the State of Connecticut, was of such beauty and excellence that the judges awarded to it another Silver Medal. The President of the Association was awarded the Bronze Medal for his [illegible] collection of pears. Thus it will be seen that the fruits from Ontario carried off two First, and one Second Prize, including four Silver and two Bronze Medals.

After the reading of the President's address, which will appear in full in the report of the Association, the society proceeded to the election of officers with the following result:—

Rev. R. Burnet, *President.*
Charles Arnold, *Vice-President.*
D. W. Beadle, *Sec.-Treasurer.*

Directors.

P. E. Dempsey,	*Albury.*
John McGill,	*Oshawa.*
Geo. Leslie, Jr.,	*Toronto.*
R. E. Hammill,	*Ancaster.*
J. C. Rykert,	*St. Catharines.*
A. B. Bennet,	*Brantford.*
D. Short,	*McGillivray.*
W. Saunders,	*London.*
Simon Roy,	*Berlin.*

The Agricultural College and Model Farm.

After many delays, caused chiefly by difficulties connected with the title to a portion of the land, Moreton Lodge Farm, Guelph, has at length passed into the hands of the Ontario Government, and will be henceforth devoted to the use and purposes of an Agricultural College. We understand that the necessary preparations for opening the institution are to be pushed forward with the utmost expedition. A large new mansion, built by Mr. Stone as a kind of [illegible], and never yet occupied, is to be internally altered somewhat, and, with a trifling addition at the rear, made to answer for the present. In this building and the large farm house near by, it is thought from twenty-five to thirty students can be accommodated, and should there be more than that number to begin with, board can be temporarily obtained for them outside the College premises. Should the institution prove a success, as we have no doubt it will, the building planned under Commissioner Carling's administration, or at least a portion of it, will ultimately have to be erected. It is intended to commence the first session of the College early in January. If this is to be accomplished, the work of preparation will require to be pushed on very energetically, for there is a great deal to do. As yet, the Prospectus, Course of Study, Rules and By Laws of the institution, have to be adopted and published. They are, we have reason to know, already drafted, and we believe it is the design of the government to confer with some of our leading agriculturists on the chief points before their final adoption. We hope to be able in our next, to give complete and authorized details concerning this important enterprise.

Canada at the Pomological Society's Exhibition, Boston.

The Boston *Daily Advertiser* thus refers to the Canadian department.—"The large central table containing the fruits of Canada West and Nebraska is the observed of all observers. The portion nearest the entrance is devoted to the very large contribution from the Fruit-Growers' Association of Ontario, Canada. At the extreme end of the table near the entrance is a large and choice variety of plums, almost too tempting to be thus exposed, with the label. "Please do not handle." There are over 75 varieties in this collection. Near these are about 30 varieties of grapes, all hardy, but apparently delicate to the taste, and 10 varieties of peaches. Next follow about 100 varieties of pears, some of notable size, and including both the early and late varieties. After these are about 150 varieties of apples, most of them being noticeable for the absence of bright colors on the outside, the color being instead generally a dark cold green, and giving little indication of their presumed excellence of flavor." The London *Advertiser* learns from a private source that the following prizes were awarded to Canadian exhibitors:—Silver medal for general display. First prize, $50, and silver medal for best collection of hardy grapes. First prize, $50, and silver medal for best collection of plums. A silver medal for collection of pears. Second prize, $25, and bronze medal for collection of peaches. The people of the Province of Ontario have every reason to be gratified with the success of their horticulturists at this, one of the greatest and most varied exhibitions of fruits ever held on the continent—contributions from almost every fruit-growing section in North America being present in competition for the prizes

Provincial Ploughing Match.

A Provincial Ploughing Match will take place on the farms of Messrs. Alcorn and Haig, on the road between Port Hope and Cobourg, on the 22nd of October next, when the sum of three hundred and seventy-five dollars will be offered, in sixteen prizes. First class, for men with iron ploughs; second for men with wooden ploughs; third, for young men under 21 years of age, fourth, for boys under 18 years of age.

Good Bread.—All who desire this, and who does not, are referred to the advertisement of "Diamond Yeast Cakes" to be found in another column. We have seen a certificate signed by highly respectable and responsible parties, who testify that this preparation has been tried in their families, and given "complete satisfaction."

Rational Horse-Shoeing, *by Wildair, with Illustrations. New York, Wynkoop & Hallenback.*—We have read this little work with much interest. It points out very forcibly the errors committed in shoeing horses, and the evil consequences that ensue, proposing as remedies, the Goodenough horse-shoe, and system of shoeing. We are quite sure blacksmiths in general are very unenlightened on this subject. They pare and prick away at the feet of horses, knowing nothing of their delicate mechanism, and often ruin noble animals. All who keep horses should read this book. If not brought over to the system it advocates, they will, at any rate, be qualified to prevent many barbarous and mischievous methods of shoeing by a perusal of it. For price of book, and directions where to get it, see advertisement in the present issue of the Canada Farmer.

Short-horn Importation.—Two very fine Short-horn bulls arrived last week by the *Phœnician* from England, for Mr. Brown's herd at Bow Park. One of them is a red Bates bull, bred by Mr. H. J. Sheldon, of Brailes House, Warwickshire, and a magnificent animal. He was got by *9th Duke of Geneva* (28391), from *Lady Louisa Barrington* by *Duke of Brailes* (23724). He is styled *Duke of Barrington 4th*, and will no doubt prove a most valuable accession to the Bow Park herd. The other bull is a pure Booth, bred by Mr. Hugh Aylmer, of West Dereham Abbey, and a very fine animal. His name is *Royal Tudor.* He was got by Mr. Booth's grand bull *Royal Broughton* (27352); his grandsire was Mr. Booth's *Prince Christian* (22581), and his four previous sires were *Majestic, Hamlet, Leonard* and *Buckingham*, all famous Booth bulls bred at Warlaby.

Agricultural Intelligence.

The Great Short-horn Sale.

(From the Albany Country Gentleman.)

We give below the results of the remarkable sale of the Short-horn herd of the Hon. Samuel Campbell, New York Mills, Sept. 10th :—

COWS.

1st Duchess of Oneida, red and white; calved Jan. 21, 1870; by 10th Duke of Thorndale (28458), dam 8th Duchess of Geneva, Lord Skelmersdale, England	$30,600
7th Duchess of Oneida, red and white; calved August 3, 1872; by 2nd Duke of Oneida (9926), dam 1st Duchess of Oneida, A. J. Alexander, Kentucky	12,600
10th Duchess of Geneva, roan; calved May 15, 1867; by 2nd Duke of Geneva (23752), dam 5th Duchess of Geneva, H. W. F. Berwick, Scotland, agent for Lord Bective	35,000
8th Duchess of Oneida, roan; calved November 18, 1872; by 4th Duke of Geneva (7931), dam 10th Duchess of Geneva, Mr. Berwick, for Lord Bective	15,300
12th Duchess of Thorndale, red; calved February 23, 1867; by 12th Duke of Thorndale (28455), dam 10th Duchess of Thorndale, Hon. A. B. Conger, Waldberg, Haverstraw, N. Y.	15,000
4th Duchess of Oneida, red; calved January 17, 1872; by 4th Duke of Geneva (7931), dam 13th Duchess of Thorndale, E. G. Bedford and T. J. Megibben, Ky	25,000
8th Duchess of Geneva, red and white; calved July 28, 1866; by 3rd Lord Oxford (22200), dam 1st Duchess of Geneva, R. Pavin Davies, Gloucestershire, England	40,000
10th Duchess of Oneida, red and white; calved April 7, 1873; by 2nd Duke of Oneida (9926), dam 8th Duchess of Geneva, A. J. Alexander, Kentucky	27,000
9th Duchess of Oneida, roan; calved March 2, 1873; by 2nd Duke of Oneida (9926), dam 12th Duchess of Thorndale, Mr. Berwick, for Lord Bective	10,000
12th Duchess of Thorndale, roan; calved Oct. 13, 1865, by 6th Duke of Thorndale (23791), dam 5th Duchess of Thorndale, Hon. A. B. Conger	5,700
3rd Duchess of Oneida, roan; calved March 19, 1871; by 4th Duke of Geneva (7931), dam 8th Duchess of Thorndale, Mr. Holford, England	15,600
8th Duchess of Thorndale, roan; calved Sept. 11, 1862; by 3rd Duke of Airdrie (23717), dam Duchess of Fordham, C. P. Wadsworth, Genesee, N. Y.	450
15th Duchess of Geneva, red; calved June 20, 1870; by 4th Duke of Geneva (7931), dam 12th Duchess of Geneva—breeding uncertain, and withdrawn by unanimous consent.	
5th Duchess of Oneida, died from an accident since Catalogue was issued.	
3rd Countess of Oxford, red; calved July 3, 1871; by Baron of Oxford (23371), dam 2nd Countess of Oxford, Hon. A. B. Conger	3,700
2nd Countess of Oxford, red; calved Dec. 22, 1866; by 2nd Duke of Geneva (23752), dam Gem of Oxford, A. W. Griswold, Malvern Farms, Morrisville, Vt.	2,100
12th Maid of Oxford, rich roan; calved Oct. 18, 1872; by 4th Duke of Geneva (7931), dam 2nd Maid of Oxford, Col. Lewis, G. Morris, Fordham, N. Y.	6,000
2nd Maid of Oxford, roan; calved Oct. 22, 1862; by Grand Duke of Oxford (16181), dam Oxford 20th, A. W. Griswold	6,000
3rd Maid of Oxford, red and white; calved Sept. 21, 1866; by Grand Duke of Oxford (16181), dam Oxford 20th, Warnock & Megibben, Kentucky	1,900
7th Lady of Oxford, red and white; calved Nov. 2, 1862, by 6th Duke of Thorndale (23794), dam 2nd Lady of Oxford, Hon. A. B. Cornell, Ithaca, N. Y.	400
12th Lady of Oxford, red and white; calved Dec. 15, 1869; by 10th Duke of Thorndale (28458), dam 7th Lady of Oxford, Mr. Holford, England	7,000
Lady Knightly 2nd, roan; calved Oct. 11, 1868; by 3rd Duke of Geneva (23753), dam Dewdrop, L. B. Thomas, Kentucky	3,100
Lady Knightly 3rd, roan; calved July 28, 1871; by 2nd Duke of Tregunter (26022), dam Lady Knightly 2nd, Col. Lewis, G. Morris	5,000
Lady Knightly 4th, red; calved July 30, 1872; by 4th Duke of Geneva (7931), dam Lady Knightly 2nd, A. W. Griswold	4,000
Rosamond 7th, red roan; calved May 26, 1868; by Weehawken (5250), dam Rosamond, W. R. Duncan, Towanda, Ill.	700
Rosamond 5th, red; calved April 13, 1867; by 3rd Duke of Geneva (23753), dam Rosamond 4th, Warnock and Megibben	700
Rosamond 4th, light roan; calved February 10, 1861; by Iron Duke (4045), dam Rosamond 2nd, James Mix, Kankakee, Ill.	570
Lady Newham 4th, red; calved December 17, 1867; by Weehawken (5250), dam May Queen, Jas. Mix	250
Lady Newham 5th, red; calved April 12, 1870; by Weehawken (5260), dam Lady Newham 2nd, Jas. Mix	150
Lady Newham 6th, red; calved Sept. 4, 1870; by Royal Briton (27351), dam Lady Newham 4th, Hughes & Richardson, Lexington, Ky	775
Lady Newham 8th, roan; calved May 21, 1871; by Baron of Oxford (23371), dam Lady Newham 2nd, Hon. A. B. Conger	1,100
Lady Newham 10th, red; calved August 4, 1872; by 4th Duke of Geneva (7931), dam Lady Newham 4th, Hughes & Richardson	525
Rosamond 16th, red; calved Oct. 14, 1871; by 4th Duke of Geneva (7931), dam Rosamond 4th, W. R. Duncan, Towanda, Ill.	2,050
Rosamond 12th, red; calved Dec. 27, 1872, by 4th Duke of Geneva (7931), dam Rosamond 4th, A. W. Griswold	725
Lady Newham 9th, red; calved May, 1872, by 4th Duke of Geneva (7931), dam Lady Newham 2nd, Hon. A. B. Cornell	400
Lady Newham 2nd, red and white; calved June 25, 1861; by Belmont, 2523, James Mix	295
Lady Newham 11th, red; calved Jan. 22, 1873; by 2nd Duke of Oneida, 9926, Hughes & Richardson	495
Lady Newham 12th, red; calved June 27, 1873, by 2nd Duke of Oneida, 9926, Hughes & Richardson	365
Brenda, roan; calved November 27, 1870; by 4th Duke of Geneva, 7931, Col. L. G. Morris	2,300
Belinda, roan; calved March 21, 1872, by 4th Duke of Geneva, Col. L. G. Morris	2,300
Berlina, white; calved Dec. 7, 1863; by Lord Mayor of Oxford, 4751, Caleb H[illegible], New York	325
Bloom 2nd, red and white; calved Jun[illegible], 1867, by 4th Lord of Oxford, [illegible], T. P. Fisher, [illegible], Ky	500
Bloom 4th, red and white; calved April 11, 1872; by 4th Duke of Geneva, 7931, Hon. A. B. Cornell	1,005
Bloom 5th, red and white; calved April 29, 1873, by the 2nd Duke of Oneida, 9926, Cassius M. Clay, Ky.	500
Mazurka 19th, red roan; calved May 16, 1869; by [illegible] Duke of Airdrie (2[illegible]717), C. [illegible] W. S. King, [illegible], Minn.	600
Moselle, red roan; [illegible]; by [illegible] of the Abbey, 5601, A. W. Griswold	1,425
Moselle 6th, red; calved [illegible]; by 4th Duke of Geneva, 7931, Col. W. S. King	800
Magnolia, red; calved May 4, 1870; by 4th Duke of Geneva, 7931, A. W. Griswold	425
Peri 4th, red and white; calved August 13, 1[illegible]; by 2nd [illegible] of Oneida, 9926, Col. W. S. King	1,200
[illegible] red and white; [illegible] Duke of Thorndale [illegible] Grand Duke [illegible]	1,700
Lady Bates 4th, red roan; calved [illegible]; by 11th Duke of Thorndale, 5211, [illegible] Bedford, Paris, Ky	3,250
Lady Bates 7th, [illegible]; by 11th Duke of Thorndale, [illegible], G. M. Bedford, Paris, Ky	1,100
Lady [illegible], roan; calved April 13, 1872; by 4th Duke of Geneva, 7931, Geo. M. Bedford	2,300
Lady Bates 7th, [illegible]; by 4th Duke of Geneva, 7931, Hon. A. B. Cornell	1,500
Lady Bates, roan; calved [illegible], by [illegible] Duke of Airdrie ([illegible]), Chas. P. [illegible], N. Y.	565
Wild Flower, red; calved July [illegible]; by [illegible] Duke, [illegible], B. [illegible], [illegible]	400
Wilda, red; calved [illegible]; by 4th Duke of Geneva, 7931, Hughes & Richardson	425
Vacuna, roan; calved May 25, 1872; by 10th Duke of Thorndale, 5602, James Mix	475
Victoria 7th, red; calved [illegible]; by [illegible] Duke of Thorndale (2[illegible]), A. W. Griswold	1,[illegible]
Victoria 9th, red; calved [illegible]; by [illegible] (27[illegible]), Hon. A. B. Cornell	505
Victoria 10th, red and white; calved May [illegible], 18[illegible]; by 2nd Duke of [illegible], Hon. A. B. Cornell	[illegible]
Alphea, red; calved March 27, 1871; by 4th Duke of Geneva, 7931, Hon. A. B. Cornell	1,200
Alpha, roan; calved [illegible]; by Grand Duke [illegible] (12900), Hon. Lewis F. Allen, [illegible]	[illegible]
Adalina, red and white; calved March [illegible], 1869; by 6th Duke of Thorndale ([illegible]), Hon. A. B. Cornell	500
Arabella, red; calved [illegible]; by 10th Duke of Thorndale (28457), Hon. A. B. Cornell	425
Armentine, red; calved October 22, 1872; by 4th Duke of Geneva 7931, Hon. A. B. Cornell	100
Araminta, red roan; calved April [illegible]; by 10th Duke of Thorndale, [illegible], Hon. A. B. Cornell	500
Alcyone, red and white; calved April 15, 1872; by 4th Duke of Geneva 7931, Hon. A. B. Cornell	700
Ara[illegible], roan; calved November 24, 1871; by 4th Duke of Geneva 7931, Hon. A. B. Cornell	425
Adelaide, red and white; calved November 11, 1872; by 4th Duke of Geneva, 7931, Hon. A. B. Cornell	450
Atlantic Gwynne, roan; calved June 14, 1870; by Grand Duke of Lightburne (26280), Lord Skelmersdale	2,000
Miss Gwynne, roan; calved April 11, 1873; by 2nd Duke of Oneida 9926, Col. W. S. King	1,700
Roan Duchess 3rd, red and white; calved October 3, 1867, by 11th Duke of Thorndale, [illegible], Geo. M. Bedford, Paris, Ky	1,0[illegible]
Butterfly Belle, red roan; calved Sept. 21, 1864; by Imperial Oxford (21185), A. W. Griswold	575
Butterfly Beauty, red; calved October 12, 1867; by 2nd Duke of Geneva (23752), A. W. Griswold	270
Butterfly Bland, red; calved May 9, 1872; by 4th Duke of Geneva, 7931, Hon. A. B. Cornell	425
Baron Oxford's Beauty, roan; calved March 11, 1868; by Baron Oxford (2[illegible]), Bush & Hampton, Winchester, Ky	1,500
Heifer calf of above, by 2nd Duke of Oneida, B. F. Van Meter, Winchester, Ky	600
Beauty's Pride, red; calved April 2, 1872; by 4th Duke of Geneva, 7931, A. W. Griswold	1,525
May Lass 2nd, red roan; calved March [illegible], 18[illegible]; by General Napier (24920), Hughes & Richardson	800
Lady Worcester 4th, rich roan; calved June 3, 1868; by 2nd Duke of Weatherby (25[illegible]), Mr. Holford, Eng.	4,100
Lady Worcester 5th, red; calved April 29, 1871; by 4th Duke of Geneva, 7931, Mr. Holford	160
Sidonia 2nd, red; calved August 6, 1868; by Delmonico Duke (21516), Hughes and Richardson	800
Sidonia 4th, red; calved May 11, 1873; by 4th Duke of Oneida, 11789, Hughes & Richardson	600
Cherry Constance, roan; calved Oct. [illegible], 18[illegible]; by 4th Duke of Geneva, 7931, sold with young bull calf, Col. W. S. King	1,400
Cherry Constance 2nd, red; calved [illegible], 1872; by 4th Duke of Geneva, 7931, T. J. Megibben, Cynthiana, Ky	1,525
Empress of Acomb, rich roan; calved April 18, 1867; by Lord Blithe (22123), Hon. David Christie, Paris, Ont.	525
White Empress, white; calved Dec. [illegible], 18[illegible]; by Royal Briton (27351), Simon Beattie, [illegible]	1,000
Fidessa, roan; calved May 24, 1867; by Duke of Gwynne, 4730, with bull calf just dropped, T. P. Fisher, Ky.	525
War Trophy, red roan; calved May 3, 1868; by Cherry Prince (2[illegible]), B. B. Groom	250
Water Lily, red and white; calved May 12, 1[illegible]; by Great Plate (19877), Bush & Hampton	1,125
Mistress Leonard, roan; calved Dec. 15, 1868; by Lord Lyons (2[illegible]), Simon Beattie	500
Lady Valentine 3rd, roan; calved Jan. 1, 1871; by 4th Duke of Geneva (7931), James Miles, Pennsylvania	525
Rose of Summer, red; calved April 6, 1872; by Knight of St. George (26511), out of health and withdrawn.	

Bulls.

1. 2nd Duke of Oneida, red, calved August 3, 1870, T. J. Megibben, Cynthiana, Ky	$12,000
2. 4th Duke of Oneida, r. & w., calved January 16, 1871, (sold under guarantee "that he has been, is now and will be a getter"), Hon. A. B. Cornell	7,600
3. Alderman, calved 1871, Hon. A. B. Cornell	250
4. Advance, 1871, James Mix, Illinois	180
5. Wild Oats, W. R. Duncan, do	160
6. 7th Duke of Oneida, A. W. Griswold	2,001
7. Waterman, B. P. Goff, Clark Co., Ky	325
8. Fidalgo, W. R. Duncan	275
9. Mill Boy, Mr. Palmer, Virginia	300
10. Prince Alfred, Thos. Dun, London, O.	600
11. 10th Earl of Oxford, Hon. A. B. Cornell	2,500
12. Raleigh, C. M. Lansing, Attica, N. Y.	200
13. 6th Lord Oxford, Simon Beattie	1,300
14. Rufus, Prof. M. Miles, Lansing, Mich.	150
15. Baron Bates 6th, Hon. A. B. Cornell	825
16. Bright Butterfly, do do.	200
17. Bull calf of Lady Worcester 4th, Simon Beattie	455

SUMMARY OF THE SALE.

11 Duchesses*	Average	$21,709	Total	$238,800
7 Oxfords	do	4,611	do	31,[illegible]
73 other females	do	1,080	do	7[illegible]
91 cows and heifers,	do	3,338	do	$2[illegible]
17 bulls and b. calves,	do	1,856	do	31,215
108 head, average		$3,523	Total	$350,[illegible]

* Exclusive of 8th Duchess of Thorndale, whose age is such that she is probably past breeding.

It will illustrate the general character of the herd of Mr. Campbell, to add the fact that if we throw out of account the entire list of Duchesses and Oxfords, both male and female, the average on the remainder of the herd will still exceed that of any previous sale of Short-horns ever held in the United States, and this notwithstanding the low price at which the bulls were sold—not from lack of merit, but because they were not in demand among the audience that attended.

SUMMARY WITHOUT THE DUCHESSES OR OXFORDS.

72 cows and heifers, average	$1,0[illegible]	Total	$78,425
2 bulls and b. calves, do	318	do	3,815
[illegible] head, average	$870	Total	$82,210

Guelph Central Fair.

Held Sept. 16-18.

(From our own Reporters.)

Two years ago the Agricultural Societies of South Wellington and the township of Guelph, aided by the corporation of the town of Guelph, made the experiment of holding a large fair here, and with a view both of inducing a great number of persons to exhibit and a great number to visit the show, threw the competition open to the world, and offered a large amount in premiums. The exhibition proved to be a decided success, and consequently another one was held last year, and a greater number, both of exhibitors and of visitors, attended it than the first even. On this second occasion the entries numbered upwards of 4,800, and during the days on which the exhibition was open to the public the town was thronged with strangers. No hesitation was therefore felt in deciding to hold another exhibition this year, and as now for the third time the fair may undoubtedly be pronounced a success, it may be taken for granted that it will be held every year in future.

The Entries.

The following is a list of the entries for the present show in the several classes, together with the entries last year, which are given for purposes of comparison. It will be seen that this year's entries exceed those of last year by 563:—

LIST OF ENTRIES.

	1873.	1872.
Blood Horses	5	21
Agricultural Horses	142	121
Road and Carriage Horses	239	192
Draught do.	71	86
Durham Cattle	179	212
[illegible] do.	31	32
[illegible]	13	35
Ayrshires	45	44
Galloway do.	56	42
Thorough-bred Fat [illegible]	16	6
Grade Cattle	81	51
Fat Working Cattle	45	46
Cotswold Sheep	98	104
Leicester do.	107	103
Lincoln do.		33
Long-woolled Sheep		38
Southdown do.	55	60
Fat do.	27	32
Yorkshire Pigs	33	38
Suffolk do.	31	39
Imported Berkshire Pigs	88	63
Essex do.	23	19
Poultry	275	439
Grain	274	288
Roots, &c.	626	514
Fruit	530	846
Vegetables	297	392
Plants and Flowers	180	236
Dairy Products	237	107
Groceries, Provisions, &c.	21	21
Implements, Horse Power	173	21
Do. Hand Power	123	71
Cabinet Ware, &c.	26	24
Carriages, Sleighs, &c.	30	32
Chemicals	21	17
Drawings and Engravings, Architectural and Mechanical, &c.		10

Building Materials, &c.	..	8
Fine Arts (Professional)	45	60
Fine Arts (Amateur)	155	133
Ladies' Work	241	[illegible]
Domestic Manufactures	152	110
Machinery—Castings, &c.	61	[illegible]
Sewing and Knitting	[illegible]	26
Metal Work—Stoves, &c.	13	10
Musical Instruments	31	[illegible]
Natural History	21	[illegible]
Printing, Bookbinding, &c.	17	[illegible]
Saddles, Trunks, &c.	23	[illegible]
Shoemakers' Work	[illegible]	[illegible]
Leather	[illegible]	[illegible]
Fabrics, Furs, and Apparel	40	[illegible]
Total	[illegible]	[illegible]

In addition to the above there are three [illegible] for a brass band competition, in which the first prize will be $100, and the second $50. The bands entered are the Port Hope, the Brampton, and the Guelph.

Cattle.

The first impression on the visitor's mind, on a view of the cattle-sheds, was that he had never before seen so great a number of cattle at an exhibition. The row of sheds, probably never filled at any previous fair, was all taken up, and a considerable space besides was staked off for the accommodation of [illegible] were in excess, probably, of all else [illegible] opinion expressed by many on the ground, who [illegible] knew what the facts were, was that in numbers, at least, the show was the best that had ever been [illegible] in Ontario. This was accounted for by the [illegible] many who had probably never shown cattle before were spirited enough to come forward with [illegible] or two really good animals, thinking that it [illegible] they would get a prize for some choice heifer or yearling bull that had been the wonder of the neighbourhood in which it was raised. But here the quality of the cattle was so superior a description, that it called forth expressions of surprise from old [illegible] tion goers. One gentleman from the State of New York, who was largely interested in cattle, said he had never seen in the United States, except in Kentucky, so large a display of first-rate cattle. Of course we are here in the very centre of the district for first-class cattle; they were also here from Bowmanville in the east, and the counties adjoining the famous short-horn fields of Wellington. It is impossible to notice nearly all the exhibitors in this section, but there are those who cannot be ommitted when the subject of cattle is on for discussion or remark.

Durhams.

There were 212 entries in this class. Mr. John Craig, Edmonton, shows some fine animals, which he may well hope to see distinguished. Mr. F. W. Stone, of Guelph, has also a large representation of short-horns, all in fine condition, and displaying the marks of pure breeding. Mr. John Miller, Pickering, has a herd of ten, all choice beasts. Mr. James Brown, North Dumfries, has six or seven pens occupied with a herd of excellent cattle. Mr. Arthur Hogg, Guelph township, has a fine drove of nine head. Mr. John C. Snell, Edmonton, is here again with a herd of those splendid short-horns that have made his name a household word in Canada. Among others less distinguished, but whose cattle are exceptionally fine, we noticed Mr. John Pipe, Guelph; Mr. T. Porter, Vaughan; Mr. Peter Alpugh, Garafraxa; W. B. Telford, Pilkington, who exhibits some very fine cattle; J. R. Hunter, of the same place; and Robert Elliot, Paisley Block.

Devons.

There are 33 entries in this class. Of these Mr. Geo. G. Mann, Bowmanville, exhibits a herd of thirteen head. Mr. George Rudd, Puslinch, also shows a similar number of fine-looking cattle.

Herefords.

There are only two exhibitors in this class; Mr. F. W. Stone, who shows a herd of twenty-two head; and Mr. Geo. Hood, who has also on view a smaller drove. Two bulls among the first mentioned are very fine animals.

Ayrshires.

The only cattle on the ground at the moment of our inspection, were a herd of this breed belonging to Mr. Thomas Guy, of Whitby, and a one year old bull, exhibited by Mr. Dillon, East Flamboro'.

Galloways.

Mr. Wm. Dow, of Nichol, shows a cow and calf, both good cattle. Mr. Thomas McCrae, Guelph, shows a herd of eleven head, evidently comprising prize winners. Mr. Wm. Hood, Guelph, exhibits a drove of twenty-one bulls, cows, and calves, all in fine condition.

Grade and Fat Cattle.

There were about 100 entries in these classes, comprising many animals of great excellence. In grades, were it not for the absence of those distinguishing marks that are seen in the peerage of the bovine race, one might say there were no finer beasts on the ground, both for size and flesh. In fat cattle, Mr. J. S. Armstrong, Eramosa, shows some splendid specimens; also Mr. Thompson, Whitby, and Mr. Renneison, N. Dumfries.

Horses.

The horses we have room to notice only briefly. This part of the exhibition is full and of an excellent character. Observing the succession of fine animals that issued from the stalls to pass in review before the judges, the spectator could not fail to be impressed both with the number and splendid appearance of the favourites. The Draught and Agricultural horses were greatly in excess, and probably in [illegible] superior to the blood horses and roadsters. Altogether, however, the display was a very [illegible].

Sheep.

The [illegible] attraction to a large [illegible] this department [illegible] exceeds all [illegible] principal exhibitors [illegible] C. Snell, of the [illegible], of Pickering; [illegible], who wrested [illegible] stock that [illegible] pen of ewes that [illegible] at Vienna [illegible] won lately at [illegible] Mr. Wm. White- [illegible] Joseph Donaldson, of [illegible] Leicester [illegible] Mr. [illegible] stone [illegible] large exhibit [illegible].

Pigs.

The [illegible] so large as might [illegible] Main, Trafalgar, [illegible] a monster [illegible] exhibitor shows [illegible] Mr. [illegible] splendid [illegible] of [illegible] Mr. Robert Mc- [illegible] very [illegible] the number is so [illegible] exhibitions, that [illegible].

Poultry.

The [illegible] sole remaining [illegible] we visited early, [illegible] of the fowlers [illegible]. A lot of [illegible] the Brahmas [illegible] Hamburgs and [illegible] Bantams, are here [illegible] are Mr. H. [illegible] A. W. Myers, Mr. C. [illegible] W. Thomas, Galt; Mr. F. [illegible] a couple of French [illegible] which formed [illegible]. We must leave the notice of [illegible] the prize list.

Grains.

In [illegible] was not large, but the quality [illegible] it is thought, to that of last year. The [illegible] of white and red winter wheat [illegible] wheat was a fine berry, [illegible]. The barley (the present [illegible] is a consequence almost superior [illegible] was of good quality. Other [illegible] were also of fine quality. The small [illegible] and clover, on exhibition [illegible]. This part of the show was quite up to, if it did not surpass, that of last year.

Roots.

The [illegible] particularly noticeable, either in quantity or quality. Of course there were good [illegible] turnips, carrots, mangolds, and [illegible] potatoes, but there was nothing [illegible]. The exhibitors, however, have no reason [illegible] ashamed of their productions.

Flowers.

The flowers [illegible] a fine decorative display, placed on a [illegible] and extending the entire length of the stands occupied by the fruit. The varieties [illegible] indicated by the prize list, which also shows the localities where they were cultivated.

Dairy Produce.

This is the centre of a great butter and cheese-making district, [illegible] was reasonably to be expected, the [illegible] articles is a very large and excellent [illegible]. The cheese comprise about twenty factory-made, and about as many more dairy-made, and a couple of good looking stiltons.

Implements.

There were some very elaborately finished threshers and separators. Among the exhibitors were McPherson & Glasgow, Fingal, who took first prize; Haggart Bros., Brampton; David Maxwell, Paris. Some of these machines are entirely mounted on wheels, both the horse-power and the separator. In combined reapers and mowers we find Haggart Bros., Thomson & Williams, Mitchell; L. D. Sawyer & Co., Hamilton; and Patterson Bros, Vaughan. These exhibitors [illegible] and mowers are now regarded as [illegible] implements. The straw-cutters and grain-crushers were in great number, Cameron and Co., Galt; Lutz and Co., Galt; and David Maxwell, Paris, being distinguished. Ploughs were in fair number and variety. Some of the gangs and double shears looked as if really well adapted for the work they are meant for. Cultivators were well represented, among the outside exhibitors being Thomson & Williams, L. D. Sawyer & Co., and Thain, Elliott & Co. The latter firm show a double-row single-horse seed-drill. Mr. Levi Corsett, Guelph, shows a similar one, which has been awarded the first prize. Mr. Wm. Torrens, Rockwood, shows an iron horse-hoe. Messrs. Thain, Elliott & Co. show a wooden one. Mr. R. J. Lambert, of Harriston, shows an iron horse-hoe, with double mould-board, which may be moved forward and backward by means of a screw, with crank. Messrs. B. Bell & Son, St. George, show a wooden horse-hoe with four different descriptions of mould-board. They also show a wooden two-horse cultivator, with a lever for raising or lowering the body of the implement, while the wheels remain on the ground. Mr. James Linton, Orono, exhibits an iron implement of the same description, in which, by means of a lever and a bent axle, the wheels are raised when the hoe is in operation.—Mr. [illegible] Walton exhibits a double gang plough. Mr. John Watson, of the Ayr Agricultural Works, exhibits the following articles: Ayr combined reaper and mower, Ayr clipper combined machine, Hummer [illegible] single mower, Farmers' Friend grain drill and [illegible] combined, Farmers' Friend grain drill with [illegible] and patent grass seed shifter, Farmers' Friend grain drill with reversible grass seed sower; [illegible] horse power for two or four horses, drag sawing attachment; field roller, (Champion); straw cutter for power and hand, four sizes; root cutters, Gardener's; root cutter, Cant's patent; grain crusher, Abell's; chopping mills, Victor's; lock lever dally hay rake, Keystone corn sheller, iron gang plough, Hill's patent jointer plough, Hill's patent swing plough, black swan plough, subsoil plough, iron turnip drill, one-horse cultivator, and apparatus for steaming food for stock. It is a disputed point among agriculturists whether grass seed should be sown before or behind the teeth. Mr. Watson's grass seed sower is therefore so constructed that the box containing the seed may be so placed that the seed will fall either before or behind the teeth. Messrs. Thomson and Williams, of Mitchell, exhibit altogether thirteen different implements, including two iron beam ploughs, a gang plough, and a broadcast seeder and cultivator combined. In the latter, each tooth is independent of all the others, so that the implement will accommodate itself to ground of an uneven character. The teeth are also so attached to the implement that when they strike a stone the points of them are thrown up and back, and thus escape being broken. The amount of resistance which the teeth may give to being thus thus thrown back is regulated by means of a nut on the side of each piece of wood, to which a tooth is attached.—Connected with this implement is an instrument which measures the number of acres sown; and in the seed box is a grain agitator. These gentlemen also show the Johnson Single Reaper, on which some improvements have been made, including the substitution of a taper axle in the driving wheel, and a taper axle and hub in the grain wheel, for the old ones. This affords security against breakage in both cases. Another improvement consists in the rakes being driven directly from the gearing, instead of through being connected with them by means of a chain. This results in the rakes moving with greater steadiness than is usual. A feature in this reaper which is worthy of notice is the absence of any joints between the crank and the pitman, the affect of which is that the latter is never put out of line in passing over uneven surfaces. The implement is also provided with a tilting lever, by means of which the guards can be instantly depressed, and then, it is claimed, the worst lodged grain with its heads in the direction in which the reaper is going, cut. Connected with the rakes are movable cams which admit of their being thrown forward, so as to pick up lodged grain, or backward so as to assist in the cutting of short grain. Another of the implements in this collection is the well-known Cayuga Chief junior mower, to which, since last year, an improved lifting lever has

been added. Another is McLeod's patent pea-harvester, to be used attached to a mower. Of straw-cutters this firm show one with two knives, to be driven by horse-power, and one with four knives, hand power. They also exhibit Strong & Gray's patent two-horse-power sawing machine, with an attachment by means of which other machinery may be driven along with it, and Richardson's two-horse-power sawing machine, with a similar attachment. The capacity of either of these machines with two horses and four men, is said to be from 30 to 40 cords per day.—Messrs. Mills & Goodfellow, of Guelph, exhibit a power grain crusher, and an iron hand roller. Messrs Bell & Co., of St. George, exhibit nine pieces of farming machinery, two or three of which are mentioned above; they also show a straw-cutter geared to be driven with either belt or rods, from either side or end; a small horse-power engine for driving any light machinery, such as straw cutters, grain crushers, &c.; a new model Buckeye mower with curved steel bar, and solid steel guards; and an Ohio reaper and mower, with steel bar for mowing and an iron bar for reaping.

Provincial Exhibition.

The Twenty-Eighth Annual Exhibition of the Ontario Agricultural and Arts Association was held in London, from the 22nd to the 26th September. On the afternoon of the first day, the weather was unfavorable, and during the evening and night, rain fell in torrents. Wednesday proved a bright and lovely day, and so did Thursday and Friday. The attendance of visitors was large, and the show proved a grand success. We give herewith a record of those departments which most interest the farming community, as compiled from day to day by our own reporters. For further particulars, and for the Prize List, see the *Globe* and other journals.

The Cattle.

To do any sort of justice to this department of the Exhibition, the various breeds must be noticed separately, and some particularization entered into. Let us begin with

The Short-Horns.

These are unquestionably the noblest and most valuable of all the cattle classes. For years it has been prophesied by people not conversant with the "points" of good stock that the short-horns had seen their best days, and that their pre-eminence was very much a matter of fancy and fashion. The course of events has thoroughly falsified these predictions. Such prophets forget that there is one fashion which never goes out, viz: preference for the best, and that real merit is sure to push itself into notice. The short-horns have been tested in all parts of the world, in all varieties of climate and circumstances. Most triumphantly have they come through the ordeal, and they stand to-day, acknowledged by all competent judges, as the nobility of the bovine races. For early maturity, hardiness, docility, yield of milk and meat, aptitude to fatten, and power to impress and perpetuate their own good qualities, they are not only unsurpassed, but unapproached by any other variety. Their value in the stock market is higher than ever, the demand for them is more eager than ever, and there is a future in store for them which will far eclipse their past record, brilliant as that has confessedly been. The farmers of this country were not slow in perceiving the many excellences of this invaluable breed of cattle, so that now there is hardly a locality in which there is not to be found some breeder of pure short-horns, while grades of high or low degree may be seen on almost every highway, and in almost every farm-yard. Our exhibitions have long been famous for congregating a fine display of specimens of this noble breed, and the present is no exception to the rule established on former occasions. We do not know how the present show compares with former ones as to the number of short-horns on the ground, not having the figures at hand needful to decide that point, but if we are not mistaken it excels them all in the selectness and general goodness of the animals exhibited. There are fewer odds and ends,—fewer inferior specimens, imagined paragons of excellence by their owners until brought side by side with superior competitors. This is one of the numerous benefits flowing from agricultural fairs and shows. Comparisons are instituted, higher standards are set, and there is a constant emulation to excel. In enumerating the more noticeable animals comprised in the present exhibition, we may mention first the herd shown by John Miller, of Brougham, Pickering. At its head is the dark roan bull, Oxford Mazurka. He is six years old, was bred by R. A. Alexander, of Kentucky, and is no stranger in the prize ring, where he has repeatedly won honors. Next comes Fawsley Chief, a name becoming familiar to our eyes and ears. This fine animal was bred by Mr. Torr, of Aylesby Manor, and imported by Mr. Miller. He took the diploma as the best bull in this Province two years in succession. Lord Strathallan, a red two-year-old bull out of an imported cow, took the second prize in the yearling class at last Provincial Exhibition, and stands a good chance to go in and win at the present one. Cherry Duke, a red and white yearling, got by Oxford Mazurka out of Cherry Bloom, is a young bull of great excellence and promise. Cherry Friar, a roan bull calf got by Fawsley Chief, completes the list of male members of this herd on the ground. The females comprise Cherry Bloom, (imported) a grand, good, seven-year-old cow, and great milker, but unfortunately disfigured by the loss of one-third of her bag through lacteal inflammation; Rose of Strathallan, a light roan eight-year-old cow, imported in 1870, Lady Juliette, a dark roan four-year-old, also imported, and took the first prize as a two-year-old at the last Kingston Exhibition; Lady Oxford, red three-year-old, imported, bred by Col Towneley and the only pure Butterfly on the ground; Mary Booth, a pure Booth heifer, two years old, dam Her Highness, bred by J. B. Booth, of Killerby; Flirt, a red and white yearling, got by Fawsley Chief, and four heifer calves of great promise, all sired by Fawsley Chief. J. Snell & Sons, of Edmonton, exhibit the following animals:—British Baron, a three-year-old roan bull, imported, winner of first prize, diploma, and silver cup at Guelph last week; Chancellor, a red and white two-year-old bull, bred by the Messrs Snell, first prize two-year-old at the Provincial show last year, Royal Butterfly, a yearling bull, first as a calf a year ago, and first as a yearling at Guelph this year; Golden Drop, a light roan cow, six years old, imported, and now for the first time shown at a Provincial Exhibition; Nancy Rice, four years old, red, winner of three first prizes last year; Rosa Bonheur, a pretty red and white three-year-old, an animal, the lady artist she is named after, would take pleasure in patting or painting; Crimson Rosebud, a superb two-year-old heifer, grand-daughter of Hon. D. Chisholm's Queen of Athelstane, and greatly resembling her grand-mother in face and horns, winner of six prizes, and never yet beaten, Moonshine, a very pretty roan yearling; also several calves, one, British Baron's Beauty, well named, for she is a beauty indeed, and has the finest brisket we ever saw on so young a creature. F. W. Stone, of Guelph, shows Grand Duke of Cambridge, a red bull, five years old, winner of various prizes at Provincial and local shows. Sheriff, an imported animal, three years old, a very handsome bull, sired by Cherry Duke. Mark Anthony, a yearling bull, red, bred by A Renick, of Kentucky, sired by Airdrie 3rd, and traces back to Rose of Sharon. Sanspareil 16th, Sanspareil 13th, and Cambridge 10th, all four-year-old red cows, of substantial build and serviceable make. Miss Manor 7th, a three-year-old roan, imported. Isabella 20th, a three-year-old roan. Cambridge 11th, a red yearling heifer, and five nice calves, all sired by Sheriff. Sheriff and his five calf children will enter the lists for the Prince of Wales' prize. Birrell & Johnston, of Greenwood, Pickering, have a few meritorious animals on exhibition. Highland Prince, a nice red yearling, sired by Prince of Peace, dam, Highland Maid. Joe Snell, a good red and white bull calf, ten months old, of which we had a fine view as he was brought out to show a would-be purchaser; price asked for him, $300. Minnie Darby, a pretty roan heifer sired by Clifton Duke 2nd, a bull bred by R. A. Alexander, of Kentucky. Duchess of Greenwood, a roan calf got by Proud Duke; and Lily Bell, a red calf by Bell, Duke of Oxford. Simon Beattie, of Pickering, shows a few choice animals. Lord Eglinton, a three-year-old imported bull with good points; two very promising bull calves. Ruberto, a superb roan cow, bred by Messrs. Garne & Sons, of Gloucestershire, formerly a visitor at our Provincial Exhibitions, and now returned after an exile in Minnesota and Illinois. Rose of Racine, a three-year-old red and white cow of considerable merit, bred in Wisconsin. W. B. Telfer, of Ponsonby, shows some valuable young bulls, Young Scotland, four weeks too old to show as a yearling, and therefore not likely to get all he deserves, but a most meritorious animal, red, evenly good, not deficient anywhere, with a full, round heart, and well up in all the points of excellence; Clarendon, a light roan, sire and dam both imported animals; and the Baron, a very choice seven-months' bull calf, already, though of so tender an age, twice a prize-taker. Very deserving specimens are also shown in this class by J. & W. Watt, of Elora, whose bull Roger, two years old, is an evenly good animal, J. & R. McQueen, Elora; A. A. Stewart, Lobo, who shows two young bulls and two heifers; John Irwin, Dorchester; R. [illegible], Telfer; R. White, Telfer; Joseph [illegible], [illegible]ster; Dr. Drew[illegible] [illegible] Wm [illegible] [illegible] Pipe, Guelph; John [illegible] [illegible] eight thoroughbreds on the ground, [illegible] a four-year-old roan bull, [illegible] two bull and four heifer calves; [illegible] Whitby; Donald McKenzie, [illegible] Gaugan, Camden; [illegible] Whitson, Athol, who [illegible] years old, is a [illegible] nice bull calves; R. [illegible] of [illegible] who shows a serviceable [illegible] bull with the royal name of George the Second.

Some four or five bulls were, we understand, locked up in horse-stalls. If the object was to screen them from observation, and prevent their being reported, it is likely to be accomplished.

The Herefords.

Whether these or the Devons deserve to rank next to the Short-horns, is a moot point among breeders. Heretofore the Devons have appeared second on the Provincial Catalogue, and there is considerable complaint made by some Devon men that they should have been displaced this year. Whatever may be said on the merits of the question, it is quite certain that up to the present, the suffrages of breeders have assigned the Devons precedence over the Herefords. It may be urged with truth that the Herefords have never had their full deserts, but the same is true also of the Devons. Is it ignorance, prejudice, or what else, that has hindered the wider diffusion of the Herefords in this country? Our farmers have had ample opportunities to supply themselves at reasonable prices, and many of them must be well aware of the high standing of this breed in Britain. They make splendid beeves and are not bad milkers. They are easier kept than the short-horns, and some breeders keep them in high condition. However it is to be explained, the fact continues, that year after year, a single breeder makes nearly a clean sweep of the prize list. Mr. F. W. Stone, whose tenacious regard for this valuable breed of animals is very praiseworthy, has only a single rival at the present exhibition, in the person of Mr. George Hood, also of Guelph, who shows a bull and a heifer, the bull bred by Mr. Stone, and the heifer by [illegible], day Verbena, by Canada. It is almost [illegible] to enumerate the various animals shown by Mr. [illegible]. They are a splendid lot, and would distinguish themselves even in the show rings of their native country. Indeed, we are not sure but that, as in the case of the short-horns imported by Mr Cochrane, a transference to Canadian pastures has improved them. Commander-in-Chief and Canadian Knight, the two four year old bulls on the ground, the first shown by Mr Stone, and the second by Mr. Hood, are both choice animals. The younger bulls and all the females, with the exception above named, are from the Moreton Lodge herd, and as they [illegible] presented themselves in the ring, with their [illegible] looking white faces and glossy [illegible] it was impossible for any connoisseur in cattle to withhold from them the meed of admiration. Mr Stone shows seven bulls of various ages, three aged cows of which Vestor 4th is the queen, three three-year-olds, three two-year-olds, three yearlings, and three heifer calves, and it is not too much to say that there is not a single inferior specimen among them.

The Devons.

These are in considerable force, and seem to be steadily working their way into public favor. They deserve to do so, and now that the short-horn fever is raging so fiercely, it is an opportune time to call the attention of farmers to a breed of cattle, the average price of which is comparatively low, and by no means up to their intrinsic value. Devon calves can be bought at from $50 to $125, and will pay men of small means as improving stock with which to grade up their herds and [illegible] to their pastures. The Devons are easily kept, and will thrive on hilly and other meagre pastures where the short-horns would eke out a lean subsistence. They are easily fatted, and make a superior quality of beef; they are good, and some of them, copious milkers, their milk is rich and makes a choice article of butter; they are earlier and more regular breeders than the short-horns; and last, but not least, make the finest working cattle in the world. They are greatly prized as team oxen in New England and in other places where their excellence in this respect has been fully tested. As teams for farm use they are equal to horses, and are scarcely inferior to them as draught beasts on the road. They are quick on foot, hardy [illegible] and do admirable work with the plough, [illegible] the end of the furrow in less [illegible] time than a span of horses can possibly do it [illegible] to the Devons above all others as working oxen. Strange

to say there is not a yoke of this breed on the ground, and not one of grade Devons even. Indeed Canadian farmers hardly seem aware of their value in the yoke. John Pincombe, of Westminster, has, as usual, a large and choice display of this breed on exhibition. His three-year-old bull Prince of Wales, is a beautiful animal, and hard to beat. His Eclipse, two years old, and his King of the West, a yearling, are also excellent specimens. Another yearling is hardly two old, but he has two most promising bull calves. The six-year-old cow, Pretty Maid, is choice, the five-year-old, Queen of the West, is well up in all her points, and is an extra milker, Cherry Ripe, also a five-year-old, is not quite so large, but very pretty, Rosebud, a four years old, is of average quality, and Lady Butcher, a three-year-old, is an extraordinary heifer all round. Mr. Pincombe also shows Lady Pigeon, another three-year-old, three good two-year-olds, three promising yearlings, and two calves. John Hunter, of Lucan, has a three-year-old bull on the ground, bred by Mr. Pincombe. George Duff, of Pomona, exhibits his magnificent aged bull, Marshall, now six years old, who seems to improve with age. The same breeder has a yearling bull, a promising animal, and an extra good bull calf. Lady, a two-year-old cow, a good milker, with a nursing calf at her side, Stuckey, a five-year-old, finer, but not so large, Lady Jane, three years old; Cherry Pie and Lady Maud, two years old; Miss Ann, a two-year-old, and two beautiful heifer calves, comprise the remainder of this valuable Devon herd. W. & J. Peters, of London, show Thrifty, an aged cow, and an old prize taker at Provincial Shows; Maud, also an aged cow, a grand milker, with calf at her side; Cherry, seven years old, light in color, and a fine milker; two two-year-old heifers, and one yearling heifer. Mr. C. G. Mann, of Bowmanville, has a fine lot of Devons on the ground, comprising Bruce, a three-year-old bull; Arthur, a two-year-old; two bull calves; four aged cows, Rose being the best of the lot; a two-year-old heifer; three yearling heifers, and two heifer calves. H. Spencer, of Whitby, shows a bull calf, six months old; an aged cow, evidently a finer milker; and a two-year-old heifer. R. Witter, of London, shows six animals, an aged cow, a three-year-old, and four heifers of good quality.

The Ayrshires.

This excellent breed of cattle for dairy purposes, and it augurs well for the progress of the dairy interest, that their merits are becoming so generally appreciated. On some occasions heretofore, the Ayrshires have not been adequately represented, at the present Exhibition, however, no complaint of this kind can justly be made. We have never had, in our recollection, anything like so large a display of them, and of the number of excellence. There are seven or eight good sized herds, besides individual specimens. Thomas Guy of Oshawa, shows a very handsome two-year-old bull, white and brown, freckled, that might stand for a picture as a typical animal of this breed. He has also a large and fine yearling, brown and white, with a warty disfigurement on one eye, on which the knife of a skilful V. S. ought to be used, and two nice bull calves. The same breeder shows an aged cow, two three-year-olds; two yearling heifers; and three heifer calves, including one only a week old, dropped at the Guelph Central Exhibition, the dam unfortunately taking cold and dying soon after calving. John P. Wheeler, of Woburn, has the following specimens:—Tarbolton 2nd, a splendid three-year-old bull; three yearling bulls and two bull calves; three aged cows, two three-year-olds; two two-year-olds, one yearling, and one heifer calf. James Lawrie, of Malvern, shows eleven head:—a two-year-old bull; a yearling bull and a bull calf; five aged cows, among which Kitty Muir stands first excellence; a three-year-old, a two-year-old and a yearling. A. Kains, of Westminster (Eyron, P. O.), shows a good three year-old bull and two four-year-old cows. J. K. and G. W. Jardine, of Saltfleet, show a very choice herd, chiefly imported animals. At its head stands the three-year-old bull Wilson, bred by Hugh Wilson, of Oatmain, Ayrshire, and imported last year. He is a magnificent little fellow, and will doubtless distance all competitors in the show-ring. Besides being a beautiful creature, he is beautifully got up, thanks to a female attendant, wife of one of the herdsmen, who could hardly take more pains and pride in decking out her husband for a gala-day than she did, to the wonder and admiration of many beholders, in preparing this animal for the eyes of the judges. Two bull calves, sired by Wilson, are worthy sons of their sire. Four imported cows and heifers do no discredit to their far-famed Shire.—Ayrshire Lass, bred by W. Muir, of Beith, Barns Jean and Lonnie Jess, bred by Alexander Love; and Blooming Heather, bred by Mr. Craig. Princess Louise, bred by the exhibitors, dam imported Ayrshire Lass, sire Wilson, is a beautiful yearling heifer, and Annie Laurie, born of the same parents, is a choice five months' calf. George Morton, of Kingston, shows twenty-five head. They are probably not the cream of his herd, as they are all to be sold by auction, without reserve, on the show ground, at the close of the Exhibition, and there are plenty left at home to supply future exhibitions and purchasers. W. Rodden, of Montreal, shows eleven head. Tom Muir, a nice three-year-old bull, a yearling bull, and two good bull calves; one aged cow; two two-year-old heifers, two yearlings, and two extremely pretty heifer calves. George Hughson, of Blanchard, has five specimens:—Spot, a good four year old bull, Blanchard, a two-year-old, Gerty, an aged cow; Nettie, a beautiful yearling heifer; and an equally nice heifer calf. James Nimmo, of Camden East, has twenty-three Ayrshires on the ground:—A good two-year-old bull; five bull calves; six aged cows, and the remainder, heifers of various ages; among which are some quite choice. M. Ballantyne, of Blanchard, has a very fair three-year-old bull; a two-year-old heifer; and a bull calf. Messrs. Pratt, of Cobourg, and Freeman, of Whiting, each show an aged bull, the second named being the better of the two.

The Galloways.

These animals, black as the ace of spades, are a hardy, hornless race of bovine mountaineers, well fitted to get a living on rugged pasturages, and fattening into splendid beef. No assortment of breeds of cattle would be complete without them. Guelph has it all its own way with these as with the Herefords. William Hood shows seventeen animals, and takes thirteen prizes. Thomas McCrae shows eleven, and takes eight prizes. This is pretty even competition. The two three-year-old bulls appeared to give the judges perplexity, for they were some time balancing their respective claims to be first. Scotchmen who should be competent to give an opinion pronounce these eight-and-twenty animals fine specimens of the Galloways.

Grades.

There is a good assortment of these, mostly, of course, short-horn crosses. It is perfectly marvellous how this magnificent breed of cattle improves up the common bovine races. Some of these grades are undistinguishable from thorough-breds, except by means of pedigree. From the absence of owners, and lack of tickets within sight, it was difficult to glean information as to this class. In some cases the difficulty was increased by their being misplaced among the thoroughbreds. We may, however, specify the following:—J. & W. Watt, of Elora, show two aged cows, a two-year-old heifer, a yearling heifer, and two heifer calves, all of superior excellence. Peter Rennie, of Fergus, has eight good grades—two aged cows, a three-year-old with sucking heifer calf, a two-year-old heifer, two yearling heifers, and two calves, a fine lot. Richard Wettell, of Westminster, shows two grade heifers, and James Fisher, of Hyde Park, three grades—a cow and two two-year-old heifers. Others must go "unhonored and unsung" for reasons before stated.

Fat Cattle.

The animals actually shown in this class fall short of the entries considerably. Some shown last week in Guelph have not reached London. Among those conspicuous for their absence may be named the splendid steers owned by Mr. John S. Armstrong, of Eramosa. Owing to their non-appearance, Mr. George Thompson, of Whitby, has no rival, and his really fine animals had it all their own way. A staring hand-bill proclaims that they are sold to Satchell Brothers, butchers to Lord Dufferin. James Pickard, of Exeter, shows a pair of fine fat steers. John Bobier, of Danwich, has a fat heifer, and his brother Joshua a fat steer, both well fed. Two fat cows of high Durham grade, if not pure, attracted our notice, but we could find neither informant nor ticket. George P. Keilor, of Southwold, shows a beautiful white fat heifer of high grade. We must not omit mention of John Routledge's fat cow, weighing 2,500 lbs., and deservedly the first prize taker in her class. The first prize, three-year-old steer, a splendid roan, was without ticket or attendant, and for the owner's name we must refer our readers to to the prize list.

Working Cattle.

There is a small but not over select number of these. Apparently the best yoke, a gaunt-looking and not very handsome pair, are owned by Freeman Clarke, of London township. Messrs. Geo. and Wm. Nixon, also of Westminster, have the best steers, three-year-old-Short-horn grades.

Horses.

Blood Horses.

This class, as on previous exhibitions, is somewhat poorly represented in regard to numbers, but the general quality of the stock shows a considerable improvement upon former exhibitions. In section 1, for blood horses, four years old and upwards, there are seven entries, and most of those entered are on the ground. The horses that appear to draw the greatest amount of attention are King Tom, Judge Curtis, and Warmanbie. The latter is an imported English horse, and gained the first prize at Hamilton last year. It would not surprise us but he will have to lower his colours to more recent importations. This is the first time that King Tom has made his appearance at a Provincial Exhibition, and the handsome and stout son of Lexington and Tokay is greatly admired, and it will be very difficult to defeat him. He is a horse of fine symmetry, combined with good bone and excellent action, and when he was on the turf he proved himself one of the gamest horses on the continent, as many so well remember when he won at Cincinnati.

Judge Curtis, formerly known as General Duke, is by Lexington, out of Lilia, by Imp. Yorkshire, appears, also for the first time, and Mr. McArthur is certainly deserving of praise in selecting this horse. Judge Curtis was one of the best race-horses of his day, and won several large stakes, both at Jerome Park and Saratoga.

In the class for three years old there are only two entered and one exhibited.

The Brood Mares are not numerous. Mr. White, of Bronte, shows the well known mare Nettie, by Kennet, with a foal at her foot by Extra, and this promising youngster is named Exotic. Mr. T. C. Patteson, of Toronto, shows Julia Adams by Vandal, which has been shown on several occasions, and has been placed first at previous exhibitions. The two-year-olds and yearlings are very few, and those shown are only very middling.

Heavy Draught Horses.

In class four, heavy draught horses, the entries are numerous, and the general excellence of the stock exhibited cannot be easily surpassed. In Sections one, two, and three, most of the animals shown are imported from Britain. In Section one, Mr. Simon Beattie shows a beautiful brown horse, with white legs, and although he weighs close on 2,000 pounds, he has action like a blood horse. Mr. Hodgson, of Toronto, shows in the same class the well known horse Old England, who has a strong resemblance to Mr. Beattie's horse, both in color and style of going. Mr. William Thompson, of Whitby, exhibits a very fine specimen of the Clydesdale horse, recently imported. Mr. John Thompson, of Whitby, shows Forfar Chief, also imported, and a horse that is likely to gain a prize. Mr. Colquhoun, of Perth, is also an exhibitor, and his four-year-old horse, Lord Hoddo, shows a marked improvement on his last year's form. Mr. Colquhoun also shows a very fine two-year-old colt. Mr. T. C. Patteson, of Toronto, exhibits his brown horse, Young Norval. Mr. Evans, of Blanchard, is on the ground with his very handsome horse Cananby, Take this section as a whole, we are of opinion that it cannot be surpassed, even at a British exhibition; nearly all the animals are imported. Our Canadian farmers are certainly deserving of every encouragement in their pluck at securing the best animals to be found in Scotland and England.

In Section two, three-year-old stallions, only four animals are shown—three imported and one Canadian-bred. We fancy Mr. Douglass' bay colt, imported this year from Scotland.

Mr. Thomas Elston, of Exeter, shows a very fine colt by England's Glory, that will also be hard to defeat.

Mr. Jackson and Mr. Innes also show very fine animals.

Section three, two-year-old colts, is well represented. Mr. Hugh Love, of Hay, Huron, shows Glen Lee and Wellington, both imported, and bred in Wigtonshire, Scotland, by Col. Dowall, of Logan, and Mr. Kerr, of Kirkam.

Mr. Simon Beattie, the veteran importer, is also an exhibitor, and Mr. Thompson, of Whitby, shows an immense big horse called Prince of the West, which he imported this year.

Mr. Alexander Dunlop, of Markham, has a very fine black colt, with the aristocratic name of Prince of Wales. This colt has fine symmetry, strength, and action, and is valued at the modest sum of twenty-five hundred dollars.

Mr. John Jackson, of Grahamsville, show a very fine black colt, which, we think, will stand about first on the list in this class.

Only four yearlings are shown. Mr. Burgess, of Etobicoke, exhibits a very fine colt by England's

Glory, and bred by Mr. McLellan. [illegible] will be hard to beat. Mr. Mason, [illegible] fine yearlings in this class. [illegible] quite a number of fine animals [illegible] seasons, among which is [illegible] Sir John Stephenson.

The carriage horses [illegible] the ring. There were [illegible] entries in the two sections. [illegible] visited about two o'clock by [illegible] of Hesse, who appeared [illegible] turnout of horses. Professor [illegible] trained horses on the ground, at [illegible] a number of well executed [illegible] wonderful power in training [illegible] horse.

The Sheep

This department of the Exhibition [illegible] much so that the numerous [illegible] insufficient, and several [illegible] Notwithstanding this [illegible] crowded for the comfort of [illegible] convenient inspection by [illegible] regard has been paid to classes [illegible] round, you come now upon a [illegible] two or three [illegible] then a South Down of some [illegible] How is it possible [illegible] "conjunct" view of the [illegible] they are [illegible] fashion? It is a most satisfactory [illegible] exhibition that nearly all [illegible] are of superior excellence. In many [illegible] judges must have had [illegible] at their decisions, and [illegible] are some grumblers at [illegible] general survey of this department [illegible] Cotswolds is [illegible] seen at a Provincial Exhibition [illegible] quite up to the mark of former years [illegible] are a grand collection, for [illegible] in this Province; the South Downs [illegible] own; the other Down [illegible] (classed together) [illegible] crease in number; and the Merinos [illegible] still. To particularize a little [illegible] leading exhibitors are J. W. S[illegible], Snell & Sons of Edmonton, John B. [illegible] ton, John Miller of Brougham, [illegible] Greenwood, Simon Beattie, of [illegible] Russell of Richmond Hill. Mr. [illegible] but is pursued with very sharp [illegible] competitors. He has taken the Prince of Wales' prize for the best Cotswold flock, [illegible] together with a number of [illegible] many cases imported animals of [illegible] have entered the lists, and [illegible] Thus, the Messrs. Snell exhibit the fine Cotswold shearling ewes that took the first prize at the Royal Agricultural Society's recent annual show at Hull, presumably the best lot of the [illegible] world. Mr. Craig, of Edmonton, shows [illegible] ations. So do Mr. Beattie, of [illegible] of Brougham, John Dryden, of [illegible] Hugh Love, of Hay. Mr. [illegible] taken from the fleece of one of his imported sheep which measures sixteen inches in length, and is of choice quality. What can ordinary farmers [illegible] in the face of these enterprising importers? A number of them show very deserving animals, but they have not the ghost of a chance [illegible] of all England. Still they are worthy of all honor though they follow in the wake of those who may be termed professional breeders. [illegible] roll of distinction are, J. Franks, [illegible] Nair, Vaughan; A. Fitch, East Oxford; J. [illegible] Malvern; L. and F. Wilson, Trafalgar; and John C. Lawe, of Avon. In Leicesters, competition is over a wider field, and no distinction can be fairly made between professionals and others. The breed is very much among farmers, and when we state that there are fully 350 entries in this class, it will be at once perceived how extensively [illegible] they are.

It is almost invidious to mention any names, but we will venture to enumerate a few of the more prominent Leicester exhibitors, Adam Oliver of Downie, William Whitelaw, of Guelph; John Scott, of Lobo, B. Charlton, of London; Simon Beattie, of Pickering; James Hastings, of Blenheim; Walter Telfer, of West Williams; Philip Brooks, of Biddulph; and D. Mackenzie, of London township, may not improperly be named as the leaders in this great Leicester army. We have to complain, as on former occasions, that Leicesters crossed with Cotswolds or Lincolns are shown as pure, and the woolly foretop that would betray their hybrid parentage removed with shears and even razors. What is worse, those who play these little tricks generally declare with loud protestation that their animals are just as nature made them, when it is [illegible] they are [illegible]

[illegible]

splendid lot of imported animals [illegible]

[illegible]

breeds, and having [illegible]

Lincolns are a [illegible]

[illegible]

of Whitby, are the [illegible] Leicester creatures [illegible]

[illegible]

[illegible] that there is [illegible]

[illegible] Whitby, shows [illegible] of Westminster [illegible] folk; and Wm. D[illegible] pete in this class [illegible]

[illegible] We cannot [illegible] to attract the [illegible] farmer. But [illegible]

[illegible] Guelph; John Kirby, of [illegible] of London; Messrs. Snell, of Edmonton, [illegible] of Guelph, and [illegible] are the prominent [illegible] contributors [illegible] this department.

The Swine.

Grand and [illegible] in the [illegible] [illegible] Exhibitions, and [illegible] Joseph Featherstone, [illegible] Trafalgar; Robert Summers, of Westminster; C. [illegible], of Brantford; J. [illegible], of London; [illegible] of [illegible], are the chief exhibitors in this section. There is a very [illegible] Trafalgar, taking the [illegible] of Toronto, following close [illegible] Cumming, of London [illegible] Ashman, of London; A. Hebblethwaite, of London township; James [illegible] of Westminster; and C. [illegible] of Suffolks on the ground. [illegible] Essex pigs exhibited, [illegible] indeed, are shown in this section [illegible] judges would rule out [illegible] remarkable how many people [illegible] small-sized black pig, with any breeding in him, is an Essex, and how difficult it is to get any correct discrimination between them and the small Berkshires.

Mr. Thomas McCrae leads as an Essex exhibitor, and [illegible] Featherstone, of Toronto, treads close on his heels. There are hardly any of this breed worth [illegible] except those shown by these two gentlemen. [illegible] improved Berkshires are an exceedingly good [illegible] John B. Craig, of Edmonton, shows [illegible] very fine animals, newly imported, as also do the Messrs. Snell. About 130 entries were made in this section, and many of the animals must have [illegible] to come to time, for there can be nothing like that number in the pens. H. Webb, of Yorkville, has some good importations, all named with well-sounding and flattering titles, and their pedigrees [illegible]. In the case of really good animals it is well that a little trouble and expense should be gone to, in order that the public may be informed what they are looking at. We hardly think Mr. Webb's animals were sufficiently appreciated, judging from the fact that only one prize, and that a third, was awarded to them. Craig, of Edmonton, bore away [illegible] of the laurels. A heterogenous class, vaguely called "other small breeds," appeared to have in it [illegible] and ends of larger breeds; "runtlings," with here and there a superfluous Suffolk or Essex; Cumming, Main, Edmondson, Featherstone, and others took prizes here for animals that might have been shown in other classes. An abolition of this class, and a more distinct classification elsewhere, would be a desirable improvement in the prize list.

Poultry.

It is admitted, we believe, on all hands, that the display of poultry is the best that has ever been made in the Province of Ontario. There are a large number of very choice fowls, and scarcely any of inferior quality. Great advance has been made in this department within a few years, owing partly to the information diffused by journals and books, partly to the impetus given to fowl-breeding by poultry associations and somewhat, of course, to the spirit of the age, which is onward in its character, as it respects every branch of rural industry. The acknowledged importance of the poultry interest, the manifest improvement going on in this direction, and the great excellence of the present show justify a somewhat minute account of the feathered bipeds congregated at the Provincial Fair of 1873. There are in all about 600 entries, and most of the birds entered are duly on hand. Following the order of the prize list, we note first the Dorkings. There are several beautiful pairs of white Dorkings, W. & J. Peters, of London, taking the first prize, and H. M. Thomas, of Brooklyn, second. The colored Dorking section is very full, and comprises an excellent lot of fowls. Mr. James Main, of Trafalgar, takes the first prize, the cock bird of his pair being a magnificent creature, the admiration if not the envy of all the fowl fanciers on the ground. He has been but recently imported. W. & J. Peters, long noted for their attention to this breed, take the second prize. In Polands, white-crested, we find but two pairs, both very fine. The first prize goes to John Bogue and the second to L. G. Jarvis, of Westminster. There are five pens of Golden Polands, all without exception good. H. M. Thomas gets the first prize, and L. G. Jarvis the second. There are five lots also of Silver-spangled Polands, all deserving of notice. John Bogue takes the first prize, W. & J. Peters the second. We come next to the Games. The first section comprises "reds, black, blue or brown." Of these there are nine pairs, a beautiful collection. The first prize goes to D. Allan, Galt, and the second to W. & J. Peters. The same parties take the prizes in Duckwing Games. W. M. Smith, of Burford, takes the first and second for pile or blue games. The Cochins are a fine collection, showing no decline of regard among fowl fanciers for these superb and stately birds. Eleven pens are on the ground. D. Allan takes the first prize for a pair of Cochins, whose extremely light color ought to have disqualified them, and H. M. Thomas takes the second prize for the best pair we have seen in many a day. There are five pens of Partridge Cochins, all good, the first prize being taken by H. M. Thomas, and the second by F. Sturdy, of Guelph. In white or black Cochins, there are five pairs of white and one of black; F. Sturdy takes the first prize, and H. M. Thomas the second, for whites. Light Brahmas are not in strong force, and we suspect the rage for dark ones is telling upon their ranks. Only four pens are shown, two of which are first-rate; first prize L. G. Jarvis, second, H. M. Thomas. The dark Brahmas are an excellent lot, comprising eight coops; D. Allan takes the first prize, and W. H. Doel, of Chester, the second. In White-faced Black Spanish we find eight pens, all good; D. Allan first, F. Sturdy second. The section called White Spanish, ought (properly to be called White Leghorn, as there are no White Spanish known to the poultry world. How this error crept into the prize list, we know not. Of these there are four pairs, three good and one poor. H. M. Thomas gets

the first prize, and Stephen Tilson, of Tilsonburg, the second. There are four pairs Golden penciled Hamburgs, all good; H. M. Thomas takes first prize, and Duncan R. Kay, of Galt, second. Five pairs of Silver penciled Hamburgs competed for the prizes, which were taken by W. & J. Peters and John Eggar. There were only two pairs of Golden spangled Hamburgs. They were of fine quality, and their owners, Sturdy and Tyrrell, take the prizes and half angel. Five pairs of Silver spangled Hamburgs invite inspection; W. & J. Peters take the first prize, and H. M. Thomas the second. In the Creve Cœur we find but two coops, both shown by H. M. Thomas, who takes both prizes. There is but a single pair of La Fleche, and the claims at that. H. M. Thomas gets first prize for them. Houdans are in better display than their French cousins, there being five pens, the poorest of which, in our opinion, owned by W. & J. Peters, won the first place, and a pair owned by H. M. Thomas the second. We come now to the bantams, black and red games, game duckwings, and white feathered gs. The honors go to D. Allan, W. & J. Peters, D. Alert Kay, and John McInnes, of London. In the class headed "any variety fowl not specially classed," five good lots are shown. Stephen Tilson gets first prize for a pair of Sultanas, and H. M. Thomas the second for a pair of white Polands. Several turkeys are shown, but there is nothing specially worthy of note about them. For want of a class of Bremen geese, four pairs of these beautiful birds are shown in the common class; a confusion of things which ought not to occur again. Four sections of the large lot given to bantams, and "many-a-one" to the elite of the goose tribes, well nigh as large as swans, and quite as useful as the swans are ornamental! Three pairs of China geese are shown. A pair more properly called Hong Kongs, owned by Hiram Emigh, Woodstock, takes first prize; and the prettiest pair we ever saw, all white, owned by H. M. Thomas, the second. Six pens of Aylesbury ducks are shown, all excellent; the first prize going to D. Allan, and the second to J. Logue. Ten pairs of very fine Rouen ducks compete for the prizes, which go, first to D. Allan, and the second to F. Sturdy. In ducks of any other variety we find four good pens; D. Allan takes first prize, and W. M. Smith, of Lanford, second. We know nothing about Guinea fowl, except that they make execrable music; Joseph Pentland one, of Toronto, gets first prize, and Mr. Drevar, of Lorr, second. There are five pairs of pea fowl, a pair with four chicks, owned by A. Hebblethwaite, London, taking first prize, and a pair owned by Dr. Drevar, the second. Three lots compete as collections of poultry. The judges gave the first prize to D. Allan, Galt, and the second to H. M. Thomas. We should change the order of this judgment, Mr. Thomas's being manifestly the larger and better collection of the two.

Chickens next claim attention, but we must pay our respects to them with greater celerity than we have done to the old birds. There are three pens of White Dorkings; seven of colored, nine of Light Brahmas, all splendid; seven of Dark Brahmas, of divers qualities, seven pens of Buff Cochins, a magnificent lot; six pens Partridge Cochins, nearly all good; six Houdans, all excellent; six Lamburgs, the best being D. McR. Kay's, a beautiful pair of Goldens; five pens of White-crested Polands, the best ever shown in Canada, we believe; six pens Golden and Silver Polands, hard to beat anywhere, eleven pens of games, very good. Chicken prize-takers, D. Allan, H. M. Thomas, S. G. Jarvis, T. Pellon, F. Sturdy, J. Logue, W. & J. Peters, D. McR. Kay, R. Gibson, and P. H. Wyckoff. A splendid pair of Dark Brahma chickens, imported by F. Sturdy, did not, in our opinion, get justice in having only the second prize accorded them.

Ducklings must not be overlooked. Aylesburys, Rouens, and any other variety were shown, in all eighteen pens, the prizes being taken by D. Allan, J. Logue, J. Rowell, (North Dorchester,) R. Dowling, and W. M. Smith. The worst judging we ever saw was done on the Rouen Ducklings, a beautiful pair imported by F. Sturdy being utterly overlooked, and two pairs, immeasurably inferior, awarded the prizes. Chickens of any other kind, hatched in 1873, were represented by nine pairs, the first prize being won by D. McR. Kay, for a pair of Black Hamburgs, and the second by H. M. Thomas for a pair of White Cochins.

Rabbits are not poultry, exactly, but somehow manage usually to get among them. We observed no lop ears; H. M. Thomas takes first prize for a pair of old country hares, and second for a pair of White Angoras.

W. & J. Peters have an extra prize for a pair of turtle doves, and H. M. Thomas for a pair of Guinea pigs, also for a pair of English pheasants, bred from imported stock.

Much interest centred around the two collections of pigeons exhibited by P. H. Wyckoff and H. B. Alley, both of London. The varieties embraced in these collections were pouters, carriers, tumblers, trumpeters, jacobins, swallows, fantails, barbs, sterlings, nuns, turbots, bald heads, owls, and dragons. Mr. Wyckoff takes first prize, and Mr. Alley second.

As on former occasions, much complaint is made about the poultry judging, and one or two protests have been entered, with what result we do not know. We have pointed out one or two gross mistakes, and do not wonder that some of the exhibitors feel aggrieved. Probably there will be no escape from this sort of thing until we adopt the English system of paid poultry judges, who shall do the work year by year, and consist of parties duly qualified and entirely disinterested. The American Poultry Association is moving in this direction, and we wish them success.

Agricultural Implements.

We are assured that the display of implements subserving the farmers avocations, has not been surpassed, if indeed it has ever been equalled in Canada, that is, in regard to their excellence. The number of exhibitors is unquestionably large, and in some of the articles the entries are also very numerous. It seems impossible, however, for any but an ingenious and practical man to see any chance of improvement in the implements on display here. Most of them are constructed with all the latest improvements included in their build; and in workmanlike finish they form quite an interesting show. There is a large number of articles here that are entered for exhibition only, and for which no prizes are offered. The exclusion is probably satisfactory to manufacturers, as the prizes attained would never have been considered anything like compensation for the cost of transportation of the articles to the place of exhibition. The articles included in this list are grain-drills, in which there are sufficient specimens on the ground from which any one might well get what he desired in this line. The principal exhibitors are A. Whitelaw, Paris; David Maxwell, same place; Crawford & Co., London; Noxon Bros., Ingersoll; John Watson, Ayr; John Forsyth, Dundas; L. D. Sawyer & Co., Hamilton; and Thompson & Williams, Mitchell. Prominent among these is Mr. Watson, of Ayr, who shows 26 different articles, viz.: The "Ayr Clipper" combined reaping and mowing machine; "Humming Bird" mower, a remarkably neat article, and a general favorite, we are told, with the initiated; 1 nine-tube drill-shifter, 1 do, plain, 1 combination drill, 1 drag saw, 1 horse power and jack, 1 victor chopper (geared), 1 do (belt), 3 sizes of straw cutters—prize machines of 1870-1 and 2; 2 Gardeners' root-cutters (boxed and open), also former prize-winners; 1 Cant's root-cutter, 1 hay rake, 1 field roller, 1 gang plough, 1 turnip drill, 1 hill jointer, 1 hill plough, 1 subsoil plough, 1 corn-sheller, 1 scuffler, and 1 bevel jack.

As we may have occasion to notice several of these again, we shall content ourselves for the present with observing, that a larger or finer display from any single establishment, it has seldom been our lot to witness, and when it is further considered that Mr. Watson is not a competitor for prizes, but an exhibitor only, the enterprise of that gentleman will be readily understood, and properly appreciated.

Mowing machines, single, are in great number, and reaping machines, single, not so many. It would seem as if the old styles of these articles were falling into the rest of things that are past, particularly the latter. But in combined reapers and mowers there is a splendid display. There are varieties, too. In some, the old style of the large driving-wheel is retained; in others we find the two driving-wheels, claimed, as our readers will know, to be an improvement in lessening the side draught, which is an important matter in the question of horse-power. Among these implements, too, the self-rakers appear to be more thought of, but it must be a question of judgment and the state of the land to be cut over in this respect. As an intelligent farmer remarked, "such a machine as that"—pointing to a self-raker—"would be all in pieces before it had cut five acres of my land." That, however, is no argument against the special advantage of the self-acting rake where it can be safely used. In these articles, besides the exhibitors named, we find Haggart Bros., Brampton, and Eastwood & Co., Ingersoll. In threshers and separators there is a fair number of first rate machines on the ground. The improvements in these machines are not so difficult of compass that they need be enumerated. But some slight change in the carriers, or the use of a twisted belt, or a better sort of screen, makes considerable difference in a season's work. These machines are seemingly equipped with all modern improvements, and are as far superior to the old open threshers as—as work is to play, almost. We find again, in addition to the number of manufacturers named, Glasgow, McPherson & Co., Clinton, and some way related to them, probably, McPherson, Glasgow & Co., Fingal; and we can scarcely pass without noticing the machines of L. D. Sawyer & Co., Haggart Bros., and John Watson, Ayr. There are also the styles of machines called the "Vibrator Thresher and Separator, from the shops of McPherson, Glasgow & Co., Fingal; Sawyer & Co., and J. Watson that appear to be most complete in their capacity for good work. These machines formed a close study for the comparatively small class who "go about threshing."

We get back now to the classes in which there is genuine competition for prizes, as well as for the best reputation. We begin with ploughs, of which there is a good display, and one that draws a critical audience. Practical farmers may not all be good judges of the sheep or poultry, or even of horses or Shorthorns, but they have generally a fair knowledge of the "points" of a plough. There are about a dozen of iron ploughs in which skilled judges have given Graham Williamson, Seaforth, the first prize; Geo. Ross, Rondeau, and John Humphrey, Stratford, come in for second and third respectively. Wooden ploughs are not so numerous on the ground, although the fields of Canada would probably show a vast majority of this kind—James Alexander, Lobo, getting first prize; second and third going to Joseph Kilpatrick, Rothsay, and John Elliott, London. Steel mould board with iron beam and wooden handles, and looking like a good working plough, is a description on competition in which Williamson, Seaforth, Munro & Hogan, same place, and James Walker, Westminster, are the prize men. There is only one sub-soil plough, exhibited by George Gray, London, and awarded a prize. Another, described as a double shear French plough, by the same maker, is similarly noticed. In gang ploughs, Gray is first again, and J. Stewart, London, second. There are some well defined cultivators in wood and iron; in the latter Thomas R. Hagerman, Hamilton, takes first and second prizes; John Munce, St. Thomas, third; in the former, Jackson & Vary, Strathroy, take a prize. John White, London, takes first prize for one horse cultivator, iron; and Eastwood & Co., for a similar implement of wood; Palmer Bros., Beamsville, get a prize for a rotating cultivator or exterminator of noxious weeds—a really useful article, we should say, if it sustains its name. In harrows there is one set of iron, with 80 teeth, first prize by G. Bertram, Shakspeare, and another with 60 teeth, by James Alexander, Lobo. W. Powell takes the prize for wooden harrows, and for what he calls a combination harrow and cultivator. Eastwood & Co. take the honors for the wooden roller; John Watson, Ayr, and W. G. Morlock, Tavistock, also exhibit in this section. Thomas Baylis gets a diploma for a cultivator and gang plough combined.

There is a large display of wheeled horse-rakes, an excellent, useful, and labor-saving sort of implement. John Watson, Ayr, shows a number, and L. D. Sawyer & Co. have succeeded in carrying off first prize. J. H. Bridgman, St. Mary's, gets the prize for rakes without wheels. Here are also horse pitchforks and tackle, for which Peter Grant, Clinton, gets the first, and Andrew White, Galt, the second prize.

Potato diggers are in fair numbers, all seemingly well adapted for scooping out the tubers, with combination of mould boards and wire riddlers; P. W. Bawtenheimer, Woodstock, showing the best.

There is a perfect jam of straw-cutters, corn-shellers, root-cutters, and grain-crackers. David Maxwell and A. Whitelaw are large exhibitors in the first named, taking respectively first and second prizes; Levi Cossitt, Guelph, coming in for third. We find here also the familiar names of McPherson & Glasgow, Haggart Bros., Eastwood & Co., J. Watson, Sawyer & Co., and Thomson & Williams. One might think, from the number of "cutters" and "crackers," that these manufacturers made nothing else.

There is a fair display of horse powers and drag saws by some of these exhibitors already frequently named.

Strolling down among the farmers' waggons, we find only a few good strong lumbering vehicles. Peter Adams, Paris, takes first prize; J. H. Moran, London, second; and Wyatt & Tredd, London, third. Plummer & Son, London, got first prizes for light market waggon and cart, also for farm sleigh.

A brick-making machine by Geo. Tiffany, London, has received distinction in the proper quarter.

In seed-drills, harrows for sowing turnips, James Walker, Westminster, takes the first prize, and Jas. Goward, London, second; and in machines for sowing grass seeds George Murray shows a commendable article.

A highly commendable cider-press is shown by H. Sills, Vienna.

Thompson & Williams, Mitchell, exhibit a machine for grinding curds in cheese-making, which, it is claimed, contributes both to despatch and the manufacture of the cheese.

Within the building we came upon a collection of draining tools, spades, hoes, shovels, grain-scoops, forks, snaths and scythes. These articles are supplied by Mr. P. Smith, and T. J. Thompson, London. This is a well filled corner. Axes and helves by Warnock & Co., Galt, and others.

Outside again, we find a cheese-press, exhibited by Henry Hall, Westminster.

A. C. Atwood, Vanneck, is here displaying his beehives, and the bees, too, for that matter, that are flying around him and his audience, as he describes his stock.

Further on we came to gates and fencing materials, both important concerns. When the uses of a gate are considered, and the fact that in most cases where it is employed, it is opened and shut many hundred times in a year, it is of consequence that it should be moved without lifting and dragging it. Moses Bechtel, Blair, and Joseph E Strong, Newtonbrook, have succeeded in the construction of convenient and serviceable articles. Bechtel, B. Goldthorp, Etobicoke; and Robert Baty, London, exhibit some specimens of wood fences, and Bechtel, one piece of wire fencing. J. M. Cousins, London, contributes a number of pumps. It is surprising how few churns are on the ground. C. Lewis, Salford, has obtained a prize for one he exhibits. In miscellaneous entries we noticed a machine for grinding knives of reapers and mowers, by J. G. Bricker, Whitby; a potato bug exterminator, by D. J. McArthur, Lobo. Mr. Levi Jones, Markham, shows a collection of bells for farms, schools, &c.

Machinery.

The enterprise shown by exhibitors in this department is quite surprising. C. H. Waterous & Co., Brantford, have a steam engine driving a saw mill, and lathe and shingle machines, all in full operation. We are informed that the saw mill, engine, and every part of the machinery complete, and capable of cutting from 7,000 to 8,000 feet per day, can be furnished for $2,000.

At a short distance from here the firm of Cant, Gourley & Co. occupy a large building with a great variety of machines for wood-working, which they manufacture in their shops at Galt. There is a full staff of operatives, the machinery is driven by steam, and the work goes on with all the apparent care and despatch that are observed in a large factory devoted to business. Here are a planing, tenoning, and grooving machines, a moulding machine, a scroll saw tenoning machine, morticing machine, a mitreing machine; all going, and specimens of the work placed in view. The foregoing certainly form a spectacle whose equal has never been witnessed at any exhibition in Canada.

We just notice the absence of Goldie & McCulloch, Galt, whose steam engines and machinery might well be on the ground.

Dairy Department.

The display in this department does not adequately represent the industry of Canada's dairies, the entire exhibition being confined to one table not more than thirty yards in length. Nor can the assortment shown boast of very tasteful arrangement. However, in intrinsic merit the articles are accounted quite up to the average, and this, after all, is the main point.

In butter there are thirty-two entries of 28 pound rocks or tubs, presenting generally a cleanly and fresh appearance. The first prize has been awarded to Mr. Donald Clark, of Puslinch, and the second and third to Mrs. F. Nichol, Westminster, and Mr. J. Blagden, East Flamboro', respectively.

Twenty-four entries of firkin butter, ready for shipping, are shown; the best, in the opinion of the judges, being that of Mr. Benjamin Sampson, and the next Mr. M. Rosser.

It is remarked that nothing is exhibited in the way of roll-butter.

Mr. J. Anderson, Howick, takes a first prize for loaf and powdered maple sugar, a sample of which he exhibits tastefully in a glass case, bedecked with imitation flowers.

Mr. Wm. McEvoy secures the first prize for honey in the comb, against seven other competitors. His sample looks very well. The same exhibitor takes second prize for jar of honey, there being in all six entries. There are but three entries of maple syrup, notwithstanding that we write so much poetry about our national tree. These exhibits cannot be said to look very attractive, being rather dark in color.

Amongst a considerable number of entries in the department of dairy cheese, Mr. Joseph Rowat, North Dorchester, carries off the first prize.

Mr. H. R. Parsons, Guelph, exhibits two samples of Stilton cheese, for which he receives [illegible].

There are 36 specimens of factory cheese shown, and all are exceedingly fine. Mr. Thomas Pallatyne, of Sebringville, takes the first prize.

Fruits and Vegetables.

Messrs. Beadle and Buchanan, Arnold and Smith, each show 20 varieties of apples, including the Pomme Royal, Northern Spy, Ribston Pippin, Wagner, &c. The display of Mr. Smith is simply magnificent, and he, very properly, we think carried off the prize. Mr. Arnold also shows six varieties of Winter table, and Messrs. Beadle & Co. six varieties of Fall cooking apples, for which they severally take first prizes.

The show of pears is unusually good, the principal exhibitors being Messrs. Beadle & Co., Arnold, and E. West, Westminster. The varieties shown, and which attracted most attention, are the Beurre d'Anjou, Belle Lucrative, Beurre Bial, Columbia, Belle Beauty, and a few others.

For the best collection of fruit of all kinds the Gallow Club deservedly gets the prize; their assortment being undoubtedly the choicest feature in this most interesting department of the Exhibition. A seedling grape, grown by Dr. Mantey, of Niagara, and occupying a prominent position in this collection, is the beheld of all beholders. Messrs. R. Pinnell and Wm. Sanderson are also successful exhibitors in this class.

The principal varieties of plums shown are the Victoria, Lombard, General Hand, Jefferson, Smith's Orleans, &c., the leading exhibitor being Noah Smiley.

Mr. A. M. Smith and Messrs. Beadle & Co. show several varieties of peaches of excellent quality.

Charles Baker shows six varieties of "open-air" grapes, including Rogers' No. 19, Concord, Canton, &c.

The display of pears is so large that we must reluctantly refer our readers to the prize list. We may state here, however, that the principal exhibitors are Messrs W A Smith, Brantford; H S Brown, Niagara; E West, Westminster; H J Brown, &c.

Mr B. Currie, Niagara, shows some very fine quinces, and John P Otwell, West Nissouri, beautiful pomegranate melons. The leading exhibitors of watermelons and citrons, some of them of immense size, are Messrs Stock & Hay, Watertown; A C Deadman, Delaware; D. Campbell, London, George Parker and James Day.

The show of vegetables is, we think, inferior in some respects to what we have seen at former exhibitions. Mr David Anderson, of London, takes the ribbon for the "greatest variety."

Onions are exceptionally good; indeed some of the specimens shown are superior to anything we have ever seen.

Mr S Pope and A W Taylor show very fine beets and parsnips, and E C Fearnside gets the prize for the assorted collection of tomatoes.

Capsicums in great variety are exhibited by Messrs. D. Anderson and Wm. Bessell.

Passing to the amateur tables we come to a very fine display of snow apples, by Mr. Archibald, Caradoc; and a little further on to 20 varieties of very nice cooking apples, shown by Mr. H. J. Brown, of Niagara.

Mr. H. Branstone, Delaware, shows some mammoth Alexander apples. We also noticed some fine specimens of the Beauty of Kent and Northern Spy, but failed to discover the exhibitor. Messrs. W. Armstrong, of Westminster, and D. Broderick, of Louth, show some very fine specimens of the Pomme Gris and Russet varieties.

Coming once more to grapes, "under glass," we find Mr. John Barron, of London, a successful exhibitor of the white variety, and Mr D. Campbell, of the Black Hamburg. Of the former, Mr. Kelly, of London, is also an exhibitor.

Mr. James Taylor, of St. Catharines, shows in the "open air" class, some very tempting Ontarios, Rogers' No. 15, Arnold's 16, Rebecca, &c.; also a fine specimen of Delawares.

Mr. A. M. Ross, of Goderich, also shows some very fine Rogers' Nos. 3 and 4.

Mr. F. Benham, of Michigan, gets the prize for 3 bunches of Rogers' No. 19.

The show of plums (by amateurs) is very choice; the principal exhibitors being Messrs. A. M. Ross, Goderich, who receives the first prize for collection of six varieties, and Messrs. William Benham, of Guelph, N. J. Brown, and R. Currie, for "dessert."

Grains, Roots, &c.

When we speak of the grains, it is proper to compare the Exhibition this year with that of last, at the same time it must be remarked that it would be perhaps an error to found a judgment upon the grain crop of Ontario by what we see at the Exhibition. The fall wheat is pronounced rather a finer sample this year; the spring wheat does not look so bright [illegible] is really not quite so good a sample as what we saw at Hamilton Exhibition last year. Mr. James M Nee took the first, the Canada Company's prize of $100, for the best fall wheat. This was of the Red variety. The barley was a good sample, but a small quantity only was on exhibition. Oats were in great quantity, and of fair quality. There were only four or five bags of peas. In small seeds, beans, there was a good display—that is, timothy and clover seeds, millet, turnip and flax. There were also baskets of very good samples of corn.

In roots, the exhibition was not up to last year's. Some tolerably big squashes helped out the show somewhat, and there were some parcels of good potatoes—Rose, Chilis and Peachblow; and one basket described as "any other sort" was not inferior to any. A collection of "seedlings" was sent from the London Asylum; and Mr. Charles Foster, East Flamboro', contributed different varieties named. Of course there were carrots, mangolds, turnips, and other commonly exhibited roots, but the awarding of the prizes will be sufficient mention of most.

There are novelties in this Exhibition of which a description will be interesting. We may notice first the appropriation by two American exhibitors, of the pine tubes in one case of the prairie lands in Iowa and Nebraska, and in the other of the fields of Kansas. The Iowa agent shows samples of soil, grains, wild and cultivated grasses, with some blocks of wood—to show that trees do actually grow in Nebraska. Close inspection of this collection does not impress one with a very high notion of the climate or fertility of the country. In grains there was nothing like the wheat lying in bags beside them, grown here in Canada. The Kansas exhibition was somewhat better in regard to some of the articles; tobacco and coal, and minerals, plaster, coal, salt and lime.

There were also, which possessed a much greater interest to the visitors, a number of samples of the farm lots of the Muskoka Free Grant Territory, oats, wheat, peas, potatoes of very fair quality, the wheat heads being much finer in appearance than that shown from the distant parts we have just spoken of. There are besides a good collection of agricultural products of the Thunder Bay country, and Algoma. The samples of wheat, oats, and barley in the straw, which is strong and abundant; hops, field roots, carrots, potatoes and turnips, with some of the largest cabbages we have seen this season at any fair. These productions are a proof that the climate, at least of the Algoma District and country lying round Thunder Bay, is favorable to the growth of these articles.

Short-horns at Vermont State Fair.

By common consent the noble Short-horn stands [illegible] as in costliness, among the herds assembled here. And the breed is well represented by the display of such well-known breeders as Shedd & Wheelock and C. L. Reynolds, of Burlington; A. W. Cornell of Morrisville, C. H. Hubbard, of Springfield; D Kimball and C. C. Pierce, of Claremont; C. B. Gray, of East Montpelier, John S. Emery, of Wallingford; D. Goodell, of Brattleboro'; and others. I can see a manifest improvement in the [illegible] from year to year, indicative of increasing knowledge of the principles of breeding, and a greater carefulness in selection, as well as in the weeding out of poor specimens from the herds. Mr. Pond's herd is specially noticeable for the fine [illegible] characteristics of many of the cows and heifers, and we believe Mr. H. makes this the great point, as indeed do most of our Vermont breeders, so that [illegible] Short-horns will soon become our established specialty in this race of cattle. We have heretofore spoken in detail of the herds of Mr. Griswold and Shedd & Vansicklen. The animals shown by Mr. Goodell, of Brattleboro', are also of superior excellence. Among the Short-horn calves we noted a very thrifty one exhibited by C. E. Stratton, of Rutland. The young stock of this breed generally, is very superior at this show.—*Vermont Farmer.*

SHAPE OF CHEESE FOR THE NEW YORK MARKET.—The Utica, N. Y., correspondent of the *Inter-Ocean*, says much western cheese sent to the New York market sells for less than it would were the shape different. The sizes preferred are 14 to 15½ inches wide, and 9 to 10½ inches deep. Those who send flatter cheese do themselves an injustice. Flat cheese is generally ranked as skim-milk cheese. For the southern markets, a broad, flat cheese is desirable, but the cheddar shape is decidedly preferable for cheese to be shipped east.

New England Agricultural Society's Show.

The tenth annual exhibition of the New England Agricultural Society, held at Mystic Park, near Boston, during the first week in September, is pronounced in the main, a success. Most departments of the Exhibition were creditable, though those of Flowers, Fruits and Vegetables were deficient. The show of Cattle and Horses was good. The entries of Stock were—Cattle, 425, Horses, 267; Sheep, 103; Swine, 44; Poultry, 69. The display of Cattle included 105 Ayrshires, 86 Short-horns, 65 Devons, 55 Alderneys, 41 Holsteins, 36 Herefords and 50 Grades. The attendance was large, and the fair a financial success. The fair season, it may be said, opens well East and West.—*American Farm Journal.*

Agricultural Matters in Iowa.

Des Moines papers report that the grasshoppers have made their appearance in the western part of Pottawatomie county in great numbers. It is now considered that all the crops are safe from their depredations this year.

Farmers in all parts of the State are rushing their wheat into the market, fearing a decline in prices. A large amount of wheat is delayed in shipment for lack of freight. Wheat is yielding better than had been anticipated, and is of better quality than last year. In this county the average will be about fifteen bushels per acre. The potato crop will be short, in consequence of continued dry weather in July and the first half of August.

A large breadth of fall wheat has been sown in Huron this season.

At the Vienna Exhibition 1,091 exhibitors gained prizes, including 40 diplomas of honor. England gained 29 diplomas, 82 medals, and 41 certificates. About seventy per cent, of the British and Colonial exhibitors received marks of distinction.

The Galt *Reporter* says the apple crop in that section this year will be very large. Winter fruits, such as Greenings, Spitzenbergs, and Northern Spy, is an abundant crop, while the Snow is also in most cases a heavy yield.

As one of the effects of the cheese and butter factory system, the Binghampton *Democrat* notes that the barley crop of Jefferson Co., N. Y., has fallen off from 600,000 bushels to 100,000, and all in five years, the farmers finding more profit in keeping cows.

An English writer recommends that potatoes be stored in a dry place, and be exposed from time to time to the fumes of burning sulphur. This he declares will retard the progress of disease and prevent farther infection without in any manner injuring the tubers for food.

Grand Ploughing Match.—At a meeting of the Directors of the Arnprior Union Agricultural and Industral Association, held in the Town Hall in that place yesterday, it was resolved to hold a ploughing match at Arnprior on Wednesday the 8th day of October next when $100 will be offered in prizes.

Mr Joseph Hunter, of the County of Bruce, son of Mr. Jas. Hunter, of Derry West, bought from Messrs. Snell & Sons, at the Guelph fair, a shearling cotswold ram, for which he gave the handsome figure of $175. It had only been imported from Europe a few days before the Guelph fair, at which it took the second prize.

Muskoka Oats.—On Tuesday last, a specimen of the kind of oats they grow in Stisted, was shown us. The straw was over five feet in length, and the heads were well filled. This specimen was taken from a field containing nine acres of oats, and it is expected that the owner, Mr. Darling, will realize over 40 bushels to the acre.—*Parry Sound Settler.*

The *Examiner* says Mr. Thomas Johnston, of Mount Forest, has gone largely into the butter trade of late. Last week he shipped by the Toronto, Grey & Bruce Railway, at this point, 80,000 pounds of butter; at Owen Sound by the same railway, 100,000 pounds; and at Clifford, by the Wellington, Grey & Bruce Railway, 20,000 pounds, making a total of 200,000 pounds, and representing a cash value in the market of $330,000. Not bad for one dealer.

Bearded Wheat.—"On Monday last," says the Uxbridge *Journal* "we were shown a splendid sample of this kind of wheat, which had been grown on Annand's farm, near Leaskdale. The sample was scarcely ripe, but was of unusual size, full and plump. All the ears were exceedingly well filled, and so heavy that a single head could not be seen upright. This is a spring crop, and before the late heavy rains came was given up as hopeless. The yield will be much over the average. The bearded wheat is rather a new kind here as oats, and seems to grow uncommonly well."

Taxation.—The taxation in the Dominion is $3.75 per head at the outside. In Great Britain and Ireland it is $12.12, or nearly two and a half times the amount in our proportion. In the United States it is $14.90, or nearly four times that of Canada. But the taxation of our British Colonies places Canada in a still more favorable light. In New Zealand the taxation per head is $61.80; in South Australia, $31.00; in Queensland, $25.45; and in New South Wales, $26.80. Thus Canada is taxed only in the proportion, in round figures, of one-thirteenth of New Zealand, less than one-sixth of Queensland, something over one-fifth of New South Wales, and less than one third of the United States. These are points that immigrants would do well to consider.—*Exchange.*

Imported Stock.—Mr. J. R. Craig, of Green Grove Farm, Edmonton, has received per s. s. Canadian from England eight shearling Cotswold rams, and a Berkshire boar under one year. The rams have been winners at the Royal Agricultural Society's Meeting, at the Bristol and Plymouth Fair, and also at the great World's Fair, Vienna, Austria. Mr Craig won the great sweepstakes at the World's Fair at St. Louis, last year, for the largest and best flock of sheep, and having added the present importation he must possess a flock of which any breeder may be proud. He shipped the other day to the Illinois State Fair a car load of stock for the exhibition next week, while at the same time he intends competing in the live stock department at the Central Fair, Guelph.—*Banner.*

Miscellaneous.

Ought Shingle Roofs to be Painted?

If it is an economical practice to paint any other part of an architectural structure, most assuredly it is a commendable practice to paint shingles. We never could understand why certain builders have persisted in advocating not to paint shingles, except we judge them to be influenced by mercenary motives. Every intelligent builder is aware of the fact, that shingles and siding, when not painted, will wear out very much sooner than if they had been protected by a generous covering of paint. Hence, reasoning from a selfish policy, it is better not to paint shingles, because the paint will promote their durability, and what ever promotes their durability tends to diminish the labors of the craft, and thus curtail the revenue of civil architects.

The house in which the writer was born was covered with shaved pine shingles in the year 1805, at which time the roof received a generous coat of oil-paint made of linseed-oil and Venetian red. After twenty years elapsed, another coat of paint, nearly black, was applied. Since that period no paint has been applied, and it is now a good roof for an old one. It does not leak, and the only repairs on it have consisted of a shingle added here and there, where a portion of a poor shingle was worn out. If the roof had not been painted the butts of most of the courses would have been worn entirely away; and if such long periods had not been allowed to intervene between the times of painting, the roof would have been a good one even after the lapse of 100 years.

Some one once suggested that, if the roof is painted, the paint will cause the water to back up beneath the next course of shingles above, which will thoroughly saturate the two courses, and thus the decay of the roof will be hastened. That is unmitigated nonsense. There is not a word of truth in the assumption. On the contrary, when the surface is painted, the water will glide away so quickly that it will not be drawn back between the courses of shingles half so readily as it will be when no paint has been applied.

The true way to paint a roof is to apply paint of some kind to both sides of the shingles. It is quite as important that the under side of every shingle be covered with paint as the surface, to prevent the water from being drawn up between the courses by capilliary attraction. If good shingles are painted on both sides, and good paint be applied to the roof once in ten years, it will continue leak-tight for more than a hundred years.

When it is not desirable to save the water for drinking, coal-tar is an excellent and cheap, paint for preserving shingles, and it will pay well to smear a roof with this material once in four or five years. When roofs are not painted, moss is liable to collect at the butts of every course of shingles, which promotes their decay more rapidly than alternate rain and sunshine. When oil-paint is used for painting shingles it is always better to employ some light color rather than black, as the apartments of the attic story, beneath a black roof, are liable to be uncomfortably hot in the summer; and, more than this, as black paint absorbs more heat than any other color, neither the paint nor the shingles will endure as long as if the roof had been covered with some light-colored, paint. A metallic roof covered with light-colored paint will last much longer than if it had been painted with a black paint. The most economical paint for a roof is a generous coat of coal-tar once in a few years; but coal-tar will color the water for five years after a coat is applied to the roof.—*Industrial Monthly.*

A farmer in Washington county, Ky., has found a practical use for a snake. For two years he has had one shut up in his corn-crip, and during all that time not a single mouse has been seen there.

Bone Felon.—Of all painful things, can there be any so excruciatingly painful as bone felon? We know of none that flesh is heir to. As this malady is quite frequent, and the subject of much earnest consideration, we give the last recipe for its cure, which is given by that high authority, the London *Lancet*: As soon as the disease is felt, put directly over the spot a fly blister, about the size of your thumb nail, and let it remain for six hours, at the expiration of which time, directly under the surface of the blister, may be seen the felon, which can instantly be taken out with the point of a needle or a lancet.

Lie Down and Rest.—Dr. Hall says the best medicine in the world, more efficient than all the potations of the *materia medica*, are warmth, rest, cleanliness and pure air. Some persons make it a virtue to brave disease, "to keep up" as long as they can move a foot or wiggle a finger, and it sometimes succeeds; but in others the powers of life are thereby so completely exhausted that the system has lost all ability to recuperate, and slow and typhoid fever sets in and carries the patient to a premature grave. Whenever walking or work is an effort, a warm bed and cool room are the very first indispensables to a sure and speedy recovery. Instinct leads all beasts and birds to quietude and rest the very moment disease or wounds assail the system.

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