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**The Field.**

**The Big Trees of California.**

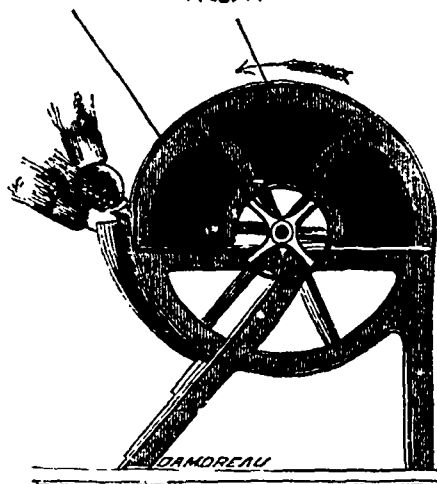
"Let us first walk upon the 'big tree stump.' You see it is perfectly smooth, sound and level. Upon this stump, however incredible it may seem, on the 4th of July, thirty-two persons were engaged in dancing four sets of cotillions at one time, without suffering any inconvenience whatever, and besides these there were musicians and lookers on.

"Across the solid wood of this stump, five feet and half from the ground, (now the bark is removed, which was from fifteen to eighteen inches in thickness,) measured twenty-five feet, and with the bark twenty-eight feet. Think for a moment; the stump of a tree exceeding nine yards in diameter, and sound to the very centre! This tree employed five men for twenty days in felling it—not by chopping it down, but by boring it off with pump augurs. After the stem was fairly severed from the stump, the uprightness of the tree, and breadth of its base, sustained in its position. To accomplish the feat of throwing it over, about two and a-half days were spent in inserting wedges and driving them in by the butts of trees, until at last the monarch of the forest was forced to tremble and then to fall, after braving 'the battle and the breeze' for nearly three thousand years. This noble tree was three hundred and two feet in height, and ninety-six feet in circumference at the ground."

Again he says—"A short distance from the above lies the prostrate and majestic body of the 'Father of the Forest,' the largest tree of the whole group, half buried in the soil. This tree measured in circumference at the roots, one hundred and ten feet. It is two hundred feet to the first branch. By the trees that were broken off when this tree bowed its proud head in its fall, it is estimated that when standing it could not be less than four hundred and thirty-five feet in height. Three hundred feet from the roots, and where it was broken off by striking against another large tree, it is eighteen feet in diameter."—From "Scenes of Wonder and Curiosity in California," by HUTCHINS.

**HULLING CLOVER.**—On this subject G. T. B., of Granville, Nova Scotia, thus writes to the *Maine Farmer*:—"Last summer I had a very fine piece of clover, from which I wished to raise seed; so I made inquiry of my neighbors how I should clean the hulls off so as to have a marketable article, but to my great surprise no one could tell me. So far as I know there is not a clover mill in Nova Scotia—that way of surmounting the difficulty, therefore, was denied me. But after a few experiments, I succeeded so well, using nothing but tools that every farmer has about him, that I determined to make my mode public for the edification of anyone as ignorant as I was last spring. I first had it threshed in the ordinary way, and very carefully cleaned with a rake; then

threshed again with an iron rod about a quarter of an inch in diameter; then put it through a fan mill, using very light wind and the tail-board well up; this separated the chaff from the seed and hulls still holding seed; this I put again through the mill with a very strong wind, and the securing board well back, when the clean seed all went into the foul seed box, and the hulls blew out on the floor ready for another threshing. This work was done at odd times and stormy days, but after the first threshing, which is very quickly done, I think a man would easily clean up ten or twelve pounds a day, in dry, cold weather, probably more. I have tried the Alsike or Swedish clover and like it very much; it fills up the bottom very much better than white or red."



**Rowan's Mill for Scutching Flax.**

THE increased attention which is happily being paid to the cultivation and manufacture of flax, naturally raises the question, What machinery is best adapted for dressing it? We give herewith a cut representing Rowan's Improved Scutching Machine, which is highly recommended by experienced manufacturers, such as Herdmans & Co., of Strabane; Ferguson, of Belfast, &c. It is simple in construction, easily worked, occupies but a very small space (3 feet 9 in. by 3 feet 4 in.), and is easily driven and attended. Two persons are required to work it, and it will clean from 25 lbs. to 35 lbs. of flax per hour, when properly managed. It is also said to yield a larger proportion of fibre from the same amount of straw, than can possibly be obtained by the use of the ordinary handles. One great advantage about it is, that it can be attached to an ordinary threshing machine power, so that farmers possessed of such powers can dress their own flax, thereby obtaining a larger profit on the crop. In many cases, doubtless, several parties owning adjacent farms, and jointly interested in a threshing machine, could advantageously unite in the purchase and use of one of these Scutching Mills. This would make the outlay

but a trifle to each. The price of this Flax Mill is £24 stg. It is made by John Rowan and Sons, York Street Foundry, Belfast. We copy the following description of the Machine, and directions for its use, from the circular issued by its makers:—

"The workman takes a "strick" of flax straw, (without being rolled, or other preparation), holding it near the root end, and passes it into the openings at the side of machine, when it is subjected to the action of the scutching apparatus. The "strick" is then withdrawn by the opening where it was entered, and the other side turned to the action of the beaters and re-entered as before. The flax is now partially scutched or "roughed," when two or three pieces are then put together, and again the same operation repeated as before described. When withdrawing the flax from the machine let it be drawn slightly end-ways; for, by attending to this, the flax is found thoroughly scutched, and with the ends perfectly finished—an advantage over the ordinary system. The operation is remarkably rapid, and there is no risk of accident whatever. The "boon" falls through the machine, and the tow, of which very little is made, is collected at the back. The machinery is so simple that it cannot go out of order, and has been fully tested to the complete satisfaction of competent judges.

"The arrow shows the direction in which the cylinder revolves. The velocity of the machine to be driven to say—460 revolutions per minute for average quality of straw. If the straw be hard and wiry, then the speed to be a little higher, and if soft, slower. The regulating screw in front of machine is for the purpose of adjusting the breast-plate either wider or closer from the beaters, to suit the various qualities of flax. The only attention the machine requires is to keep the bearings well oiled."

Mr. Walker, whose report in reference to flax culture in Canada appears in another column, informs us that, whereas ordinary Flax Scutching Mills require skilled operatives, this machine can be worked, after very little practice, by parties who have had no training whatever. He also states that it is not liable to those accidents to life and limb which sometimes occur in the use of the ordinary machinery. We may add that Rowan's Mill took the prize of the Gold Medal at the Exhibition last year, at Lille, in France.

**EUROPEAN WEEDS IN NEW ZEALAND.**—Dr. Hooker states, in the *Natural History Review*, that the water-cress increases to such an extent in the rivers of New Zealand as to threaten to choke them up; that in the Avon, a deep stream running through Christchurch, the annual cost of keeping the river free for navigation is £300, and that the stems have measured as much as 12 feet long, and three quarters of an inch in diameter. Docks are to be found in every river bed, and the sow thistle has spread all over the country up to an elevation of 6,000 feet:

## The Wheat and the Midge.

We transfer to our columns nearly the whole of a letter on the above subject, which appeared in a recent number of the *Brampton Times*. Its author is Mr. Samuel Gray, of Mayfield. We have appended a few notes on certain parts of the letter, and will only add by way of introducing it to the attention of our readers, that we look upon it as a most sensible discussion of a matter which is vitally important to the farmers of Canada, especially at the present time.

"The farmers in this neighbourhood are sad sufferers this season from the ravages of the midge, and naturally enough it forms the topic of conversation wherever a few casually meet together. It is painful to listen to them as they describe the state of their wheat crops, and the general cry may be condensed, without exaggeration or burlesque, into the following stanza:—

Plague take the fluttering little midge  
Myriads swarm on every ridge,  
The wheat is ruined every head  
I shall not even have my bread."

There may be very little poetry in the above doggerel, which my common place-muse has suggested, as being the burden of the lamentations of the farmers of Peel this season, but it cannot be denied that there is, unfortunately, too much truth in it, for the contentment of all individuals, directly or indirectly dependent on the profitable cultivation of the soil. Much of the wheat in this section will scarcely pay the expense of cutting, much less of threshing and all the other incidental expenses attendant upon harvesting, but the worst feature of this deplorable visitation is that the majority of farmers, especially those dependent on rented farms, are in a miserable state of dependency, without energy for the present or hope for the future; ruin, utter ruin, they firmly believe stares them in the face, and were you to listen to their doleful predictions, their only certain resource will be to flee from this pest-stricken land, and locate in some more favoured spot where midges, rust, wire worm, Hessian fly, &c., are unknown, and where wheat is free from all those ills which periodically attack the staff of life in every country where it forms the staple of subsistence. (1.)

The problems to be solved in this emergency are.—Does there exist a remedy? Must farmers abandon the cultivation of fall wheat for a time and trust entirely to spring crops, which are equally uncertain in this precarious climate? Is science powerless to point out the antidote, or rather preventive to this evil which threatens to effect so severely the material prosperity of Canada West? I remember seeing a few years since in an agricultural paper published in the United States, an announcement from one of the mammoth farmers of the fertile west, offering a reward of one thousand dollars for any plan of cultivating wheat so as ensure its ripening a fortnight earlier than common. If my memory be not at fault the object was to force the wheat into such a forward state as to enable it to stand the attack of rust or some other enemy; be this as it may, it appears to me that if the farmers of this or any other section could succeed with certainty in forcing forward their wheat, so that the skin of the berry should become too tough for the lance of its puny but fatal enemy to penetrate, then I think they need not abandon the cultivation of fall wheat, as has been done in many sections of this continent, and that too for several successive years; but on the contrary might rely on almost a certain average crop, with favourable seasons. Now, in order to achieve this desideratum, this rapid growth, and at the same time secure a plump bright sample, not liable to shrink, involves many serious precautions, a failure in any one of which would materially affect the desired result.

Two obstacles present themselves which must be overcome in any field in which the experiment of forcing wheat is to be tried, before the stimulants should be applied, or it would be only labour and money lost. As a general rule the soil contains too much water, and too little vegetable mould or humus. In a word, efficient draining and ploughing in of green crops must be resorted to, to bring the seed bed into proper mechanical condition favourable to rapid vegetation. (2.)

Land well tilled and drained, in the first place requires the presence of all the organic and inorganic constituents necessary for the perfect development of the wheat plant, and assuming (which is very rarely the case) that there is no deficiency of any one constituent, still in the most favourable season, neither too wet nor too dry, nature will take her own time—the food of the plant must be gradually brought into that soluble state in which only it can contribute to its growth, the vegetable, the animal, the mineral. The saline substances in the soil required must be

dissolved or they cannot become food for the plant, and their presence in the soil is perfectly useless so far as the present support of the plant is concerned, for it cannot digest solid food, or even take it into its system; the food must be previously digested by the combined process of decomposition and solution, before it can be absorbed into the delicate veins of vegetable organization.

That this view of the subject is founded upon correct data, is borne out by the two modes which have been successfully adopted in the mother country for stimulating the growth of nearly every species of crop, viz., top dressing and liquid manuring. The former method we have adopted here to stimulate the growth of clover, and its beneficial effects are too well understood by the majority of farmers to require explanation; occasionally it fails, but very rarely, unless from want of rain, as in dry weather it cannot be dissolved and carried down to the minute and delicate rootlets, and in its solid state it is perfectly inoperative. On the other hand liquid manure never fails, the crops of grass raised in the British isles, through its agency, are perfectly astonishing; the weight per acre would appear to be incredible were it not so well authenticated, and it is found to be equally beneficial when applied to the cereals. How can it be otherwise; since all the fertilizing ingredients, whether of barn yard manure, guano, superphosphate, or lime, &c., if not actually in a perfect state of solution at the moment of application, speedily becomes so by the decomposing influences in the soil, assisted by moisture, and will be in the best possible state for quick assimilation with the substance of the growing plant? (3.)

The value of irrigation, pure and simple, either by the rains or by flooding of the land by nature or artificial means, in countries subject to long continued drought is too well known to admit of cavil, but when the fluid is literally charged with fertilizing substances, as are the waters of the classic Nile when they overflow the Delta of Egypt, their happy effect is increased an hundred fold, and it is this peculiar property of the waters of the Nile, strongly impregnated with nitron and other fertilizers which has enabled the inhabitants of that country to raise such splendid crops of grain and pulse year after year for so many successive centuries, and which obtained for it in ancient times the just distinction of being the granary of the world, as the Western hemisphere is at present; but when the annual inundation fails or is deficient, the labours of the husbandman are comparatively worthless. (4.)

The scientific agriculturists of Britain have laid it down as law, that "if high farming" will never pay—poor farming never can. To which class the farmers of Canada belong there can be little question. The soil is literally alive with insect pests, which would not be the case were a sufficient quantity of alkaline and saline constituents of the plant present in the surface soil. The conclusion I have consequently come to is this,—that if our farmers would select the earliest varieties of wheat with a tough skin, and apply liberal top-dressings composed of various fertilizers, as their judgment preferred, followed by liquid manuring also, containing fertilizing constituents, having previous to sowing limed their lands liberally, combined with a moderate sprinkling of salt to assist its action, by forming *Chloride of Calcium*, that the larger portion of the larvae of those insect pests would be destroyed, and that the wheat plant would mature its seed-skin so early as to defy the attacks of the midge, and its stalk be so well glazed with silicic acid as to be rust-proof, and that it would prove after all the most reliable crop as a staple, by a judicious rotation, for this latitude.

The first question which naturally presents itself is,—how are the farmers to procure a sufficient quantity of water with which to make the liquid manure, if there be no creeks running through the lot? I reply by making a pond or reservoir contiguous to that spot where his drainage water seeks its natural outlet. (5.)

The second—how can he distribute it over his growing crops?—he could not afford to lay a system of iron pipes and employ steam-power as in England. I answer, a common watering can would be amply sufficient for the breadth of wheat which is in general laid down on our common-sized farms. (6.)

But this mode of cultivation will entail increased expenditure, which he can ill afford; the objection is just, and in some instances, perhaps, insurmountable, but be it understood that farming cannot be carried on profitably on old cleared lands, either here or any other country unless the agriculturist is possessed of sufficient capital to enable him to employ the requisite amount of labour and keep up the necessary amount of stock in proportion to his acres. In a word, money is the sinew of farming as well as of war, and the majority of our farmers put in every year a greater breadth of land than their means will enable them to till properly."

NOTES BY EDITOR OF CANADA FARMER.—1. Change is the *ignis fatuus* by which too many farmers are allured at considerable sacrifice and no little risk, to "try their luck," as it is termed, in some new and distant region. After having effected a removal, they find, if not the same difficulties, others of equal magnitude, and it is the part of wisdom to ask, before taking flight to an unknown and untried sphere, "Whether 'tis better to endure the ills we have, or fly to others that we reckon not of." Farming is not the only business which has its uncertainties and risks; indeed, we think it could easily be shown that it is less exposed to them than most other avocations. The evils at present complained of admit to a very large extent of being remedied, and if the lessons taught by the extraordinary season which is passing over us be only heeded, the harvest of 1864 will not be the least productive one that Canada has known.

2. In the foregoing paragraph, Mr. Gray briefly alludes to a "precaution," which, of itself, is almost adequate to the requirements of the case. "Efficient draining," by opening the land more quickly to the action of sun and air, hastens growth, and brings on the desired stage of the plant at which it is out of danger from its insect enemy. The great lesson of the present season is the vital importance of thorough drainage.

3. Many of our farmers—perhaps most of them—look upon the use of liquid manure as utterly impracticable in their circumstances. But it is no such thing. A capacious tank may be constructed at no great cost, and a cart or waggon may be readily fitted up to convey the liquid to the land. The exercise of a little ingenuity along with a comparatively small outlay, would enable the farmer to apply his manure to the soil in that state in which its fertilizing properties are least liable to be wasted, and their beneficial action is sure to be most quickly felt.

4. As intimated by an esteemed correspondent in our last issue, there are undoubtedly many locations in which artificial irrigation might be employed to advantage. How independent of the parching drought which has consumed our fields would any man be who could send at pleasure a flow of water over a portion or all of his farm!

5. A large cistern contiguous to the barns and shedding, with troughs or pipes conducting the rain water from the roofs into it, is a most valuable "reservoir." Out of it the stock and liquid manure tank can at all times be supplied with water.

6. Here we must disagree with Mr. Gray. "A common watering can" is too small an affair for the purpose. A cart or waggon fitted up somewhat after the manner of the watering-carts that sprinkle the streets of cities would be more like the thing. If it be said no great breadth of land can even thus be treated to doses of liquid-manure in the course of a single season, because on a large scale the operation would be too expensive, we may reply,—granted; but the increased yield and the improved condition of the land will amply repay the cost and trouble, and show very clearly, that only capital is needed to make the operation profitable on a large scale as well as on a small scale.

7. This is no doubt very true, as is the remark quoted in an earlier part of the letter, that "if high farming will not pay, poor farming never can." It is better to till a little land thoroughly than to skim over a large surface. Deep acres are better than broad ones. And though the objection will doubtless be urged to such suggestions as the foregoing, that they are all very well for those who have money to carry them out, yet we venture to think a more judicious application of available capital and labour would do much to make farming more profitable, and farmers more contented with their lot.

MANY POTATOES FOR ONE.—M. J. Cowell, of Cayuga county, N. Y., has been experimenting upon the yield of potatoes, and succeeded in getting 217 from one potato, the most in twelve experiments—variety not named.

## Flax Works at Norval: Harvesting Flax.

To the Editor of THE CANADA FARMER:

Sir,—I observed in the *Leader*, a few days ago, a statement from the respectable firm of Messrs. Gooderham and Worts, on the failure of the wheat crop, from the ravages of the midge or weevil, throughout the United Counties of York and Peel. It is to be regretted this is not the only section of country from which you will have the same complaint, while at the same time it is gratifying to know there are sections where the farmers are not blindly wedded to a crop of wheat, and many are turning their attention more to raising of stock, and the cultivation of other crops.

In the counties of Hants, Wellington, and Waterloo, much attention is being given by the farmers to the raising of well bred stock, especially sheep. Flax is also largely cultivated. I visited the mills of Col. Mitchell, of Norval, last week, in company with a large flax grower and manufacturer, from the North of Ireland. We found him busily engaged, with a number of hands finishing up last year's stock, and preparing for the new crop coming in. My friend was much pleased with the machinery in those mills, and said in many respects they were equal to, if not better, than many such works he had seen in Ireland. We visited a field in company with Col. Mitchell, not a quarter of a mile from the village, in which the flax was over three feet long, and pronounced by all parties present to be worth from \$40 to \$50 per acre. We were told there were other fields not far distant, even better than this. It was sown early in the month of May, and is quite ready for pulling this week. The drought of course has affected this crop the present year, but there are few fields that will not produce even double the amount wheat will do; and while I see farmers preparing their fallows for fall wheat another year, I cannot help asking if they had not better pause and make the enquiry whether they would not act a wise part in sowing flax? Visit the different flax growing districts, and ascertain the facts. If farmers will only give the same attention in the preparation of their land for flax, that they do for fall wheat, they will soon learn the difference in profit in producing flax in place of wheat.

Col. Mitchell deserves a large share of credit for introducing the steeping process, as by this system the best qualities of flax will be produced. While the weather is warm it will only require some four or five days in the vats, and a like number of days will be sufficient on the grass. Those who have followed the dew-retting process, now so common in this country, will do well to get into the way of steeping, as a much finer quality and better colour is produced, and such fibre as will command the highest market price.

Now that the season is on for harvesting, I would take the liberty of offering a few hints to those who are new beginners and are making the first trial this year. When pulling keep the butt ends as even as possible. Make your beets or sheaves small, and tie with a small portion of the flax itself, as soon as the seed is taken off, which is done by a ripple or simple comb for the purpose. The flax should be spread on the grass immediately. If allowed to stand any length of time in the stock, the outside of the beet will become discoloured from the action of the sun, which is most injurious to the quality when dressed. While on the grass turn it over once in the course of five or six days, allow it to remain other six or seven days, until ready for lifting, which is best known by rubbing a few of the stalks between the fingers. When the woody parts will leave the fibre freely, it is ready. It is better to have it over than under done, but great care should be taken to take it up at the proper time. It may then be taken to the barn, or stacked up, and the longer it remains in this stack before scutching the better the fibre becomes. In Germany, Belgium and many other flax growing countries, flax grown this year is often left to the following year before it is manufactured. The farmers should be careful not to allow their flax to become too ripe, as they had better be content with a less quantity of seed and more fibre. In Ireland where the finest flax is produced, the seed is never allowed to more than form, and in a few years when we have a little more experience in this country, I have little doubt this will be found to be the most profitable system.

JOHN A. DONALDSON.

Spring Mount, Weston, July 11, 1864.



The Dairy.

## Dairy Farming in Gloucestershire.

In a dairy of 60 to 90 cows on one of the best dairy farms of the Vale an exact record of the produce of milk, cheese, butter, and bacon, has now for nine years been kept; and the lessons which these statistics teach on the policy of various details of management—on the value of breed or family descent—on the costs and profits of breeding from two-year-old and three-year-old heifers respectively—on the profits of dairy husbandry generally—and on the importance of a large percentage of plough land on the dairy farm, are of the very highest value and importance. The following are among the conclusions to which this paper leads us:—

1st. That it is desirable for the dairy farmer to rear his own stock, so that he may improve his herd, and, by using superior bulls, that the calves he has to sell may be of more value for rearing.

2nd. That it is to his advantage to wean his heifer calves early, and, by his liberal treatment, to encourage their growth and bring them into the dairy at a little over two years old.

3rd. That winter dairying may be successfully carried on, and that by liberal feeding the cows will almost give as much milk as in the summer, without materially affecting the summer's yield.

4th. That a certain portion of arable land attached to every dairy farm—probably one-third—would greatly assist the farmer in supplying liberal feeding.

5th. That, as a considerable portion of the value of the food purchased goes to enrich the land, the farmer who uses much oil-cake and other purchased food is improving the staple of the land.

6th. That it is to the advantage of the landlord to encourage liberal feeding, as tending to this improvement of his estate.

7th. That for this purpose he should erect suitable buildings for comfortable winter-housing of the stock, and encourage the breaking up of a portion of the poorer grass lands.—*Agricultural Gazette*.

**CHEESE POISONING.**—I cannot understand how cheese can become poisonous under any circumstances. The older it grows and the more decomposed it is the more easily does the stomach digest it, if moderately taken and mixed with other food; for it is an old saying, and a true one, that "cheese digests everything but itself;" and, as some people will eat half a pound of cheese at a meal with nothing but a little bread mixed with it, a hard waxy curd is formed in the stomach, which the gastric juice is perfectly unable to penetrate. It lies there like a lump of lead. Irritation and inflammation ensue; it cannot dissolve nor pass; all attempts at vomiting only compress it into a firmer ball; intense headache, cold sweats, and sometimes death itself ensues. It is evident (if this theory be correct) that it is not old or even maggoty cheese that will produce this effect, but tough, new cheese, such as some of the Dutch cheeses are. Half-baked bread, gristle, and with some people hard dumplings, and even carrots, will produce a like result. It requires a ploughman's stomach to make a meal of bread and cheese alone, and even he eats onions with it when he can get them. Personally I used to suffer intense morning headaches consequent upon the smallest modicum of cheese. But as I grow older my stomach grows stronger, or less irritable, which amounts to the same thing. At its weakest, however, I could always greatly nullify its deleterious action by adopting what in my younger days we used to call hospital practice, that is, by spreading butter on our bread and eating the cheese with that. If people will avoid new, tough cheese, and eat only moderately of old, we shall hear no more of poisoning by cheese.—J. Q. RUMBALL, M.R.C.S., The Limes, Harpenden, Herts.

At a recent cheese convention at Rome, N.Y., there were represented 64 cheese factories, employing 38,679 cows.

## Entomology.

### "Grain Weevil" or "Borer."—[*Calandra Granaria*.]

To the Editor of THE CANADA FARMER.

SIR,—All grain is infested by its peculiar kind of weevil. Peas are very much attacked. These borers belong to the species *Coleoptra*, one of the family "Curculio." These weevils have all much the same appearance, all being provided with a long, prominent borer, by means of which they commit their ravages. The female lays five or six times a year. She penetrates the pea or grain, lays her egg and comes forth. The egg hatches and the larvæ, or grub, eats himself a warm and cosy home inside the seed. At docks where wheat laden vessels unship, you may see bushels of these insects swept from the warehouses. There is no atmosphere in which *this pest*, *aye, and every pest*, thrives better than that of a close, dark room. If there is any sign of the borer in your grain spread it out, they will crawl forth and hide in the chinks of the barn, whence they may be driven by smoke or other simple means. Therefore, you must be exceedingly careful to keep your granaries clean, for in dust and filth will the weevil thrive. There is yet another point in connection with this insect nuisance. It gives us a warning never to buy our seed by bulk alone, for the borer hollows the seed, leaving it full in bulk, but about one-third of its original weight.

AN OLD COUNTRY MAN.

Glanford, June 28, 1864.

**DO CROWS DO MORE HURT THAN GOOD?**—MESSRS. EDITORS.—This morning a raid of these voracious birds made a dash at our cornfield and pulled up 300 hills before I knew it was up, notwithstanding the precaution I had taken to supply the field with scare-crow lines. The advocates for the deceitful crows plead that their services in destroying noxious animals will more than compensate for the damage they do in the corn-field. It is true that they are great gluttons and devour with voracity every small animal that they can eat, and among the variety, they seize upon not only the noxious animals of a larger size, but devour without mercy the smaller creeping, friendly animals, and what is worse the savage, unrelenting predators glut themselves upon the eggs and young of all our beautiful, friendly birds. These birds, not the crows, are the devourers of the smaller insects that lay waste our incipient garden and field plants, while the gross feeding crows do not notice the little insects, but leave them to supply the "creeping things" and little birds with their appropriate food. I think the injury the crows do will overbalance all their good works. If crows were as harmless as they are intelligent and beautiful, they would rank with the most noble of the bird creation. But the crow is one of the most shrewd robbers belonging to the feathered tribe, and by his strategy he will summon his band and make a dash at a corn-field with as much expedition and as unexpectedly as Gen. Jackson or the leaders of guerilla bands did upon their enemies.—SILAS BROWN, in *New England Farmer*.

**THE WEEVIL.—IMPORTANT TO FARMERS.**—The Editor of the *Akron Beacon* states that he has been informed, by the proprietor of the City Mills, of that place, that the farmers of Vermont are in the habit of checking the depredations of the weevil by the following simple plan:—

"The next season after it makes its appearance, they go through their wheat fields, about the time the wheat is stooling or heading, immediately after a shower or while the dew is on it, and scatter newly-slaked lime broadcast, so that it will adhere to the heads and stems of the grain. They use about a bushel to the acre. Good lime should be secured, and slacked by sprinkling a little water over it, so as to retain all its strength. The remedy has, it is said, been so effectually tried, as to leave no doubt of the result. Strips of large wheat fields, left untouched by the lime, for experiment, have been entirely destroyed by the weevil, while the grain on each side was all saved."

**BRS.**—Housekeepers not desirous of being carried out of the world by bugs, will be glad to learn that they can stand hot alum water. Take two pounds alum, bruise it, and reduce it to powder; dissolve it in three quarts of water; let it remain in a warm place till the alum is dissolved. The alum water is to be applied, by means of a brush, to every joint and crevice. Brush the alum to the crevices in the floor, whitewash the ceiling, putting in plenty of alum, and there will be an end to their dropping thence.—*Country Gentleman*.

Veterinary Department.

The Teeth of the Horse as an Index to his Age.



FIG. 1.—THREE-YEAR OLD MOUTH

- B. Anterior maxillary bone.
- 1. 1. Central permanent nippers, nearly full-grown
- 2. 2. Milk teeth worn down
- 3. 3. Corner milk teeth, still showing central mark
- 4. 4. Tushes concealed within the jaw

It is often a matter of no little importance for farmers and others to be able to judge the age of a horse. The only infallible marks by which this can be done are found in the animal's mouth. His teeth undergo certain changes at particular periods, and a knowledge of these, and the various appearances presented, will enable any one to settle for himself the question often put so anxiously, and answered so dubiously, "How old is that horse?" We publish herewith a valuable series of engravings, which our artist has very accurately copied from that standard



FIG. 2.—MOUTH OF THE COLT AT FOUR AND A HALF YEARS

- A. Anterior maxillary bone.
- 1. 1. Central nippers, considerably worn out.
- 2. 2. The next pair, fully developed, with their edges slightly worn.
- 3. 3. Corner permanent nippers, in a state of growth, with the edges of the cavity sharp and the mark very plain
- 4. 4. The tushes showing themselves through the gum but not full-grown.

work, "STONEHENGE on the horse." The illustrations may be said to be self explanatory, nevertheless we intersperse some observations, which may render them still more clear. The horse, like all mammalia, is provided with two sets of teeth, viz., temporary or milk, and permanent teeth. The temporary teeth are twenty-four in number, while the permanent ones amount to forty. These teeth are divided into three classes—the incisors or cutting teeth, the canine teeth or tushes, and the molars or grinders. In horse-man's language, they are called *nippers*, *tushes* and *grinders*. The incisors are twelve in number, the canines four, and the molars twenty-four. The cutting of temporary teeth is not regular; generally the foal is born with twelve grinders, and frequently four incisors,—the central ones. In describing the incisors, the two in the middle are called the central; these next the central are called the lateral; and the outer ones receive the name of corner teeth. If the central ones are not up at birth, they generally appear by the time the foal is fourteen days old. From the sixth to the ninth week, the lateral teeth in each jaw begin to appear; about the ninth month the corner ones come up; and at twelve months the edges of the corner teeth are in wear, so that at one year old all the temporary incisors are up and their table surface meeting.

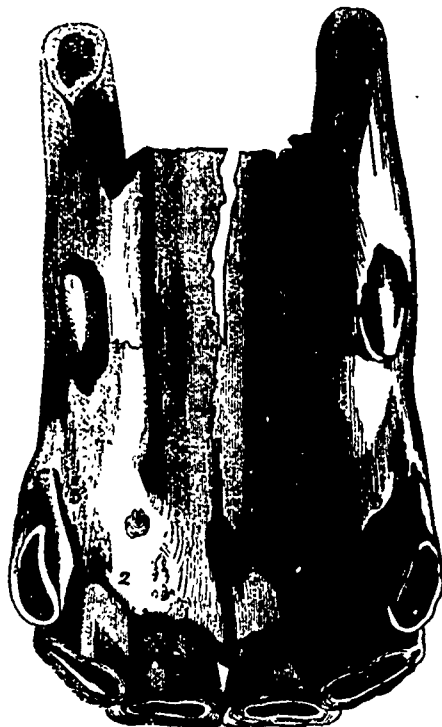


FIG. 3.—UPPER NIPPERS AND TUSHES AT FIVE YEARS OLD

- 1. 1. Central nippers, with the mark still unobliterated
- 2. 2. Next nippers, with the mark still plain
- 3. 3. Corner nippers, with the edges very slightly worn.
- 4. 4. Tushes, well-developed, and still showing the groove on the outside plainly

About one year old the first permanent grinder appears, which is the fourth in the jaw; the three first only being temporary. About the sixteenth month the mark is worn out of the central incisors; about the eighteenth month preparations are being made for cutting the second permanent grinder, and at two years old they are fully up. Therefore, at two years of age the horse has twelve incisors all temporary, twelve temporary grinders, and eight permanent ones; and the marks are worn entirely out of the incisors.

At two and-a-half years, the gums in front of the central incisors begin to get full and round; from two to three months afterwards, the permanent teeth begin to shew; and at three years they are up and in wear. As the permanent teeth become developed, and increase in growth, they cause absorption of the fangs of the temporary teeth. During the time the temporary central incisors are being shed, preparations are also being made for the shedding of the first and second temporary grinders. The horse has then

four permanent and eight temporary incisors, and sixteen permanent and four temporary grinders.

During the fourth year the following changes occur. From the fourth to the eighth month the lateral incisors are cut, and by the end of the year are up and in wear; also, about the same time, the third temporary grinder is shed and replaced by a permanent one. The sixth grinder is also coming up; therefore, at four years old, the horse has a full mouth



FIG. 4.—LOWER NIPPERS AND TUSHES AT FIVE YEARS OLD

- 1. 1. Central nippers, with their marks almost entirely worn out
- 2. 2. Next nippers, showing marks partially worn
- 3. 3. Corner nippers, with the mark plainly seen, but the edges partially worn
- 4. 4. Tushes, with the grooves inside almost obliterated

of grinders, eight permanent and four temporary incisors, and in some instances the tushes, or canine teeth, have made their appearance. Generally, however, these teeth do not come up until between the fourth and fifth year.

At four years old the mouth should differ from that represented in our first illustration. The central incisors will have grown larger; also, the laterals are coming into wear. The outer surface will be level with the central while the corner temporary incisors



FIG. 5.—THE LOWER NIPPERS AND TUSHES OF A SIX-YEAR-OLD HORSE

- B. The lower jaw
- 1. 1. The central nippers, with the marks worn down
- 2. 2. The next nippers, with the marks disappearing
- 3. 3. The corner nippers, showing the mark plainly enough, but with the edges of the cavity considerably worn
- 4. 4. The tushes standing up three quarters of an inch, with their points only slightly blunted

remain, but appear smaller. At four and a half years the gum of the corner teeth becomes full, and by the end of the year the corner incisors have come up their outer surface level with the other teeth.



FIG. 6.—UPPER NIPPERS IN THE EIGHT-YEAR OLD HORSE.  
A. Anterior maxillary bone.  
1. 1. Central nipper, worn to a plane surface.  
2. 2. Next pair, still showing a slight remnant of the cavity.  
3. 3. Corner nipper, showing the mark plainly enough.  
4. 4. Tushes, more worn down than in the lower jaw of the six-year old mouth.

Our third engraving shows the incisors and tushes of the upper jaws at five years old. The fourth exhibits the lower incisors and tusher at the same age. At five years old the horse has a full mouth of teeth, the central incisors begin to leave their mark a little, and the tushes are fully developed.

At six years old the inner surface of the corner incisors is up and level with the other, and the mark is almost out of the central ones of the lower jaw. In some cases the inner surface of the corner teeth never comes level with the other, and this is generally called a shell mouth.



FIG. 7.—LOWER NIPPERS AND LEFT TUSH OF A VERY OLD HORSE, THE RIGHT HAVING FALLEN OUT.

At seven years old the mark is worn out of the incisors, and the tushes are beginning to lose their sharp apex; and, also, the corner incisor of the upper jaw has a prominent portion at its outer corner.

At eight years old the whole of the marks are worn out of the incisors of the lower jaw, and the teeth are on a level. The form of the central ones is beginning to change. The have lost their oblong shape, and are getting more of an oval.

Our fifth engraving shows the lower incisors and tushes of a six-year old mouth, and the sixth exhibits the upper incisors in the eight-year old horse.

After eight it is difficult to arrive at a correct opinion as to the age of a horse by looking at his mouth. However, a tolerably correct idea of the age can be formed by an examination of the upper incisors, as at nine years old the mark disappears in the central ones, and the surface of the laterals are quite level, but show a slight mark, which is completely worn out by the time the animal is ten years old.

After eight years the lower incisors alter in shape. At first they are oblong, then they become oval, and ultimately they become triangular. At eight years old the central ones have become oval, at nine the lateral, and at ten the corner.

Our sixth engraving represents the upper incisors in the eight-year old horse.

Different horses wear out their teeth with varying rapidity. Some horses at seven years old show no mark whatever, all the incisors being worn down. These are generally "crib-biters," or "wind-suckers," or horses that have a habit of catching the stall or manger with their teeth while they are being groomed.

After the twelfth year the tooth loses the triangular appearance, and becomes nearly round, as is seen in our last illustration which shows the lower incisors and left tush of a very old horse, the right tush having fallen out.

In some instances the incisors of the upper jaw overlap the lower, in which case the appearance presented receives the name of "parrot mouth." As the horse advances in years, the grinder becomes irregular; the first in the jaw becomes prominent, and in some cases so much so as to interfere with mastication. It is then necessary to use the tooth rasp. Occasionally the fangs of the temporary incisors are not entirely absorbed, and the permanent tooth comes up behind. In these cases, the temporary tooth should be pulled out, so as to allow of the free growth of the permanent one.

### What is Urine?

URINE is nothing more than a collection of the effete products of the frame, and, consequently, it differs in different species of animals. If we cast our eyes over the whole animal economy, we shall discover that all urines are not necessarily liquid; on the contrary we shall find that there are many species of animals that pass solid urine; and thus at the very threshold of our inquiry we perceive this secretion naturally dividing itself into two great classes—the solid and the liquid.

**SOLID URINE**—In all animals devoid of a urinary bladder, and in which the ureters open into the rectum, the urine is solid. Thus, for example the urine of serpents is passed in a compact mass, varying, with the size of the animal, from that of a pea to that of an orange. Yet, notwithstanding the peculiar appearance of this specimen of urine from the boa constrictor, it differs from liquid urine in only one particular—the absence of water. By the simple addition of distilled water to it I can produce as perfect a urine as that of the human being, for solid though it be, it contains all the urinary ingredients—urea, uric acid, phosphates, &c. Here, for example, are two spatulas, on one of which I place a fragment of serpent's urine, and on the other, some of the solids from evaporated human urine, to each is added a couple of drops of strong nitric acid, and you observe that both effervesce. I now heat them over the flame of the spirit lamp, in order to drive away the excess of acid, and to their yellow-coloured residues add a drop of strong liquor ammonia, when instantly, you perceive, both assume a magnificent purple tint. This colour is due to the presence of purpate of ammonia, produced by the action of the reagents on the uric acid contained in the urines. You observe, too, that the urine of the snake for it has become much more crimson than the other appears to be the richest in that material. The uric acid of commerce is indeed almost entirely obtained from serpent's urine; consequently these excrementitious masses sometimes cost thirty shillings per pound.

Hitherto in these lectures I have generally said that all reptiles have solid urines; but as this has occasionally led my hearers into a mistake, from the fact that in common language, frogs and toads are reptiles, while, scientifically speaking, they do not belong to the class *Reptilia*. I must mention that these animals have distinct urinary bladders, and possess liquid urines. Frog's urine, for example, is a clear, transparent liquid, containing urea, phosphate of lime, chloride of sodium, and other urinary

ingredients, just like human urine. The true reptile, on the other hand, has always a solid urine. Thus it is that the chameleon, which, like the serpent, is a true reptile, passes excrements containing urates, oxalates, phosphates, and, according to Kletinsky, even zanthic oxide—one of the rare urinary substances. Do not for a moment imagine, however, that solid urine is one of the characteristics of the lower animal. On the contrary, we meet with it even in the higher classes. Birds have solid urines. Guano—the excrement of the sea-fowl—is in great part urine, and besides the principle guanine, contains urate of ammonia, oxalate of lime, and ammoniaco-magnesian phosphates. We find solid urines throughout the whole insect tribe. The red excrements of the butterfly contain both urates, phosphates, and oxalates, and so it is with the excrements of all other species of insects. We see, then, as was before said, that the only difference between the solid and the liquid urines is in the absence of water.

**LIQUID URINES**.—Having made these remarks on solid, we shall now inquire into the nature of liquid urines. The liquid urines are found throughout the whole class *Mammalia*, and present three such-well-marked varieties, both as regards physical appearance and chemical composition, that it may be said they naturally divide themselves, according to the species of animal, into the three separate groups of carnivorous, herbivorous, omnivorous urines.

The urine of the first class (carnivora) is characterized as being a clear, transparent, light coloured liquid, possessing an acid reaction, and rarely depositing anything on cooling.

The urine of the second class (herbivora), on the other hand, is recognized as being a dark coloured liquid, with a strongly alkaline reaction, and depositing a copious sediment within twenty-four hours after being passed.

The urine of the third class (omnivora) lies, as it were, between the two. It is clear, slightly acid, somewhat darker in colour than that of the carnivora but considerably paler than that of the herbivora, and only occasionally deposits a sediment on cooling.

In chemical constitutions these urines presents a marked feature of difference as they do in physical appearance. Thus, for example, while uric acid (Fig. 1), a beautiful crystalline body, exists in the urine of the carnivora, it is entirely wanting in that of the herbivora.

The urine of the herbivora, on the other hand, contains, in its stead, a quantity of a totally distinct organic acid, namely, hippuric, which not only differs in chemical composition, but also in crystalline form (Fig. 2.) The urine of the omnivora is again found to stand between the two, and contains a portion of uric as well as hippuric acid.

Having now seen that the urine varies in the different species of animals, we are in a measure prepared to consider how and why it should vary at different times in the same animal. The variations, both as regards quantity and quality, we shall find to depend upon the state of the body, the kind of food and drink, the amount of exercise, the climate, and an infinite number of minor causes, the influence of which will afterwards appear.—GEORGE HARLEY, M.D., University College, in *Medical Times and Gazette*.

### Fractured Bones.

Fracture of bones, occurring among neat stock, is generally considered as a justifiable cause for their destruction. But I object to this summary mode of disposing of unfortunate yet valuable animals: for the truth is, many are killed that might be saved.

The trouble of managing, and the expense of treating cases of fracture, often deter husbandmen from performing a duty incumbent on them in view of protecting their property, and acting the part of "good Samaritan;" but the facts are, the trouble and expense are mere trifles when the usefulness of a valuable animal is involved.

The remedy in case of a simple fracture of bones, under the improved system of practice, is neither tedious nor expensive. The bones unite very readily, if kept in contact, and the unity is secured by means of starched bandages. Where there is any laceration of the soft parts, and the bone is broken into several pieces, the better way is to put an end to the sufferings of the creature, for recovery is impossible.

The following case will give some idea of the method of treating simple fractures. An animal under treatment for fracture, may be placed in the trevis, if necessary, but I prefer to let the patient have its liberty in a box stall.

The limb opposite to the fractured one, will have to sustain more weight than usual; therefore, I try to prevent swelling and stiffness by occasionally hand-rubbing, or by bathing it once or twice daily, with a portion of the following—Oil of wormwood, 1 ounce; alcohol, 2 ounces; new rum, 2 quarts; mix.—*Colonial Farmer*.



## The Breeder and Grazer.

### A Debate on Thorough-breds.

On the 25th of June, the British House of Commons gave a part of an evening to the discussion of the interesting question brought up by Mr. Wyndham, member for Cumberland, whether the breed of horses in England is deteriorating or not. Mr. Wyndham held the affirmative and moved that as the appropriation for "Queen's Plates" no longer answers its purpose, by encouraging the breeding of good horses, it should be discontinued. After a good deal of "horse talk," General Peel, member for Huntingdon, made a telling speech, from which we cull an extract or two as follows:—

"If the breed of horses has fallen off, buyers must certainly be extraordinary people, because they now give higher prices for thorough-bred horses than they ever gave before. Look at the prices fetched for yearlings at sales during the present year, including that of the Royal studs at Hampton Court. Depend upon it the public don't give these higher prices for brutes. (Hear, hear.) Among the starters for the last Derby there were four or five of the finest that have run for many a year—certainly as fine as have run during my recollection. In my opinion, there is nothing in the world like a thorough-bred English horse; and if you tried to produce large coach-horses, you certainly would not improve the breed. I recollect the match of 200 miles in ten hours that Mr. Osbaldeston won at Newmarket. Did he choose great hunters or strong half-bred horses? Not at all. Every horse he rode was a thorough-bred and he did not care what they were: he took any horse which had had any training, and never varied in this choice. He rode each horse four miles, his riding weight being 10 stone. One horse carried him four times; it went 16 miles in 32 minutes, and no half-bred horse would ever have done that."

"We have not sought to shut out foreign horses. We have always upheld free trade for the turf; we have challenged foreign horses to come over here and compete with ours; and we have even given them weight because it was thought that they hardly stood upon equal terms with English horses. (Hear, hear.) It is true that in France at present they have better horses than they used to have, but these horses are every one of them of English blood. There is not a single country abroad where country-bred horses run—all of them are English bred, and buyers come to England for them. (Hear.) I can only say again that I think the hon. member is quite wrong in holding that our breed of horses has deteriorated, and is still more at fault in the manner in which he seeks to rectify this supposed deterioration. I should not have ventured to express these opinions if I had any interest in the question; but, as I no longer own a horse of any description, I have no personal interest in the matter whatever, except what arises from my great desire to assist in any measures that may improve the breed of English horses. (Hear, hear.)"

### Mortality amongst Pigs in England.

In the counties of Northampton, Bedford, and Hertford, there is at present serious mortality amongst pigs of all sorts and sizes. Within a few weeks several farmers have lost nearly the whole of their pig stock. One gentleman informs us that he has seventy dead since the 12th of May, and further reports that treatment is of little avail. The disease appears to assume the characters of an epizootic, being widespread in its attacks, and seizing about the same time and in like manner many different animals. It does not, however, seem to be contagious. It appears to be a congestive disorder nearly allied to blackleg or quarter evil in young cattle or sheep. Like it the seizure is sudden, and the progress of the malady so rapid that within five or six hours after being observed to feed well and be in tolerably good health the affected pigs will be hopelessly sinking. The earlier symptoms, when noticed, mainly consist of restlessness, often with some irritation and pain of

the bowels, and feverishness. Soon red and purple blotches of extravasated blood appear along the surface of the belly, inside the limbs, or on the quarters. The mouth and extremities become cold, the heart's action is quickened and irregular, and the fatal depression steadily increases. This is emphatically a blood disorder. Both before and after death the vital fluid is found to be dark-coloured, thin, and apparently deficient in its fibrous elements. The internal organs are soft, imperfectly nourished, and often considerably congested, the mucous lining of the intestines especially is reddened and marked with patches of extravasation similar to those noticed as occurring underneath the skin.

As to the causes we have little information. Like other similar blood disorders, the complaint probably comes on gradually, and depends on the continued depressing influence of some comparatively slight and perhaps unnoticed causes. Amongst these may be ranked the persistent use of badly-selected food, such as rice and potatoes, and other pure starchy matters which tend to the production of fat rather than of flesh, which favour the development of weak soft tissues, and contain insufficient materials for the formation of healthy red blood. Irregularities of management, such as liberal feeding followed by faulty diet is also prone to interfere with that state of the blood so essential to health. It is mainly in this way that blackleg, for instance, is so apt to occur amongst young cattle that have been starved during one season and forced on at another. I foul overcrowded pigsties, bad drainage, and impure water, also interfere with health, induce a depraved state of the blood, and thus become fertile causes of such disorders.

The rapid and fatal course of the disorder interferes with the success of the treatment. If the pig is noticed sufficiently early, a dose of opening medicine along with a stomachic should be given. Two or three ounces of castor oil, two grains of gamboge, and an ounce of ginger will suffice for a pig whose live weight is 60 lbs. Two drops of tincture of aconite should also be given, and continued at intervals of two hours until six or eight doses are administered. When the animal survives for twenty-four hours, there is a fair prospect of recovery. A drench of beer, gentian, and ginger will then help to expedite recovery, by improving the appetite and supporting the strength. The food should be liberal in quantity, nutritive, and of good quality. To prevent the disease give the pigs an occasional laxative, attend to their feeding and general comfort. If ill-thriving and weakly, let them have a daily allowance of two or three ounces of bruised fenugreek seed, and a few drops of the tincture of the chloride of iron in milk, in their wash, or in their mash. A daily run at grass, a few vetches, or a handful of clover will also usefully vary the diet.—*North British Agriculturist.*

### More about the Pork Making Controversy.

To the Editor of THE CANADA FARMER:

SIR.—I have noticed the correspondence between Samuel Nash, W. B. Carter, and Mr. J. T. Davis, on pig feeding and the preparing of the hogs for market, but I do not consider that any of those gentlemen have come to the point. Mr. Nash and Mr. Davis are very anxious to get a large number of Canadian pea-fed hogs of a certain weight and age. The question is, can they get them, and will it pay the Canadian farmer to raise them? The farmer has of late years been able to get from fifty to sixty cents per bushel for his peas, and not more than from three to five dollars per 100 lbs for dressed pork, with the exception of last winter, when they realized six dollars per 100 lbs. I should like to hear the experience and see the figures of some farmers who have carefully fed, and kept a correct account of the cost of grain used, labour, &c., the pork produced, and the net profit realized. I am aware that the Canadian can raise and keep a few hogs at a profit—just sufficient to eat up the cleanings of his fields, and a few bushels of grain to put them in proper condition for the market, but beyond that, I question if it will pay, as long as he can get the price that is now to be had for coarse grain. And it must not be forgotten that he has to compete with the farmers of the Western States whose corn can be had at from 15 to 20 cents per bushel, where the hogs are turned into the fields to help themselves, and where they raise and feed more hogs in one year than we do or can in ten. It must also be borne in mind that the present embargo on live hogs is not to be depended on as the influence of the Canadian packers may be brought to bear to raise it, as the influence of the American packers was to put it on. Perhaps Mr. Nash or Mr. Davis can give the needed information as to the profits of feed-

ing. I have experimented a little in that way, but I purchased both my stock and grain, and I could never feed to cost me less than from eight to ten cents per lb. Others may have done better, I hope I shall hear that they have. I have been in the ham and bacon business some years, and I have found no pork like that fed on dry peas or corn. Some of our old Canadian and American farmers contend that the corn fed is the best that is when fed on our hard corn grown in Canada. I cannot agree with Mr. Carter in regard to the nut fed pork; I consider it unfit for food, and of no value to packers or bacon curers. Messrs. Nash and Davis are right as to the weight of hogs required. The old style of things under which heavy weights were worth the most is over. The demand for heavy pork has almost entirely fallen off. There is not now packed in this city 100 lbs of mess pork to the 1000 that were packed five years ago. That description of pork can be made and bought much less in the Western States than here. I trust that the practical information desired by Mr. Nash may be brought out.

F. W. FEARMAN.

Hamilton, July 20, 1864.

### Pork-packing and Hog-feeding in Canada.

To the Editor of THE CANADA FARMER:

SIR.—Various communications have recently appeared in THE CANADA FARMER relating to the subjects which form the heading of this letter. The starting of several extensive pork-packing houses in Canada, together with the embargo on live hogs by the United States, has evidently tended to invest these matters with more than ordinary interest.

Your readers have already been made aware that a steady market has been established at Hamilton for fat live hogs all the year round. But the summer demand being a new thing to our farmers, very few fat hogs are to be found in the country at present. Next summer, however, farmers will no doubt be provided for the business, by keeping over a few bushels of peas or other grain. To give summer hog-feeding a trial, on a moderate scale at first, would, perhaps, be most convenient and advisable, and let the increase follow, as circumstances may warrant. Let me again remind feeders that fat, fine-boned hogs, weighing, alive, 180 to 250 lbs., are the sort required for the English market. But this special and extensive English demand for light pork those engaged in the business by no means desire to make a cause of prejudice against heavier pork, which will no doubt continue to find buyers, as usual, in the season of frost and snow, at markets for which it is suitable.

For want of an adequate supply of fat hogs in Canada, the Ontario House, of this city, is now buying live hogs at Chicago and shipping them to the American side of the Suspension Bridge, where, upon their own free soil, the Washington government has lately decreed that the blood of these animals shall flow. The butchering operation having been duly performed, Great Western R. R. cars, skilfully fitted up as ice-boxes, are run alongside the slaughter-house, and take in the dead hogs, which are hung from the top by the heels. In this manner they are conveyed back to the Ontario House, which is conveniently situated on the G. W. R. R. line, at Hamilton. As a last resource to meet this live hog embargo, the experiment works better than might have been expected, but it is, of course, attended with some loss and inconvenience. However, the enterprise is highly creditable to the originators, and well deserving of success.

SAMUEL NASH, Pork Packer.

Hamilton, July 26, 1864.

### Prizes for Native Cattle.

To the Editor of THE CANADA FARMER:

SIR.—I read in a late number a communication with regard to the distribution of prizes for imported stock. Can we not go farther to the root of the matter? The cattle imported from Europe are carefully protected, and fed from their birth. They exhibit, in fact, a completely normal development. I think that you would greatly aid Canadian agriculture by recommending agricultural bodies to give prizes for native stock—yearlings, and two-year old calves, &c. Under the present miserable system, viz: the straw yard in winter, the road in summer, the calves grow six months instead of twelve in the year. The same may be said in a great measure of colts. With the same care in feeding and sheltering, which gives such handsome growth to foreign stock, there would soon be no need of foreign expensive importations. Every farmer in Canada would have well-developed cattle. The end sought, and very partially realized by the present method, would be attained on every farm at little expense, and you will have effected by your advice a revolution of universal value.

ORWELL.

### Which Shall we Rear, Cattle, Horses, or Sheep?

The question which is the most profitable stock to grow, is one of the greatest importance to the farmer, and one which has not received an amount of investigation and experiment commensurate with its importance. I was greatly interested during the last year in watching the progress of an experiment made by a friend of mine, one who is ever alive to all that pertains to the best interests of the farming community, with a view to satisfactorily settle this question for himself. He divided his pastures into three lots, and placed in each \$20 worth of stock, as follows:—

First, 40 primo ewes at \$8.....	\$320 00
Second, 16 two-year old heifers.....	320 00
Third, 4 two-year old colts.....	320 00

He estimated the pasturage of the sheep per week at 3 cents, of the heifers at 12 1/2 cents, and of the colts at 25 cents. The hay consumed was reckoned worth \$10 per ton, and the oats fed at 60 cents per bushel, and the care of the stock was balanced by the manure. Through grazing time they had good feed and all the salt they wished. He cut his hay early in the season, and put it into the mow in excellent order, using no salt in the process of mow-curing. Early in the fall he drove the colts and heifers to their respective stalls, and the sheep four weeks later to their shed. When he commenced feeding hay he divided a large mow into three unequal portions, and measured the contents of each division, allowing 7 cubic or 343 feet per ton. In the spring he found the account with his stock to stand thus:—

40 sheep in account,	Dr.	
To 30 weeks' pasturage, at 3 cents per week.....	\$36 00	
To 5 tons hay, at \$10.....	50 00	
To 60 bushels oats, at 60 cents.....	36 00	
To cost of sheep at \$8.....	320 00	
Amount.....	\$442 00	

40 sheep in account,	Cr.	
By 140 lbs. wool, at 60 cents.....	\$112 00	
By 50 lambs, at \$2 75.....	137 50	
By 40 sheep, worth \$10.....	400 00	
Amount.....	\$649 50	
Net profit on sheep.....	\$195 50	

16 heifers in account,	Dr.	
To 26 weeks' pasturage, at 12 1/2 cents per week.....	\$32 00	
To 23 tons of hay, at \$10.....	230 00	
To cost of heifers, at \$20.....	320 00	
Amount.....	\$682 00	

16 primo heifers coming in,	Cr.	
Cash value, \$40.....	\$640 00	
Net loss on heifers.....	\$12 00	
4 colts in account,	Dr.	
To cost, at \$80.....	\$320 00	
To 26 weeks' pasturage, at 25 cents.....	39 00	
To 11 tons of hay, at \$10.....	110 00	
To 45 bushels of oats, at 80c.....	36 00	
Amount.....	\$492 00	

4 primo colts, well broke,	Cr.	
By cash value, at \$125.....	\$500 00	
Net gain.....	\$9 00	

It will be observed that no charge was made for breaking in the colts; had that item been added, no profit would have accrued. A charge for shearing the sheep would also have deducted slightly from their credit.

Had the experiment been made with good dairy cows the net profit would probably have been nearly or quite equal to the margin in favour of the sheep. I have no data from which to determine what the results would have been, had the stock estimated in the three divisions, been reared on the place and an exact account kept for the three years. If any person who reads this article can furnish the writer, through the columns of the *Rural*, or otherwise, careful statistics on this subject he will confer a great favour on many interested.

Some few years since I purchased several yearling steers, and kept them two years, keeping an exact account of all they consumed, and when I sold them, to make my ledger balance, I had to add a loss of five dollars per head. At the same time, though butter was low, my cows paid me each over twenty dollars per head of net profit annually. In conclusion I will only observe that, from such data as I have been able to gather, on a good sheep-farm, with the money invested and the labour involved, sheep give by far the best returns; while on a dairy farm, if the farmer has a *working* family, good cows at present prices for butter, cheese, pork and veal, give even better returns than sheep.—E. P. VAIL, in *Rural American*.

**BLACK TEETH IN SWINE.**—Last year this disease was somewhat prevalent and destructive in New England, and those having swine should be on their guard now that the season for hot weather has again come. Con-

finement from the ground is believed to be one of the causes of this troublesome disease. Its commencement is indicated by loss of appetite, tumours and weakness in the hind legs, and frequently in the loins, with staggering and vertigo. As soon as these symptoms appear, administer a dose of brimstone or flour of sulphur. Frequent applications of buttermilk to the back and loins, and gentle rubbing with a cob, will generally bring relief, and frequently entire cure. The animals should also be allowed a liberal supply of loam, rotten wood, and fresh, cool dirt. If there is a yard attached to the piggery, the animals may be permitted to run out if the weather is clear and pleasant. No hog should be kept entirely away from the ground, and none without access at all times to a dry bed, entirely away from the wind and sun. Another great oversight in keeping swine is in not giving them all the pure, fresh water they will drink, and especially in hot weather. Once each day, at least, a bucket of cool water should be turned into a clean trough, where the hog can drink what he pleases. The opinion seems quite common that swine do not need much drink. Perhaps they do not require as much as some other animals, but unless they get it in their will they should have access to water every day.—N. H. Farmer.

### Sheep Husbandry.

#### Sheep Farming in Canada.

BY J. B.

It must be that our farmers in Western Canada know not the real value of sheep husbandry, that so comparatively little attention is paid to it, and but few cultivate their lands with that end in view. If, however, they will turn to the writings of men like Randall, of New York, they will soon discern what a source of wealth is being neglected. Now, as a very imperfect illustration of what may be done, we propose to make some extracts from various sources touching this point. First, with regard to cost. Randall says:—

"The cost of producing wool depends upon that of keeping sheep; and this necessarily differs greatly in different localities. On the highest-priced lands in New York and New England, on which sheep are now usually kept for wool-growing purposes, it, under a judicious system of winter management, reaches about \$2 a head per annum. In some of our Western and North-Western States, where sheep have the run of lands belonging to government, the cost is about \$1 per head. We must be guided by the cost, therefore, at New England and New York States."

Improved merino flocks of breeding ewes should average five pounds of washed wool per head in large flocks. Medium wool has sold on an average for 42 : 8-10 cents per pound for the 35 years preceding the high prices of the present war. This gives \$2.14 to the fleece, which should pay for the cost of keeping anywhere, and leave the owner the lambs and manure for his profit. The increase of lambs will average about 80 per cent. on the whole number of breeding ewes. 400 South Down sheep are sufficient to fold 20 perches a day, or 45 acres a year, the value of which is therefore about £90 a year, or 4s. 6d. per sheep. 300 sheep have in this manner, with a standing fold on some dry ground, and convenient spot, well littered with straw, produced 80 large cart loads of dung between October and March; and in this manner, after the expenses have been deducted, each sheep has earned 3d. per week. 100 merino sheep given abundance of bedding, will, between December 1st and May 1st, make at least 42 cart loads of manure, and if roots are fed to them, considerably more. The value of the lambs and the manure is the minimum profit. That profit increases just on the market value of land, and the cost of keep decreases.—Estimating 80 per cent of lambs and 50 cents a head for manure, each sheep would thus average in both products \$2.10, just about the equivalent of the fleece, so that it would be equally well, on high priced lands requiring fertilizers, to say that the lambs and manure pay the cost of keeping, and the fleece is to be reckoned as the profit. According to the first computation, lands worth \$50 an acre would give their owner a profit of seven per cent., if they would support a little over one and three-fifths sheep to the acre; and that would be indifferent grazing land where the domesticated grasses are grown, and under proper

systems of winter keeping, which would not support three sheep to the acre. In many districts of Canada the want of a good system of farming has rendered it scarcely possible to ensure a remunerative return from wheat, and the only hope remaining to the agriculturist to reclaim the soil, is by keeping as many sheep on his farm as he can successfully provide for. With increasing city and town populations, and in view of the rapidly-increasing demand for wool, and for mutton, we feel confident that sheep husbandry will be more extensively introduced. But, under even the best circumstances, some lands and certain situations will always afford better conditions for the maintenance of stock than for raising wheat, so that certain districts must ultimately become the centres of this particular husbandry. Sections of the Niagara district to wit, and the front portions of Etobicoke, are illustrations of tracts in which sheep would now more profitably supplant grain; so that under any circumstances the number of sheep farms would be regulated by the nature of the soil, climate, and general conditions. We do not know a more desirable kind of information than that which would let both our own people and the "old country" folk know where such lands are to be had. We send home fine maps, full of scientific research, and overlaid with geological red and brown paint. Would it not be well if an agricultural map were published, marking the lands as to their fitness for one kind or another of agricultural industry?

Assuming that our farmer is convinced of the value of sheep keeping, the first question he is to decide must be, "wool or mutton." In the present condition of Canada, we may safely say that, in the majority of cases, the latter will be the decision arrived at, and for the reason, that our holdings are seldom over from two to four hundred acres, and many, very many, only 100 acres. We are not likely to compete successfully with the best wool-producing countries we may successfully with the best mutton-producing countries of the world. But although not growing the finest or first-class wools, we may nevertheless give to the markets our quota of excellent quality taken even from mutton sheep. Already Canada has furnished facts to show that we are in possession of stock surpassed by none on the continent, and have the facilities for embarking in an occupation which cannot fail of being remunerative. In the improved English breeds introduced into the Province by Stone, of Guelph, Miller of Markham, and other able and now distinguished agriculturists, we may develop resources lying dormant, and only awaiting the magic touch of industry to burst into activity. Of the breeds now in Canada, three are especially interesting, and it may with truth be said, that the choice of either must depend on the thrift of the farmer, the quality of his farm, his style of farming, the position of the farm, quality of soil and climate, and facilities for winter care. The more capable the farmer is, both in respect of his means and of his knowledge, the more certainly may he seek to obtain the best sort of sheep, and by diligence and undeviating attention, hope to keep his flock to the highest point of productive value; but as with every other business, there must be grades of perfection, so whilst one is developing a noble breed of animals of ever-increasing excellence, another with less means, and under less favourable circumstances, must be content to get along with breeds of less perfect form, and which will be more slowly improved. Of the three varieties of sheep referred to, viz., the Cotswold, the Shropshire, and the Leicester, perhaps the Shrops are the one most likely to be generally useful in our climate, as experience shows that they are more hardy, and are better "workers" for their grub than either of the others. It may be, however, that these sheep will require to be some time longer in the hands of known breeders of skill and repute, in order that their constitutional peculiarities may be the more securely rooted; and for this reason, those who desire permanently to retain, and even to improve, their flocks, would do well to go back for rams, and even ewes, every three or four years, to some distinguished flock. With this precaution, we certainly think that Mr. George Miller's estimate of the Shrops deserves to be carefully considered by our people. We infer that the townships of Scarborough, Markham, Pickering, East York, North York, and such like situations, would afford conditions under which the Shropshire would maintain all his excellencies. If we place the Cotswold before the Leicester, it is for the same reason that induced us to place the Shrops before them. In this sheep we have no doubt a singularly fine animal, and one which, with a more settled constitution, is only less hardy than the Shrops. More hardy than the Leicester, and an equally efficient wool-bearer, we think it deserves to be preferred. Mr. Stone, of Guelph, is the master of these splendid creatures, and Moreton Lodge will long be remembered as the home of the Cotswold on this continent. His celebrated ram, Pilgrim, just off his winter feed, weighed 250 lbs., and yielded 18 lbs. of



wool in 1862. His ewe, "Lady Grey," weighed 200 lbs., and yielded 16 lbs. of wool in 1862. The wethers are now sometimes killed at 11 months old when they weigh from 15 to 24 lbs. per quarter; at 2 years old they increase to 20 lbs. or 30 lbs. The wool is strong mellow, of good colour, rather coarse, 6 to 8 inches long, and from 7 lbs to 8 lbs. per fleece. R. L. Denison, Esq., and some others, are the champions of the Leicesters. This successful "gentleman farmer" cannot believe that his favourite is not before all others. No doubt, under the circumstances of his farm, he may be right, and guided, as are all the operations of his farm, by common sense and skill and assiduity, the Leicester with him deserves to hold a first place. It is a first-class sheep, and no one can doubt that fact. We only speak of its relative inferiority to others under special circumstances. We cannot hope to see either one or all of these varieties diffused over the country as by magic, but we may very reasonably desire to see these perfect forms lending gradual improvements to our present very inferior stock; and it is with a view to that not only the desirableness of speedy improvement, but also the direction in which improvement should progress that we direct attention to this matter.

### South Downs and Sheep-Farming.

To the Editor of THE CANADA FARMER:

SIR,—Favour me with the opportunity of directing the attention of your readers to the beautiful engraving of South Down sheep that adorns your last number. I do not ask leave to dilate upon it as a work of art. I must forego that pleasure. I will only say that if Canada can continue to produce pictures in wood engraving, and in the kindred arts equal to the South Down sheep, she need not fear humiliation in a universal international exhibition of high art. The drawing is accurate in outline, and bears upon it the impress of that most ethereal gift of genius—the power to snatch a grace beyond the reach of art. The engraving is very fine, and shows the combination of force and delicacy that is only found in wood engraving, and is only appreciable by the initiated.

My object in writing this paper, however, is purely material. I wish to arrest the current of thought that must pass through the mind of every man who shall look upon that picture and reason upon it. Some will say: It is very pretty, but nobody ever saw sheep like these. Here I say, put on the brake. Do not allow prepossession engendered of inexperience to run away with your reason, and prevent you from believing that which I can assure you is a fact. There are such sheep and they are to be found in Old England by hundreds of thousands, aye millions, not all of the Duke of Buckingham's strain, but of cognate orders, and possessing all the valuable qualities of that breed, although not quite equal in symmetry to the sheep of which your engraving holds the portraits. I have had them and bred them. I have travelled many miles to obtain a superior ram and in all my travels I beheld the gently undulating hills and teeming valleys specked with such sheep as these. The next objection will be: Such sheep are not fit for Canada. Why not? I have not seen the whole of Canada, but I have seen no part of Upper Canada that is not fitted for the South Down. He is as hardy as a Cheviot. I think he is as hardy as a black-faced Highland sheep, but the Down has not had the experience of the Highlander. Highland sheep have been known to lie buried under the snow for six weeks, and after all to furnish, perhaps, the sweetest joints of mutton in the world. But mark you, they were not killed and cooked as soon as they were dug out of the snow. It may be assumed, however, that the South Down is hardy enough to bear a Canadian winter without suffering. It is not cold but wet, that injures sheep. With a moderate supply of food in the depth of winter, the South Down would come out in spring as jolly as Mark Tapley. He is of a similar constitution.

Now here comes a difficulty. It is useless for any purpose of improved farming to keep five ewes—especially such ewes as I have seen in Upper Canada—old and hideous, all paunch and shank, looking, just after they had been clipped, like caricatures of the rot made of India rubber. Every farmer who has

one hundred acres of cleared land, free from stumps and swamp, ought to have a wet flock of one hundred ewes. One hundred ewes! Where are we to get them? It is a pertinent enquiry, and I answer I don't know. I only know that before sandy beards that are now wagging become gray if you do not obtain sheep you may bid good-bye to the profitable cultivation of wheat. You may grow wheat on your clean summer fallows, but your returns will average from twelve to fifteen bushels an acre. There is also a system said to have been proved in England of growing wheat perennially on the same land, without manure; but it is not applicable to Canada. You can't grow wheat to profit without manure. Those portions of land that I have seen contain a greater proportion of improvable land than any other part of the world with which I am acquainted; but it is all of a quality to wear out with continuous crops of wheat. And the only salvation for such land is sheep farming. You may not be able to get a hundred ewes at once. Get all you can, and strive and persevere until you do get a hundred. You may not be able to get a hundred Downs, but you may get a hundred of different kinds; and for manuring purposes, one is as good as another. Nevertheless, keep the South Down in your eye, and choose your sheep for points of resemblance to South Downs. No other sheep has so great a proportion of leg and loin, and so small an amount of offal. Two legs of South Down mutton are better than one of any other kind. To obtain wet flocks must be a work of time, but there is no valid reason why one of our more enterprising farmers should not begin to form one. The advantages that would result would produce followers of the example.

Having got a hundred ewes on a hundred acres of land, you will require twenty-five acres of roots. That, you say, is impossible. Determination ignores impossibilities. It is not only possible, but without it good farming is impossible. Good farming means a system of tilling, cropping and consuming, under which the fertility of the land is maintained and increased. Such a system involves perpetual manuring. In this country—owing, amongst other causes, to the high rate of labour wages—the only profitable means of manuring is by sheep, folded and fed upon the land. Sheep also help to keep land clean. If a farmer have spirit enough to buy oil-cake and other artificial food, and make his lambs lambs, and his sheep sheep, he will derive other advantages of which, until he try, he cannot conceive. The sweet singer of Israel says, sententiously, "The clouds drop fatness." The droppings of sheep are fatness, of which David could not altogether be ignorant, because he was a shepherd. But he knew nothing of the four-course system, and never planted a mangold or a Swede for his flock. If he had done so, the subject of one, at least, of David's poetic canticles would have been sheep-farming. That canticle would have been appointed to be said or sung in churches, and thus sheep-farming would have been a part of our religion, as with every farmer it ought to be.

Toronto, July, 1861.

W. R. CARTER.

**SHEEP BENEFICIAL TO A FARM.**—The profits of keeping sheep are not all derived from the wool they produce, and their increase in numbers; for their manure is one of the very best fertilizers of the soil that we have. Although sheep will not thrive if kept too long upon the same farm, yet the soil upon which they are kept will rapidly increase in its fertility. A moderate coating of sheep manure will renovate worn soil more than a heavy coating of barn yard manure, and no manure is better adapted to the growing of wheat than this. Sheep may be made a great profit to a farm as fertilizers, if a little attention be paid to this subject, and a little pains taken to save their droppings, or having it dropped where the soil most needs it. This may be done during the winter by feeding the sheep when the weather will admit—in the poorest field there is on the farm; and the sheep shed should be well littered with straw, saw-dust, or something of the kind, so that none of their excrement can be lost.—*Rural American.*

**SHELTER FOR SHEEP WHILE AT PASTURE.**—Solomon Green, of Townsend, Mass., who says he has kept sheep thirty years, advises to have small buildings erected in sheep-pastures, and that they should be dark, so that the sheep by going into them may avoid the flies. He says the sheep will go in at 8 o'clock in the forenoon, and remain till 4 o'clock in the afternoon. "The house," he says, "should be built on runners, so that it can be moved, and this will enrich the land. A house 12 feet square is sufficient to hold a dozen sheep and their lambs. Move it its length once in two or three weeks." He sends the following, which he says is a "sure cure for grub in the head and belly of sheep."—For six sheep, mix two quarts of oats with a large teaspoonful of yellow snuff, and give to the sheep once a week for a few weeks, and then once a month.—*Boston Cultivator.*

### Correspondence.

**ECONOMY IN SUMMER FIRING.**—On this subject, "A. H.," of H. sieville, writes:—"As firewood is an item of considerable expense, I find that a great saving of wood can be effected in many cooking-stoves when only one side is required, by having a slide at the back of the fire-place, so as to shut up one side and make all the blaze go up the side that is required."

**ALTERED READING.**—"J. H. Thomas," of Brooklyn, says: "In my last article in No. 11 of THE CANADA FARMER I am made to say, 'obtaining honey from the body of the hive, giving to a colony, or taking from a colony; and nymph queens, as may be desired.' This is quite unintelligible. It should have read thus: 'obtaining honey from the body of the hive; giving to a colony or taking from a colony nymph queens as may be desired.'" Our correspondent will oblige us by writing as plainly and carefully as possible.

**THE GOOSEBERRY SAW-FLY.**—Mr. Thomas has sent us some specimens of the worm that is destroying his gooseberries and currants, which taken in connection with his description, we have no doubt is the veritable "SAW-FLY." He states that the use of hellebore was recommended by the gardener of Dr. J. Foot, and that the remedy is infallible, for he tested it thoroughly before sending his letter to THE CANADA FARMER. It may be necessary to go over the bushes a second time if there should be a second brood deposited.

**LARGE MAPLE SUGAR RETURNS.**—"C. P. Treadwell," of L'Orignal, sends us for publication the following extract from a communication in reference to his maple sugar operations, by Alfred Cass of that place:

"For the last ten years I have made from two tons to two and a half tons of maple sugar yearly, I have tapped from 800 to 1500 maple trees. The buckets used for saving the sap are 400 of tin and the remainder of wood. The implements used in manufacturing the sugar are of the most modern improvements."

**THE SLUG.**—Wm. Porte, Esq., of Lucan, sends us some leaves and insects. Judging from the dried remains of the insects and the appearance of the leaves, these insects are known as the slug, (*Selandria cerasi*), they are often very injurious to pear, cherry, and plum trees. Fortunately, if the tree is not large, they are very easily destroyed by dusting them with dry unleached ash. Mr. Porte says he has tried the hellebore recommended in a late number of THE CANADA FARMER, and finds that wherever they "got a dose of it they were killed." He asks "will the hellebore not injure the trees?" We do not believe that it will, but have not seen it tried sufficiently to speak positively. Perhaps some of our readers can answer the inquiry more satisfactorily.

**FILBERTS IN THOROLD.**—"Geo. Keefer," of Thorold, writes:—"In answer to a Lady at Meaford, who makes enquiry why the 'Canada farmers do not plant filberts in their orchards,' I beg you will give that lady my best respects, and inform her there is no difficulty whatever in their cultivation. I have had the English filbert growing in my garden for a number of years, and they thrive well and yield abundantly. I raised mine from the nut, but they will grow just as well by transplanting. I have often wondered why the filbert is not more generally raised in Canada, particularly when the climate is so favourable—the common filbert or 'hazelnut,' as it is called, grows spontaneously in many parts of Canada, but is very small. I do not know, however, how far it might be improved by cultivation."

Another correspondent, who signs himself "An English Farmer," says:—"I beg to inform you that about thirty years ago I brought upwards of forty young filbert trees of different kinds (from different parts of England,) to this country, they thrive well and produced as fine filberts as I ever saw in England."

**RAISING CURRANTS FROM SEED.**—In reply to inquiries received upon this subject, we may say if any wishes to experiment in the raising of new varieties, the proper method is to gather the fruit when fully ripe, and after washing out the seed from the pulp, sow it in light soil immediately. In the spring it will vegetate, and the young plants should be carefully kept free from weeds, and the soil stirred often so as

to promote a healthy and vigorous growth. There is no certainty that the fruit, which these seedlings will bear will be as good as that from which the seeds were taken, yet out of a thousand seedlings some few may be as good as the parent, and possibly one or two may be better. If H. M. A. wishes to multiply plants of his cherry currant, he can do so with certainty by layering the young shoots or by taking off cuttings early in the spring and planting them in moist soil.

**INQUIRIES.**—"R. F. D.," of Hamilton township, C.W., sends the following inquiries:-

1st. Can I keep verbenas over winter in a dry collar, that is well lighted? If not, will some one tell us how to do it without a green-house?

2nd. Where can I get plants or cuttings of the magnolia, also the price?

3rd. Will some one tell how to make moss baskets, and what plants are best suited for them?

4th. Can you give a drawing of Iponopsis Elegans, and instructions how to treat the young plants through the winter?

We request our correspondents to furnish the answers to the above.

**THE "WATER WITCH."**—A correspondent asks—"Will you or some other one give us a few words about the 'water witch,' for or against. I expect to dig a well soon, and numerous disciples of the 'witch' come to my aid, crocheted stick in hand, to determine where I will be most likely to strike the vein of water. But I have no faith in 'beech or hazel,' still I am open to conviction, and will listen to the voice of science in the matter. I believe the whole affair to be a delusion, but if I am wrong, I hope some of the votaries of the 'witch' will set me right."

**Ans.**—Though we are not prepared with a scientific explanation of the phenomenon in question, we cannot "believe the whole affair to be a delusion," having had reason to think there is something in it, though we cannot say how much or how little. We shall be glad to receive any statement of facts in relation to this matter, and we advise our correspondent since he has a well to dig, to sink it at some spot designated by the "witches," and in due time report the results to us.

**VARIETIES OF THE WILLOW.**—On this subject "GALTONIAN" writes as follows:—"In THE CANADA FARMER of July 1st, 'J. C.,' of Orillia, enquires if the *salix alba* spoken of as suitable for fences, is the large English willow, &c. I think the *salix* which is being used for that purpose is the *salix candida*, or white willow of Willdenow, a shrub, of which the following is a description:—Leaves lanceolate, or linear-lanceolate, very long, obscurely serrulate at the summit, pubescent above, hoary-tomentose beneath, revolute on the margin; stipules lanceolate, as long as the petioles, aments cylindrical, scales obovate, obtuse, very long, hairy; stigma 2-lobed; a beautiful species in shady woods; stems 4 to 6 feet high, leaves 8 to 12 inches by 1 to 2 inches, catkins dense, white with dense wool, styles and stigmas dark-red, ½ inch in length, growing on uplands, flowering April and May. The *salix alba* is a large tree, a native of Europe, and from its size unsuited for hedges. *Salix viminalis*, or basket osier, is too loose for hedges. *Salix fragilis*, or crack willow, is a very large tree, reaching 60 to 80 feet high and therefore unsuitable. I think if 'J. C.' would take a ramble through the woods occasionally he might alight on *salix candida*, as it is not uncommon; but he must be careful not to confound it with other shrubby willows, most of which are quite brittle in the branches, and on that account would not be so good for a hedge.

**BETLES OF PREY.**—"Charles S. Drummond," of Grafton, has sent us two specimens of beetles (a male and female), respecting which he writes, as follows—"I have found these beetles preying on the grubs that of late years have been so destructive to the gardens in this vicinity. I have found them with their nippers round the grubs' necks repeatedly, and on taking the grub from them they will hover round, and almost immediately, on the grub being released, will settle on it again. I noticed them for the first time about the 11th of this month (June). Would

you, if possible, let me know their names among your notices in the next paper?"

**Ans.**—The beetles sent by Mr. Drummond are common enough in most parts of Canada, especially where the soil is sandy. They are essentially predatory in their habits, both in the larvæ or grub, and in the perfect or beetle state. They belong to the sub-tribe *Geulephaga*, or p. edaceous ground beetles, and to the genus *Cicindela*, or Tiger beetles. They are very active in their habits, running with great rapidity, and most of them flying also with extreme readiness, though only for short distances. The great activity of these insects, added to their predatory habits, renders them very destructive to other insects, which they catch and devour with wonderful dexterity. No insect of less strength than themselves is safe from their attacks; beetles, flies, or caterpillars, "all are fish that come to their net." On this account they are very valuable assistants to the farmer or gardener, destroying myriads of their most formidable, because unnoticed, insect enemies. They should never be wantonly destroyed. Their habits are easily observed. You have only to walk along a sandy or dusty road some warm and sunshiny day, and at almost every step you may notice an insect, some half an inch long, fly up before your foot, and after a flight of three or four yards, again alight; again to be disturbed, and driven into the air to avoid your foot, ponderous extremity. If you catch it, which is not always a very easy task, you will find it to possess great personal beauty. Some species are of the most brilliant green or blue, with spots or curved stripes of whitish-yellow; others are of a darker shade, but still marked and spotted with whitish-yellow. The under surface is usually of a most beautiful shining green. The larger specimen sent measures, exclusive of legs, five-eighths of an inch in length. Its scientific name is *Cicindela vulgaris*. It is, as its name implies, a common and widely distributed species, and from its comparatively large size, must be very destructive to other insects. The habits of the larvæ or caterpillar of this beetle are very singular. It burrows a hole in the ground, often a foot or more in depth, and in doing this, it carries up the particles of earth or sand on its broad head. Having completed the burrow, it stations itself at the orifice, which is just closed by the large head of the creature. If any insect passes within reach of it, it is instantly caught by the powerful jaws, and carried to the hole to be devoured at leisure. On the approach of danger, also, it instantly seeks security by sliding quickly to the bottom of the burrow.

## The Canada Farmer.

TORONTO, UPPER CANADA, AUG. 1, 1864.

### Provincial Reaping Match.

As previously advertised, a public trial of reaping machines took place on the farm of James Logie, Esq., Lot No. 17, 1st Concession West Flamboro', about a mile from the Dundas station of the Great Western Railway. This competition was supplementary to one which came off upon the same farm a fortnight ago, when a number of mowing machines were tested. Most of the mowers were what is called combined machines—i. e., they are furnished with a double apparatus, by which they are enabled both to mow grass and to reap grain. Their qualities having been put to the test in the hay-field, they were now to be tried in the grain-field. In addition to the combined machines, several single machines—i. e., reapers only—were entered for competition. As on the former occasion, much interest was excited by the expected match, and a large concourse of persons assembled to witness it. Among those present, we noticed James Johnson, Esq., President of the Provincial Agricultural Association; R. L. Denison, Esq., C. Rykert, Esq., Hugh C. Thomson, Esq., W. Notman, Esq., M.P.P., J. Rymal, Esq., M.P.P., Hamilton O'Reilly, Esq., Thomas Stock, Esq., Jacob Binckley, Esq., George Gregg, Esq., Dr. Cottel, &c. Messrs. Riddell, Renton and Lutz were also on the ground, and acted as judges as at the previous match.

Sixteen machines were on the ground, and about eleven o'clock operations were commenced in a fine field of wheat, which, considering the doleful ac-

counts we have heard of harvest prospects, it did one good to look at. Spite of the extreme drought, much of the wheat stood full five feet high, and though somewhat affected by midge and smut, it will give a large yield of good plump grain. The crop to be cut afforded almost too favourable an opportunity of displaying the qualities of the machines, it being in beautiful order—not a stalk lodged, not a particle tangled. Had the ground been rougher and the grain here and there a little out of sorts, it would have been more like the average of the work required of a reaper. Instead of all the machines being started at once, as in the case of the mowers, each worked separately, fifteen minutes being allotted to it. This arrangement, though it took more time, was much more satisfactory to the judges and to all concerned, though from the concentration of attention upon one machine at once, it was surrounded and followed by a crowd of spectators, rendering it sometimes difficult to get a good view of the work done. It was, however, pleasing to observe so great an amount of interest in the proceedings. That interest continued unabated to the end of the match, and sometimes rose to quite a pitch of excitement. We give below a tabular statement respecting the several machines, which will exhibit in one view the names of the makers, the character of the machine, the width of the cut made by each, and the draft as indicated by the dynamometer. In reference to the latter particular, however, it is proper to observe, that in consequence of the instrument first used getting out of order, a second had to be employed in taking the draft of the machines, and there is little doubt on the minds of all who witnessed the process that the two dynamometers varied considerably in their markings:—

#### I.—SINGLE REAPING MACHINES.

MAKER'S NAME.	NAME OF MACHINE.	WIDTH OF CUT.	DRAFT.
1. Benjamin Bell, St. George.	St. George Reaper.	70 inches.	178 lbs.
2. John Watson, Ayr.	Ayr Combined.	69½ do.	195 do.
3. Billington & Forsyth, Dundas.	Billington & Forsyth's Reaper.	71½ do.	215 do.
4. Jos. Hall, Oshawa.	Brinkerhoff's Patent Self Raker.	68½ do.	281 do.
5. James Collins, Guelph.	Duke of Wellington.	71½ do.	157 do.
6. Joseph Sharnan, Stratford.	Bell's Ohio.	62½ do.	146 do.

#### II.—COMBINED REAPERS AND MOWERS.

MAKER'S NAME.	NAME OF MACHINE.	WIDTH OF CUT.	DRAFT.
1. Benjamin Bell, St. George.	St. George Combined.	70 inches.	183 lbs.
2. J. Watson, Ayr.	do.	69 do.	216 do.
3. J. Bingham, Burford.	Young Canada.	65 do.	175 do.
4. Billington & Forsyth, Dundas.	Billington & Forsyth's	71½ do.	165 do.
5. Billington & Forsyth, Dundas.	Bell's Ohio Combined.	67½ do.	130 do.
6. L. Lawrence A Co., Palermo.	Bell's Ohio	64 do.	140 do.
7. L. & P. Sawyer, Hamilton.	Bell's Ohio	63 do.	130 do.
8. Jos. Hall, Oshawa.	Bell's Ohio	67 do.	151 do.
9. Palmer & Groat, Grimby.	Bell's Ohio combined with self-raking attachment.	57 do.	162 do.
10. James Scott & Co., Dundas.	Excelsior.	63½ do.	114 do.

As we intimated in our account of the mowing match, the award of the judges is not to be made known until the Provincial Exhibition. But other people are under no obligation to withhold their opinions, and therefore we shall not hesitate to avow ours. First, then, we have to say, as we did in reference to the mowers, there was not a poor machine on the ground—not one which would not be good value to any farmer who should buy it. Taken as a whole, it was an excellent collection of reapers, and the manufacturers, all of them, deserve much praise for their business enterprise, in bringing so many effective harvesters within reach of the farmers of Canada. Secondly, in giving a comparative view of the merits of the several machines, we deem it right to state that we do so on no hearsay evidence, but on the basis of a thorough and impartial observation of each. Thus much premised, we have no hesitation in placing the "Ayr Reaper," made by J. Watson Ayr, at the head of the single reapers. For quality of work it had certainly no superior, and we think no equal in

the recent contest. Next in the class of singles we should place "Billington and Forsyth's." The third place we should assign to "Ball's Ohio," made by J. Sharman, of Stratford. It should be observed, however, that all these machines are properly combined ones, though entered in the class of singles. We do not think that as combined machines they would deserve the rank we have assigned them, since when both reaping and mowing qualities are taken into account, there are, in our view, others that outstrip them. Two of these single machines were entered as combined ones, and stand as Nos. 1 and 2 in our second tabular list, but we understood them to have been thrown out by the judges as they could not compete in both classes. We come now to the Combined Machines, and taking "a conjunct view" of both mowing and reaping qualities, we are constrained to award the first place to "Ball's Ohio Combined," made by the Messrs. Sawyer, of Hamilton. In our view it was, all things considered, the best mower at the previous trial, and we regard it as having proved itself the best reaper. It made a good clean cut, left the standing grain in fine order, delivered a good sheaf and was of light draft. Close upon the heels of this machine, and nearly its equal in every respect, came, in our judgment, "Ball's Ohio Combined," made by Joseph Hall, of Oshawa. For some reason or other it did not leave the standing grain in quite as good order as the previous machine, while the dynamometer showed its draft to be twelve pounds greater. We should place "Ball's Ohio Combined" manufactured by Palmer & Grout, of Grimsby, in the third position of honour. This machine had a pigeon-wing self-raking attachment, which appeared to work very well while it was a fair mower and a good reaper.

Honourable mention deserves to be made of the "Excelsior Combined," made by J. Scott & Co., of Dundas. This machine has a sort of tilt-table, which drops the grain in a very level, orderly state, ready for raking and binding. It is also of exceedingly light draft. We should have assigned it at least the second place among the combined machines, and perhaps the first, if its mowing qualities had been equal to its reaping ones. But at the match a fortnight since, it only proved itself a middling mower.

This, however, may have resulted from one or two circumstances, which are stated to have prevented its work from showing in the most favourable manner. We have been informed by Messrs. Scott & Co., the makers of this machine, that the piece of grass assigned for its trial cutting had some peculiar disadvantages about it and also that the driver, anxious to exhibit the work it could do, kept it going for a considerable time longer than was necessary thereby dulling the knife greatly. The judges having established the rule that the knives must not be sharpened or changed during the match, the draft of the "Excelsior" was comparatively greater in consequence of its knife being dulled.

This machine, together with the "Brinckerhoff-self-raker," and the "Ball's Ohio," made by Palmer & Grout, of Grimsby, dispenses with the man required by the other machines to rake off the sheaf. This is certainly a high recommendation. The "Brinckerhoff" self-raking apparatus is clumsy, and liable, we think, to get out of order. Palmer & Grout's self-raking attachment is light, and appeared to work well; while the "Excelsior's" tilt-table laid the grain, ready for raking and binding, very much as it is done in the best style of cradling.

"Young Canadian," manufactured by J. Bingham, of Burford, also deserves special mention. It was only an ordinary mower, but proved itself a very fair reaper making a smooth cut, and delivering a good sheaf. Its chief recommendation is its price. It is a marvel of cheapness, being only \$100, which, for a combined machine, is a very low figure.

Two machines, which competed as combined mowers a fortnight since, were not tested as reapers on this occasion. The "Cayuga Chief" could not work because of the absence of some of its gearing, and

Messrs Mills & Melvin, of Guelph, did not put in an appearance with their "Buckeye." As on the former occasion, everything passed off very pleasantly. The weather was superb; the machines worked well; no accident occurred; and all departed highly gratified with the day's entertainment.

### The Season.

It is fortunate that a season like the present is of rare occurrence. Since the commencement of June very little rain has fallen to the present date, and the heat for several days together has been most intense, the thermometer frequently reaching 85° to 90° and upwards in the shade. This desolating drought appears to have been more or less experienced over a very large area of the North American continent, having been preceded during a portion of April and the whole of May by an almost unprecedented fall of rain, with a low temperature. Spring sowing was consequently late, and performed under very unfavourable conditions. The result now appears, at harvest, to be of a decidedly unsatisfactory character. Hay instead of proving a heavy crop, as we anticipated earlier in the season, will, in general, fall much below an average; and the late-sown spring grain must prove, in the greater number of instances, almost, or entirely, a failure. Where fall wheat escaped "winter-killing," it has in many places been seriously injured, and some, indeed, totally destroyed, by the midge, so that this important cereal must fall, on the whole, considerably below an average. There are a few localities in both sections of Canada comparatively fortunate; but it must now be admitted as a fact, that all kinds of farm crops will prove, generally, this season, short and unremunerative. Pastures are daily becoming more and more parched, and should the drought continue only a week or two longer in its present severity, there will, in many places, be absolutely nothing for the sustentation of live stock, and farmers will be at their wits end to know what to do. Under these circumstances, we will throw out, not without diffidence, a few suggestions that may, in some instances, be turned to practical account.

However favourable a turn the weather may now take, the root crops, as a whole, must prove extremely deficient; and at this advanced period it is, of course, out of the farmer's power wholly to repair this evil, but something may still be done by way of mitigation. Rape might be sown, perhaps, to advantage, particularly where sheep are kept in considerable numbers. This crop requires precisely the same treatment as turnips, and should the weather prove favourable, it might yet, on good land, afford a valuable amount of succulent food, to be eaten in the field by sheep and cattle, before the commencement of winter. The common white field turnip might also be worth trying, and particularly the stubble, or six-weeks variety, so called from its habit of rapid growth, it being sown extensively in Europe in the stubbles, after the harvest has been finished. It is doubtful, however, whether any considerable amount of seed of this variety can be obtained in this country, as hitherto there has been little or no demand for it. We sowed it a few years since, after a dry season, on a wheat-stubble, the middle of August, and had a tolerably good crop, ready for use in October. These kinds of turnips, however, will not keep long, and are readily affected by frost; but with a little care and management they might be made available for stock to the end of the year, thus affording, in seasons of scarcity, a desirable amount of relief.

The farmer should always study, particularly in seasons of scarcity, like the present, to husband as much as possible in the early part of winter, his hay, straw, and provender generally; for it is usually later on, near the advent of spring, that his live stock suffer most, from being put upon short commons. The present protracted drought will in all probability be succeeded by copious rains, which will speedily restore the pastures to their wonted colour and productiveness. It is not improbable after so late and cold a spring as we have experienced, that the growing season may be considerably extended, and both sheep and cattle may in such case be kept in the open fields longer than usual. In all cases where there exists any marked disproportion between the number of cattle and the amount of provender on a farm, every effort should be made to bring forward such as erince the greatest tendency to fatten, and to dispose of them before the commencement of winter. It is

certainly false economy, as well as a breach of a great law of humanity, to winter more cattle than can be maintained in a healthy, thrifty, and comfortable condition.

It appears probable that as the country becomes settled, and denuded of trees, we shall be more liable to summer droughts, both as to their frequency and intensity. Hence it is necessary that more attention should be paid to the culture of a greater variety of such crops as may be converted into useful forage. Timothy and clover must, of course, continue to form the main staple of sustentation for our farm animals. Swedes, mangolds, carrots, &c., come next in order; and it will be well if every farmer, on well cleared land, would every year supplement them by devoting a few acres to vetches, rape, millet, &c. Indian corn thickly sown broadcast, on a well prepared piece of ground, would produce a large amount of agreeable and nutritious food for stock; and in seasons like the present, there would not be the slightest difficulty in keeping it for winter use. Increased attention is now being very properly paid, in some parts of the Province, to the cultivation of flax, chiefly for the fibre; but the seed that is more or less obtained, is of far greater value in feeding cattle than is generally imagined. Indeed, no farmer ought to be without a patch at least of flax, if it were only for the seed, which serves both for food and medicine to animals, usually restricted more or less to dry provender during winter.—Happily, however, the cultivator of flax may now turn to an economical account the fibre as well as the seed. These few hints will no doubt suggest others to the practical man, that may be made more or less available in all seasons, and under the ever varying conditions which agricultural practice has to encounter.

In conclusion, it may be remarked that in seasons like the present, the difference between good and bad farming is most striking, even to the casual observer. Deep and clean culture, draining when necessary, a judicious rotation of crops, with a sufficient amount of well bred and well managed animals to keep the farm manured, constitute a system of practice that, if carried out with judgment and perseverance will, in the worst seasons, to say the least, prevent a serious loss.

### The Weather and Crops.

From most parts of the country we hear the one dismal report of drought and short crops. There are, however, some exceptions, of which we gladly make particular note. The counties of Perth and Waterloo are not, we believe, in so bad a condition as the generality of the counties of Upper Canada. In Wellington, some opportune showers revived things, and improved the prospects of the farmer, so that the crops will not, in all probability, fall very far below the average. In Prince Edward, according to the *Napanee Standard*, grass and rye are "good average crops;" barley, peas, and oats are in the majority of cases "excellent;" and buckwheat, of which a good breadth was sown, promises well. The counties of Grey, Bruce, and Huron seem to have been highly favoured indeed. The *Owen Sound Advertiser* says of Grey, that the rains came in time to save the hay-field in many instances, that they have made the potato crop safe, that many fields of turnips look promising, that the fall wheat is a good average crop, and the spring wheat, though short in the straw, is full in the berry. In the adjoining county of Bruce, things are even better; while in Huron a harvest of unprecedented abundance is being realized. The *Clinton Brilon* says:—"Throughout the county, without exception, we will have an abundant yield. The average of fall wheat will not be less than thirty-five bushels to the acre; some townships, no doubt, will average thirty-seven." Spring wheat, potatoes, and root crops are also spoken well of. On the whole, though abundance cannot be expected, scarcity and famine need not be apprehended.

In the adjacent States, a similar condition of things has prevailed. Very general drought has been suffered. From Maine to Minnesota in the North, from the plains and prairies of Kansas and Nebraska in the middle section of the republic, and from Texas and Louisiana in the far South, the same accounts of protracted dry and hot weather reach us. We are inclined to think, however, that in many of the States thus afflicted rain fell in season and quantity suffi-

cient greatly to improve harvest prospects, and that in portions of New York, central and southern Missouri, in Illinois, Wisconsin, Minnesota, and Michigan, fully average crops will be harvested. From the Eastern and Middle States very satisfactory accounts are received, and, all things considered, we are inclined to think that our neighbours across the lines have suffered less severely from the drought than ourselves.

"J. W. B.," writes from Oxford, Co. Grenville, July 20th, 1861—"We are having a very great drought here, having had no rain of any consequence for the last six or eight weeks. As the result, the late sown grain crops are looking very bad: in many cases the heads shooting forth when the stalk is less than a foot high. Grain sown in April prouises better, but that I believe will be badly injured with the weevil. The hay crop is very light, perhaps not averaging more than half a ton to the acre. The weather for the last two or three weeks has been uncommonly hot, the thermometer frequently going up as high as 90 in the shade. Yesterday the wind rising high caused the fire to run furiously, doing a great deal of damage in this vicinity; and it threatens to do still greater should we not get rain soon."

**MIDGE PROOF WHEAT.**—"C. G.," writes from Cedar Grove as follows:—"In looking over No. 13 of THE CANADA FARMER, I noticed a communication respecting midge proof wheat. A gentleman in this place obtained a hundred bushels, all of which was sown in this neighbourhood. I enclose a few heads grown in a field that was fallowed and sown, one-half with Soule, the other with midge proof. The Soule is not worth cutting, while the other is very little damaged. There is a low spot in the field where the wheat was winter killed, which made it a little later, and there it is not midge proof; the rest of the field sown with midge proof, is not touched. The heads sent you grow side by side."

**NOTE BY ED. C. F.**—The above communication was accompanied by four heads of wheat. One of them was worthless in consequence of midge, the other three were well filled with a fair quality of wheat. Our correspondent's remark about the midge infesting the patch of winter killed grain, which was late in maturing, confirms the opinion we suggested in our last, that this description of wheat may owe its immunity from midge to its quick and early ripening.

**THE CROPS AT RED RIVER SETTLEMENT.**—Where are they? Burning, drying, withering in the ground! ten days more of this unceasing "drought," and the question is dismally put at rest. We shall have none. Continually tantalized by every appearance of a tremendous storm, with a few whirling basty drops—the black and lowering clouds are incontinently seized by the mighty winds and rushed off—whither?—Already people are settling their plans to go to the States for their flour, and unsettling their heads as to conjectures as to where they will get bay.—the first is feasible, though hard—the latter, not so easy.

Happy is the man now with little stock and a small family. There will be an overcrowding to the plains this fall, and fishing twine already may be quoted as "firm."

To add to all, the grasshoppers on the plains are literally like thorns crackling under a pot. Dr. Rae reports having met them in myriads a couple of days out of St. Paul still moving southward. He reports as well the plains as very bare, blackened by fire, and scorched by the sun. Verily, oh men of Red River, this is a "tight time."—Nor'wester, June 21.

### Extension of the Flax Crop in Canada.

The following is the Report of Mr. B. Walker, mentioned in our last issue, as having been presented by that gentleman, to the Provincial Board of Agriculture, at its meeting lately held in Hamilton. Our readers will gather from it gratifying evidence that the cultivation and manufacture of this important textile fibre is largely on the increase in this country, and also that there is still room for indefinite expansion in these directions.—

TORONTO, JULY 6, 1864.

To the Chairman and Members of the Provincial Board of Agriculture

GENTLEMEN,—I have no doubt it will afford you pleasure to learn what progress has been made this year, in the cultivation of the flax plant, and I therefore take the liberty of reporting what on the subject

has come within my own observation. I am happy to say that a very decided movement has been made in this important branch of agriculture upon an extended scale, so that it may be reasonably anticipated flax will from henceforward become a staple product of Canada.

In the county of Elgin 5 or 600 hundred acres of land have been sown in flax. A scutch mill is in operation, at a place known as Jamestown, and one is in the course of construction at St. Thomas. In the county of Middlesex a very considerable quantity has been sown, and a scutch mill is about to be erected in the neighbourhood of London. I delivered addresses at Strathroy as well as London, and I believe that in both places the result has been the commencement of the flax culture. At St. Marys a flax mill was erected last year, but a very considerable extension in the culture has been made this year, a proof that farmers will grow flax where they can find a market. At the town of Stratford, a flax mill is in the course of construction, and about 300 acres sown in the neighbourhood of that place, resulting from the recommendations of my lecture. I visited Wroxeter, in the county of Huron, and if no commencement has been made there, it is owing to the want of seed, as a party there was willing to distribute it and to engage to erect a flax mill. In Goderich a commencement has been made, as well as in the counties of Lambton, Oxford, Brant, Lincoln, Grey, and Leeds. In the county of Waterloo nearly 2000 acres have been sown in flax, and in Wellington some considerable quantity. At the Norval mill 800 bushels of seed have been given out by the proprietor, Col. Mitchell, and at Weston about 100 bushels were distributed by Mr. Dennis, which it is hoped will render its culture permanent in the vicinity of that village. Flax, I believe, also is being grown in many other places in Upper Canada, not within my own personal observation.

From this we may judge that no inconsiderable quantity, both in flax and linseed will be produced the ensuing harvest, though it is to be regretted that an unfavourable season has accompanied so good a commencement.

It will be important now to direct attention to the creation of a market, for the consumption of the raw material in Canada. I have always expressed my belief that factories would spring into existence if the flax culture was encouraged, and I have seen it publicly stated that mills for the manufacture of linen fabrics are likely to be opened at Hespeler and Preston. Should, however, no domestic market at present offer, the demand for flax in the United Kingdom is increasing so rapidly and largely as at once to create a business in its exportation. I find by the report of Mr. Barker, Inspector of factories, that the consumption of flax in the United Kingdom has risen to 170,000 tons, that the flax trade is in a state of the greatest activity, and that there is no practical limit to it, except the supply of the raw material. It appears that only 60,000 tons are produced by the British and Irish farmers, so that the balance, 110,000 tons, estimated at £60 sterling per ton, equal to £6,600,000 is supplied by foreign growers to the British manufacturers. It is quite competent for Canada to participate in this vast trade, and by continuing to diffuse information and by keeping alive the importance of the subject much will be contributed to this desirable result.

I may mention that had I commenced my tour and lectures earlier, I am satisfied I should have induced a commencement in more places than where it has occurred, but circumstances prevented my carrying out my project till it was somewhat late in the season. I have availed myself to a partial extent of the means you were pleased to place at the disposal of your treasurer for defraying expenses.

I am, Gentlemen,

Your obedient servant,

B. WALKER.

### Upper Canada Fruit Growers' Association.

The Fruit Growers' Association of Upper Canada held its mid-summer meeting at the Agricultural Hall, Toronto, on Wednesday the 20th inst. We regret very much to be obliged to say that the attendance was not very full, that while there were gentlemen present from Paris, Hamilton, and St. Catharines, the interest manifested by the residents of Toronto and vicinity, did not seem to compare with the importance of the science that this Association is designed to promote. After the transaction of some routine business, the meeting entered upon a very interesting discussion upon the benefits to be derived from

shelter. Since the cutting down of the forest, such sweep is given to the winds, that the vitality of trees and plants is very materially affected. By planting belts of evergreens upon the sides of orchards most exposed to such winds, the force of the currents is broken, and the injurious effect upon the trees materially decreased. Another method of lessening the effects of the winds, is to form the heads of the fruit trees low, say at about two feet from the ground. It was the opinion of every member present, that very great benefit would result from the planting of trees for shelter, in such a position that they will break the sweep of the prevailing winds, and that by forming the heads of the fruit trees low, in connection with such a shelter, the orchards of Canada would be greatly benefited. Fruit growers in this Province have not been sufficiently alive to the importance and great benefit to be derived from attention to both of these subjects, and while complaining of the severity of our climate, are continually neglecting a very simple and economical means of defence against the severe frosty winds which prevail through so much of our winters.

Some fine gooseberries and cherries were exhibited. Messrs. Bruce and Murray, of Hamilton, exhibited the following varieties of English gooseberries, viz: Plowboy, Sulphur, Yellow, Ashton Red, Langley Green, Late Yellow, Queen of Sheba, Irish Jam, Phoenix, Conquering Hero, Ranger, White Smith, Lancashire Lad, Roaring Lion, Crownbob, Golden Gourd, and Watlington.

Mr. Chas. Arnold, of Paris, exhibited the Downing Seedling gooseberry. It was of very good flavour, green colour, and stated by him to be exempt from the mildew.

Mr. Geo. Leslie, Toronto exhibited the following varieties of cherries, viz.—Napoleon Bigarreau, Belle de Choisy, Black Eagle, Large Red Bigarreau, Mayduke, Elkhorn, Waterloo, White French Guigne, and Coe's Transparent.

After appointing Prof. Buckland, Messrs. Chas. Arnold, John Gray, and D. W. Beadle, as delegates to the U. S. Pomological Convention, to be held in Rochester, N. Y., the Association adjourned. The next meeting will be held at St. Catharines, on Wednesday the 5th day of October next.

### Imports of Superior Cattle and Sheep.

We are always glad to chronicle the importation of choice stock, and we learn with much satisfaction that John Ashworth, Esq., of St. Foy's Road, near Quebec, who, for some years past, has devoted his leisure to the raising of fine cattle, sheep and pigs, has received from England, by the Sir John Moore, two high-priced pedigree Short-horn heifers. One was bought at the auction sale of the late John Langston, Esq., M. P., of Mount Farm, Churchill, Oxfordshire, and the other at the sale of the late E. Lawford, Esq., of Southcott, Bedfordshire, in March last. The same vessel also brought to Mr. Ashworth ten Hamp-hire Down Ewes of first-class blood, and we are happy to hear the whole lot came to hand in excellent order.

We understand that the cattle above alluded to are of first-rate blood. The heifer bought at the Saraden sale (Mr. Langston's) is one of the Daisy tribe. We give her pedigree, as well as that of the cow bought from Mr. Lawford's estate.

"Turk's Delight," red and white, bred by John H. Langston, Esq., at Saraden; calved 8th Feb., 1861; got by Royal Turk, 16875.

Dam, Delightful, by Field Marshal, 14545.

g. d., Dinah, by Lord Milton, 10461.

g. g. d., Roan Daisy, by Prince of Wales, 8432.

g. g. g. d., Daisy, by Buccphalus, 6816.

g. g. g. g. d., Daisy, by Stanhope, 5315.

g. g. g. g. g. d., Helen, by Blyth Favourite, 801.

g. g. g. g. g. d., by Son of Wellington, 683.

In calf to "The Prince," the property of Edward Hetherington, Esq., of Charlton, Surrey. This bull is of the Sylph tribe.

"Red Duchess," red, calved 9th Jan., 1860; bred by E. Lawford, Esq., of Southcott, Bedfordshire; got by John O'Gaunt, 16322.

Dam, Duchess, by Clarendon, 12605.

g. d., Lily, by Honeycomb, 10330.

g. g. d., Old Moss Rose, by Bower's Bull, 19332.

g. g. g. d., by May Duke, 424.

She calved by John O'Groat, 18115—a red cow calf, "Red Groat," 28th March, 1863, and is now in calf to Imperial Oxford, 18084, who was sold at Mr. Lawford's sale for \$1,500.

## Toronto Gardeners' Improvement Society.

This Society met at the Agricultural Hall, July 18, 1864. *Members present*:—Messrs. James Fleming, Turner, Tattle, Tilman, Gray, George Vair, Guthrie, A. Pontey. Mr. Pontey laid on the table, from Mr. Geo. Leslie's establishment, the following articles:—

**HYBRID PERPETUAL ROSES.**—*Senateur Vaise* (brilliant red); *Louis Buonaparte* (large and full crimson); *Geant des Batailles* (bright crimson); *Yolande d'Aragon* (large blush); *Pius the 9th* (crimson, very handsome); *Murquis Bucella* (light blush); *Leon des Combats* (deep crimson.)

**DABLIIAS.**—*Mrs. Church* (yellow, edged with crimson, form perfect); *Lilac Queen* (good form, lilac); *Lord Fielding* (dark purple); *Queen* (pure white.)

The above were out of a collection of Dablilas imported this spring by Mr. Leslie, and were all first-class flowers, showing a vast superiority over the majority of Dablilas grown here. Several of the Roses, also, were new, and remarkable for perfection of form and brilliancy of color.

**CHERRIES.**—*Napoleon Bigarreau* (pale yellow, with bright red cheek); *Black Eagle*; *Reine Hortense* (transparent); *May Duke*.

"Napoleon Bigarreau is a magnificent cherry, of mammoth size."

*Mrs. Fleming* submitted for inspection a number of *Verbenas*, seedlings, and named varieties. Several of the seedlings possessed considerable merit as to color; but the excessive dry weather had evidently greatly diminished the size of the trusses. "*Fox Hunter*" shone out very conspicuously among the scarlets, and is in every respect a first-class *Verbena*. Mr. F. also produced a number of very distinct seedling *Hollyhocks*, varying in shades of colour from pure white to almost jet black. A noticeable peculiarity of the *Hollyhock* is, that it can be produced more true to its kind from seed than almost any other flower.

A spike of *Chrysanthemum* of a new variety, and *Hychius Grandiflora*, both novelties, were among Mr. F.'s collection.

A large portion of the evening having been spent in the examination of the flowers, &c., the Society did not take up any particular subject for discussion, but Mr. Fleming gave the meeting the benefit of some observations he had made in New York relative to the growing of *Celery* without trenches, and blanching it with *straw*, effecting thereby a considerable saving of labour, and producing a better article. After the transaction of some further business relative to the holding of a Horticultural Exhibition in August, and the discussion of some matters relative to the Union Exhibition, to be held in connection with the Electoral Division's Society, the Society adjourned, to meet again the third Monday in August.

## Mowing Matches.

A TRIAL of mowers was had on Tuesday, July 5th, on the farm of Mr. Thomas Penhale, Edgewood Road, Yarmouth. Eight machines were in the field—three Ball's Ohio, two Buckeyes, one Cayuga Chief, one Kirby, and one St. George. The judges found it a difficult task to decide the question of superiority, and before doing so, took great pains by raking the ground across in different directions, and by other means, to arrive at a fair and just conclusion. The result was, that the first prize was awarded to the Kirby, and Ball's Ohio, made by Hall, of Oshawa. All the others, with the exception of the St. George which was withdrawn from the contest, were placed in the second class. The Buckeye did its work well, however, and so did the Cayuga Chief. We glean the above particulars from the *St. Thomas Inquirer*.

We learn from the *Napanee Ledger* that a similar trial took place on the 11th ult., on the farm of B. C. Davy, Esq. This trial resulted from a challenge given by Mr. Herring to pit the "Buckeye" manufactured by himself, against "Ball's Ohio," manufactured by Mr. Hall, of Oshawa. The occasion excited much interest, and drew together a large number of the best farmers in that part of the country. An acre of grass was mowed by each machine, when the judges gave it as their decision that the "Ohio" was entitled to the preference both for quickness of time and excellence of work. "This," says the *Ledger*, "we believe to be the opinion of all disinterested persons on the ground." The "Ohio Junior" was also put in operation, and worked to the satisfaction and admiration of all present.

## United States Crops--Official Reports.

The *National Intelligencer* gives the following summary of the forthcoming reports of the Department of Agriculture on the condition of the crops in June:—

**APPLES.**—A good crop in the Eastern and Middle States, but not good in the Western, much of the bloom having fallen off without setting the fruit.

**PEACHES.**—In the Eastern States the crop promises well; in the Western it is almost totally destroyed, with many of the trees.

**GRAPES.**—Many were killed to the snow line on the first day of January, others had the fruit buds more or less injured in the West, but still a fair crop is anticipated.

**WHEAT (WINTER).**—The growing condition of this crop is most excellent, except in Northern Wisconsin and Minnesota, where drought has prevailed, and in one or two other localities; but it was severely injured by the cold of last February, where there was but little snow on the ground. The general injury from this cause is estimated at no less than thirty per cent. As the time approaches for harvesting, this crop in the Eastern and Middle States, however, bids fair to be a superior one.

**SPRING WHEAT.**—In amount this crop is not quite an average, on account of the lateness of the spring and the scarcity of labour, but it is in a very favourable growing condition.

**CORN.**—The lateness of the spring kept back planting, but the wet warm weather has brought this crop forward very rapidly, and it promises well at this time. It is nearly an average crop in the number of acres planted, many injured wheat fields having been put in corn.

**OATS.**—Universally spoken of as the largest and most promising crop of the kind ever sown in our country.

**CLOVER AND GRASSES.**—These are in excellent condition, and the expectation is that the hay crop will be unusually large.

**MAPLE SUGAR AND MOLASSES.**—Almost in every State where made there has been a large increase; the quantity is spoken of as excellent.

**SHEEP.**—The condition of this important stock is very good, for it received the best of care. The increase per cent. is equal to that of last year.

**THE WHITE WILLOW AGAIN.**—We would call the attention of our readers to the advertisement of Mr. John Calcott, which appears in another column. In a letter accompanying the advertisement, Mr. Calcott states that he is "an old wicker worker," i.e., a willow basket maker, and that he believes this hedge plant is "worthy of general use for making durable live fences in Canada, which are beginning to be so much needed." This is of course the opinion of an interested party, and in view of the conflicting accounts in reference to this new hedge plant, we advise all who can do so to satisfy themselves by personal inspection of its real merits. As already indicated, we shall take the earliest opportunity of doing this ourselves, and meantime, though we publish advertisements and opinions, we reserve judgment and advice until we have better data on which to found them.

## Literary Notices.

**AMERICAN ARTISAN.**—We have received the second number of a weekly journal with the above title, which is published at No. 212 Broadway, New York, by BROWN, COOMBS & Co., and devoted to the interests of artisans, manufacturers, inventors, patentees, &c. It is a handsome-looking sheet of eight pages, excellent in its typography, and illustrated with original engravings and descriptions of new machinery, etc., both American and foreign. If the publishers fulfil all the promises set forth in their "Prospectus," the subscribers to the AMERICAN ARTISAN will find at the end of the year that the small investment of \$2 has yielded them a profitable return in the shape of a volume of 416 pages, containing an immense quantity of "facts and figures" relating to a vast variety of subjects connected with the arts and sciences; such as *Historics of Famous Inventions and Discoveries*; *Essays on Scientific Subjects*; *Interesting Letters from Working-men in all parts of the World*; *Instructions in various Arts and Trades*; *Reliable Recipes for use in the Field, the Workshop, and the Household*; *Wonderful Experiments in Chemistry*; *Hints to Millers and Millwrights*; *News-items for Manufacturers*; *Practical Rules for Mechanics and Advice to*

*Farmers*—*Illustrated Details of Curious and Ingenious "Mechanical Movements" and other Useful Lessons for Young Artisans*—*The Official List of "Claims" of all Patents issued weekly from the United States Patent Office*—*Reports of Law Cases relating to Patents; the whole forming an Encyclopedia of General Information on a variety of topics connected with the Industrial Arts, the Progress of Invention, etc.*

**SHEEP SWINE AND POULTRY.** embracing the History and Varieties of each; the best modes of Breeding; their Feeding and Management; together with the Diseases to which they are respectively subject; and the appropriate Remedies for each. By ROBERT JENNINGS, V. S. Illustrated. Philadelphia: John E. Potter, 1864. Pp. 531—490.

This new work treats of the breeds, management, diseases, and remedies of sheep, swine and poultry, and is "couched in language free from technicality, or rarely scientific expressions, and fortified by the results of actual experience upon the farm." It evidently contains a large amount of useful information. Its author or compiler, for we hardly know which to style him, is a veterinary surgeon of some repute, and this is not the first issue from the press bearing his name. Sometime since we published an article headed "Beauty in Stock," which was credited in an exchange paper to "*Jennings's on Cattle and their Diseases*." Shortly afterwards, we received a note from G. L. Flint, Esq., Secretary of the Massachusetts Board of Agriculture, in which he says:—"That extract, as nearly the whole of that book, was stolen, *verbatim et literatim*, from my treatise on 'Milch Cows and Dairy Farming.' We hope the present volume is got up more honestly."

**THE CANADIAN CHURCH HARMONIST.**—This is a new collection of Sacred Music, published by Anson Green, Wesleyan Book Room, No. 80, King Street East, Toronto. It consists of psalm and hymn tunes, anthems, sentences, &c., selected from the works of Handel, Haydn, Mozart, Fawcett, Leach, Clark, Jackson, Mason, and other celebrated composers. In looking over the volume, we are gratified to see that it contains, along with much choice new music, a liberal supply of old tunes which will never wear out. Some musical reformers are, we think, too sweeping in their condemnation of old tunes. Whatever artistic defects some of them may have, they are dear to multitudes, who love them and sing them for the days of "auld lang syne." Anything like a critical notice is out of our province, but we cheerfully give publicity to the fact of its appearance, and doubt not that the melodies it contains will often refresh and gladden the heart of many a Canadian farmer at and after his daily toil, as well as when he goes up to the temple to worship the Giver of all Good.

## The Apiary.

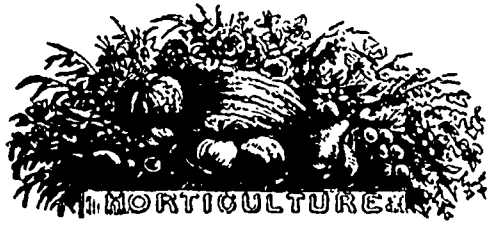
### Bees in Louisiana.

A friend in New York sends us the following letter, from a correspondent in New Orleans. We presume that his bees are out of the city. He says:—

"I send you by the Adam's Express Company a small box of new honey. It may be a novelty to you to get new honey so soon in the season. I have opened one box, and it has the taste of the plum blossom; I presume this box is of the same sort. I must give you a short history of my bee operations, and if any one in the North can beat it, I will give up. About two years since a friend presented me with an old flat box, containing a fine swarm. Last year I hived five swarms from it, but one was in a bad hive, and the bees were lost. This year I hived eleven swarms from the five hives, and one swarm I found in the woods, giving me now seventeen fine hives. My hives have three boxes in the lower part, each containing 30 lbs., and three upper boxes, each holding 10 lbs. The hive will contain, when filled, 120 lbs. Now in less than two months a single swarm in this hive has filled two lower and two upper boxes, in all eighty pounds. I call this a good yield for these models of industry, and do not think any apiary in the North has ever beaten it."

As regards swarms, we have never known an apiary at the North to exceed the account as above given.—*Rural American.*

**TO KEEP HONEY.**—M. Sands, Orange county, N.Y., directs to heat strained honey to the boiling point, and store it in covered jars, where it will keep without candying. To prevent danger of burning, set the vessel in which it is to be heated into another containing water.



### The Lessons of the Past Winter in Relation to Dwarf Pear Trees.

THE unusually severe weather of the past winter has taught some lessons upon the subject of the hardihood of dwarf pear trees, which we propose to place before the readers of THE CANADA FARMER. We have recently returned from a short tour of inspection of some of the dwarf pear orchards of Western New York, and find that those which are planted on a strong, well-drained clay soil, are looking very healthy, and making good vigorous growth. Those dwarf pear trees that are planted on a loam in which the sand preponderates have been very strangely, but at the same time very fatally, affected by the extreme cold of the past winter. That part of the tree which was above ground, that is the pear part, showed that it had suffered from the winter, being partially discoloured; but the portion under-ground, that is all the quince part of the tree, looked red, and seemed to be nearly or quite dead. Some of the trees had leaved out, but had a very sickly, dying appearance. Many did not leaf out at all, and a few were making some growth. The varieties planted were mostly Duchess d'Angouleme and Louise Bonne de Jersey; but we are quite of the opinion that the variety has nothing to do with the death of the trees, but that it is owing to the fact that the quince stock was unable to endure the very severe cold. Why those trees which were growing in a sandy or loamy soil should be killed, while those in a strong clay escaped, is not well understood. For some reason the frost was able to act upon those standing in the lighter soil with greater intensity and destructiveness than upon those in the clay. Standard pear trees growing in the same field and in the same soil were making a fine healthy appearance, and seemed to be in no degree injured by the winter. In deciding the question, then, whether to plant dwarf or standard pear trees, it will be very necessary to determine the character of the soil in which it is intended to plant, and if the soil be at all light, the experience of the past winter teaches us that we should choose the standard pear tree, inasmuch as there sometimes occur winters sufficiently severe to destroy the quince stock upon which dwarf pear trees are grown when planted in other than strong clay soils.

### On Dwarf Pears, Nurserymen, &c.

To the Editor of THE CANADA FARMER:

SIR,—Having seen a great deal in THE CANADA FARMER about fruit and fruit culture, I venture to give my view of the matter. I have planted out a great many trees of all kinds, among which I have tried the dwarf pear, and I am led to believe that very few understand the culture of the dwarf pear. I have planted until I have said I would plant no more. However, an agent came along urging me to take a few, and try his plan, and see what the result would be. He had cuts in his book giving information how to cut back. I saw that he was a practical man, and one that understood his business, so I consented to take four trees and try what I could do. I was fully determined to give them a fair trial, cutting back according to directions shown me by the agent. The result is I have four very handsome trees, and each tree is bearing this year from seventy to ninety pears the third year from planting, and now I am of the opinion that we have never been getting the

proper kind of trees. My trees that I got first seem to be old and stunted, and from all appearance five or six years old; while those I received last looked young and thrifty. In reality there has been from time to time great deception in trees sold by agents, and thousands of dollars are paid out every year to little or no purpose, and the great question should be are we getting our trees from reliable nurserymen or not, for the greater part of the men selling trees I find know nothing about trees, and the greater part of nurserymen put them off with any old stick that comes handy. One of my neighbours got a dozen cherry currants, and when they came to bear, proved to be nothing but the common currant. Let us get trees from responsible nurserymen, and trustworthy agents; for I am of the opinion that the western part of Canada will become the great garden for growing fruit for marketing—and just as soon as our fruit commences to get a start there will be a good market at our own doors. Now we scarcely raise enough for our own home consumption. I am well aware that the grape can be grown in some parts of Canada to good perfection. The Isabella freezes down with me, while I have one Diana that is doing very well, and has on this year seven very nice bunches of grapes, the third year from planting. The plum is a total failure with me, and so is all my sweet cherries. I think the dwarf cherry will do much better with us in Canada than the standard, as it is not so subject to crack in the stock. I have one in my garden, and it promises well; although young, it is a beautiful little tree. Hoping to see every man take some interest in the culture of fruit,

I remain, yours, &c.,  
A FARMER.

### On Raising Cabbages.

To the Editor of THE CANADA FARMER:

SIR,—The kind encouragement you give to farmers to write for the columns of your noble paper, encourages me to offer a few hints on cabbage raising. To commence, I pull down the banking of my house on the south-west end, and prepare my seed bed by driving three stakes about three feet from the house, and placing a slab on its edge. This raises my seed bed about one foot from the common level. After I sow the seed I place three rafters from the stakes in the ground to the side of the house, then place strips about two inches wide and two inches apart over these rafters, these rafters being about the angle of forty-five degrees. These strips are to guard against hens or anything intruding on the seed bed. When the plants are about large enough to set out, I place a large barrel convenient to the kitchen to receive all the wash water from the wash-stand and wash-tub. I then take my shovel and make places, well pulverized, for each plant about twenty-four inches apart each way; then, about six o'clock in the afternoon, I take from my store barrel and put about one pint of the suds or liquid in each place prepared for the plant, and at sundown I commence to set out the plants. The next morning I get burdock leaves, and carefully place over them, putting a little dirt or lumps on the edge of each leaf to prevent the wind blowing them off. In the evening I take the leaf off and water from my liquid barrel. The next morning I place fresh leaves over the plants again. Thus I find that with two days' screening from the sun, they are hardy enough without covering the third day. You see in this way treating the plant, it does not matter whether its showery weather or not. In this way I raised cabbage enough for two barrels of krait, and sixty large heads, which I stored for winter use, off a piece of ground 12 feet by 50. I sold one barrel for five dollars. The barrel I kept was equally as good, and the sixty heads were worth ten cents each, which was six dollars—the two barrels worth ten dollars.

Lyndhurst.

HORTICULTURAL CURIOSITY.—We have the gratification of announcing that the cocoa-nut tree has produced a ripe nut in the palatial gardens of his Grace the Duke of Northumberland, at Syon House, under the skilful management of Mr. Fairbairn. This is, we believe, the first time that so interesting an event has occurred in Europe, and we are sure that all true gardeners will welcome the little stranger with feelings of admiration.—*Gardener's Chronicle.*

### On the Gooseberry.

To the Editor of THE CANADA FARMER:

SIR,—Some nine or ten years ago I had some yellow gooseberry bushes which bore well and were healthy; but there came a small green worm and ate most of the leaves off for a year or two, and they then mildewed, caused I supposed by the weakening of the bushes by the worm, for they did not mildew before, so I resolved to kill them if possible. I tried lime dusted on them—no good; ashes the same. I tied bunches of hemp to the end of some sticks and dipped them in gas tar. An old book said that the stench would keep away the saw-fly, but this was likewise no good. I mulched them freely with tan-bark in the fall—same result. In 1861 I took the *Rural New Yorker*. A man recommended in it whale oil—soap very highly. This I could not get around here, so, thinks I, Castile soap is used for cleansing wounds, will that not do? I shovelled some Castile soap into a pot, and threw in some boiling water, and covered it over till cold, then mixed soft water with it, and applied it to the gooseberries and currants with a water pot. This, to my satisfaction, answered completely. I used it some three or four times last summer, as each crop of worms came along, with the same result, and this summer I have not seen but one. There is a larger kind, spotted, with legs on each end, that raised their backs in crawling. They are more easily picked off. I don't know whether it will kill them or not. I have not tried; but the small green worm, I suppose to be the saw-fly worm, is the curse to the gooseberry and currants, and the soap is an effectual remedy, at least in my case. The soap does not appear to injure the bushes. I bought only a half pound; after using it for two or three times, I have a little left yet. Mr. Thomas, of Brooklyn, says, in the last FARMER, that hellebore root will destroy them. That I have not tried. The ants are a great pest to gardeners. If any of your subscribers know anything that will keep them off, and will insert it in THE FARMER, it would oblige,  
H. C.  
Orono, C. W.

### Poultry Yard.

#### Goose Breeding.

As geese are long-lived, so they are long in reaching maturity, not becoming good for breeding purposes before they are from three to five years of age. The third or fourth year is as early as is desirable to mate geese for this purpose. Then having selected the best of their kind, one gander to no more than two geese—and some males will only mate with one female—and the gander not related to the geese, the breeder may consider that he is supplied with a good breeding stock for at least the next twenty years, or, as one writer says, "for life."

In confirmation of this statement, Mr. S. Jaques, Jr., of Boston, Massachusetts, wrote, in 1850, of a Bremen goose that his father imported in 1821:—"She has never failed to lay from twelve to sixteen eggs every year for the last twenty-seven years, and has always been an excellent breeder and nurse, as has all the stock and offspring connected with her. I had the curiosity to weigh one of her brood of 1849, when nine months old exactly, and his weight, in feather, sent up twenty-two pounds in the opposite scale. The earlier the goslings are hatched in spring the better, and there is no agent so good for this purpose as the goose, though the ducks do very well. Hens appear to have too dry a heat for the purpose, and not as strong as those hatched by the goose or a duck. For the first twenty-four hours after hatching, like chickens, the young require no feeding. On the second day they will begin to nibble a little fine grass, or young clover, from a fresh sod placed near the nest. They will also want a little scalded corn meal or oatmeal, or a few bread crumbs, and a shallow vessel of water. If the weather be fine, it will soon do to 'turn them out to grass,' but they should be housed every night and during stormy weather, on a dry floor, until several weeks old. And the better the young are fed for the rest of the season, the larger and better the fall goslings. Wheat-bran or the best class of shorts, mixed with boiled potatoes, makes a good feed for goslings after a few weeks old."—*Ex.*



### The Household.

#### How to Roast a Goose.

Geese seem to bear the same relation to poultry that pork does to the flesh of domestic quadrupeds—that is, the flesh of goose is not suitable for or agreeable to the very delicate constitution. One reason, doubtless, is that it is the fashion to bring it to the table very rare done—a detestable mode.

Take a young goose, pick, singe and clean well. Make the stuffing with two ozs. of onions (about four common-sized) and one oz. of green sage chopped very fine; then add a large coffee-cup of stale bread crumbs and the same of mashed potatoes; a little pepper and salt, a bit of butter as big as a walnut, the yolk of an egg or two; mix these well together and stuff the goose. Do not fill it entirely, the stuffing requires room to swell. Spit it, tie the spit at both ends, to prevent it swinging round and to prevent the stuffing from coming out. The fire must be brisk. Baste it with salt and water at first, then with its own dripping. It will take two hours or more to roast thoroughly.

A green goose—that is, one under four months old is seasoned with pepper and salt instead of sage and onions. It will roast in an hour.

**SAUCE FOR A ROAST GOOSE.**—Put into a saucepan a table-spoonful of made mustard, half a table-spoonful of Cayenne pepper, a glass of port wine, and a gill of gravy; mix, and warm and pour it through a slit in the apron into the body of the goose just before serving.—*Country Gentleman.*

#### Sundry Receipts.

"A Subscriber's Wife," resident in Toronto Township, sends us the following receipts, for which she will please accept our thanks:—

**A GOOD WAY OF MAKING GRAHAM BREAD.**—Take three pints warm water, one teacup wheat flour, one of Indian-meal, a small teacup of yeast, a spoonful of molasses, teaspoonful salt, one of saleratus; stir them together, then add as much unsifted Graham flour as can be stirred with a spoon; let it stand over night, and in the morning stir it again with a spoon and pour it into two deep iron pans; let it rise again in the pans, and bake an hour and a-half. *The batter is equal baked on a griddle for breakfast cakes.*

**A GOOD MYRRIN RECEIPT.**—Put four table-spoonful of strong yeast into a pint of warm water, add a teaspoonful of salt, and stir in as much flour as will make a thick batter; cover the pan and set it in a warm place to rise. When it is very light and the griddle hot, grease and set upon it your muffin rings, buttered round the inside, dip out a ladleful for each ring, and bake them over a quick fire. Send them to table hot; do not cut them open, but split them open with your hands.

**TO RESTORE TAINTED MEATS.** Put the meat in boiling water and throw in a few burning coals and cover for a few moments.

**A WHOLESOME DRINK.**—The excessive use of cold water during the sweltering heat of summer, often result in serious and alarming illness. It is, therefore, advisable that some beverage should be substituted for it, of which those oppressed can partake with safety. For this purpose I am aware of no better or more refreshing drink than the following:—Take of the best white Jamaica ginger root, carefully bruised, two ounces; cream of tartar, one ounce; water, six quarts, to be boiled for about five minutes, then strained; to the strained liquor add one pound of sugar, and again place it over the fire. Keep it well stirred till the sugar is perfectly dissolved, and then pour it into an earthen vessel, into which you have previously put two drachms of tartaric acid, and the rind of one lemon, and let it remain till the heat is reduced to a lukewarm temperature; then add a table-spoonful of yeast, stirring them well together, and bottle for use. The corks must be well secured. The drink will be in high perfection in four or five

days. This is a very refreshing and wholesome beverage, and one which may be largely partaken of without any unpleasant results even in the hottest weather.

**BEST MODE OF MAKING GOOD VINEGAR ON A SMALL SCALE.** 1. Choose a stout, tight cask, if possible one that has already been used to contain cider, beer, wine, &c. Saw a square hole in the side around the bung from six to eight inches square. Be careful to saw beveling so the piece may at a future time be set back in the hole, and not fall in.

2. Place this cask in the warm weather of spring, in some secure and sheltered place, where it can have the sun and yet be protected from disturbance.

3. Pour into it a few quarts of good vinegar, warmed a little. Also at the same time a few quarts of good cider, which will very soon become vinegar. Continue to add cider according to the heat of the weather and the ascertained progress of the contents of the barrel. In a few weeks all your barrel of cider will thus have become good vinegar. This being accomplished, the whole may be removed to a cold cellar.

4. The object of the large hole is the admission of the air freely to the surface of the liquid. It will be well, while the vinegar is forming, to lay over the hole a bit of millinet or perforated tin, to keep out insects. When it is finished, the original block sawed out may be restored.

**How to PICKLE CUCUMBERS.**—Cut the cucumbers from off the vines without bruising the stems; lay them carefully in a basket; take them to the cellar; sort and pack them in barrels, putting different sizes in separate barrels, spread a layer of salt between each layer of cucumbers; there should be sufficient salt to entirely cover the pickles between the layers. Continue to pack the cucumbers duty as they are picked, never using any but fine cucumbers, discarding all that are crooked or of slow growth. Keep boards over the pickles, and weight to press them under the brine, which will be formed without the addition of water, with the juice extracted from the fruit by the salt. Pickles packed in this manner may be preserved for years, if there are no impurities in the salt, but if the salt is mixed with lime, they will soon soften and spoil. In two months after the barrel is filled, take them from the brine, freshen and green. To green cucumbers, prepare alum-water; put the pickles in a vat or boiler, lined with tinned copper, heat the alum-water, and pour it over the pickles. This is the process which is usually employed by pickle-makers, except that they throw steam into the vats to heat the alum-water, and if managed properly the pickles may be greened with less action of copper than when scalded in the usual method in bright brass kettles. Take the pickles from the vat when a little green, and pour over them water boiling hot. If not greened sufficiently, repeat the hot water until they are the desired colour, and when cold, put them in good vinegar, let them remain until quite soured; then change to pretty strong vinegar, which will keep the pickles hard and sour, add to a barrel six large peppers, without bruising, and keep the pickles under the vinegar with weights.—*Rural American.*

**A PLACE FOR EVERYTHING, AND EVERYTHING IN ITS PLACE.**—This motto should be adopted as a rule of life by every family. Much loss is sustained by failing to do so. How many little articles, such as knives, spoons, combs, &c., &c., are misplaced and never found! All these count up and detract much from the family treasury. And then how much time—golden moments, more precious than jewels—is thrown away in hunting for them? Few, indeed, imagine how much. Let us calculate a little. Take a single medium-sized family, and allow only fifteen minutes each day for each member, which is a very small estimate, and you have in one year an aggregate of two or three weeks. This is equal to several dollars—enough to pay for our paper and the valuable premiums we offer for eight or ten years. This is only the loss of a single year. How great, then, would it be in ten or twenty years? But this is not all. One of the family might be taken violently ill at midnight, and immediate relief might save him from a long illness, and perhaps from death. But the candle is out of place and cannot be found, or being found, the matches are misplaced, and it cannot soon be ignited, or being ignited, the cordial and other medicines are not in place, and so the patient must suffer on, and run the risk of a long sickness, and perhaps of death itself. All this, and much more, is the result of not having a place for everything and every thing in its place. Cannot every mother see the importance, then, of adopting the motto as a rule of life? And cannot every daughter and child see the importance of adhering strictly to it? Let them see, then, that they do it. We will vouch that time will prove them amply compensated for the trouble.—*Rural American.*

### Miscellaneous.

#### How to Make Potash.

"A YANKEE," who writes from the "Valley of the Saginaw, Michigan," sends us the following communication, which we gratefully accept, and publish all the more readily, since a recent correspondent requests information on the subject to which it relates.

The first thing to be done, in the way of making potash, is to select a heavily timbered part of the bush, (elm is the best,) then throw the trees when chopping them, in such a manner that they will form a compact pile, getting as much timber in the pile as possible, after so doing, chop all the trees within 100 feet of the pile or thereabouts. A team of oxen is next procured, and 1 or 5 men who collect all the lying timber and pile it on, in and around the original heap. Fires are then started in various parts of the heap, as the circumstances may require. After it has continued to burn until it is reduced to brands, it is then "branded" so as to make a complete job. When the brands have all, or nearly all, become so reduced as to be removed off, the ashes are collected in heaps, taking care not to collect any of the earth along with them. The ashes are then conveyed to an ash house, or to the leaches, as the case may be. When put into the leaches they are done so, solidly, by tramping them, or beating with a maul. After this, they are "tealed," putting in as many pails as can be got in, without running over, or "gullyng," (as the leaking of the leach at the bottom is called.) After being watered for the course of a day or two, the leaches begin to run lye. After enough of lye is produced to commence boiling, a fire is placed in the arch and the kettle filled full enough to admit of boiling, with the lye. The process is continued for one or two days, when the proceeds of such boiling is "dried down," (the term used by potash makers for converting strong lye to black salts.) The kettle is now allowed to remain until cool enough to permit cold lye being poured into it, (to pour in lye immediately after drying down, would be almost certain to break the kettle,) when it is again filled up, if lye can be procured, and the boiling continued. Some people do not dry down, i.e., if their kettle is large enough—but I prefer drying down, as it takes less time to boil a barrel. The boiling is continued after drying down one or two days, according to the strength of the lye, if weak one day, if strong more than one day. The maker then talks of "melting," (the term used to denote the final, or finishing process,) which takes about one day, or the afternoon and part of the night. Dry wood finely split is procured, about a cord or more, as the maker thinks he is to have a hard or easy melt, in the neglect of so doing, sometimes the adjacent fence suffers. The proceeds of the last one or two days boiling is dried down to the consistency of the first black salts. When the lye is being converted into salts, it boils over easily and up to the top of the kettle. Rosin is generally used to keep it from coming over. The lye before it becomes salts, when boiling is said to be in the "swell" or "foam," owing to its boiling to the fange or rim. The lye after being put through the "swell," (during which time it has to be bailed with a large long-handled dipper, to keep it in the kettle,) next falls low in the kettle, and gets into what the practised manufacturer would call the "splatter" or "splutter," a name derived from the manner in which the salt-boil, flying to a considerable distance from the kettle. The salts continue from 1 to 4, or perhaps more, hours in the "splatter," when they lay quite still emitting small portions of steam. In this condition, it lies from 1 to 10 or 12 hours—when it becomes a perfect red mass. When it melts in 1 or 2 hours, it is termed an easy melt, 3 or 4 hours a good melt, when in 5 or 6 a hard melt, and when it requires as long as 9, 10 or 12 hours, it gets some such name as a "mighty tough melt," or some such expression. When melted the coolers are arranged perfectly level, (two of which exactly fill a barrel.) Into these the potash is dipped, with the iron dipper which had been used for baling—the kettle is perfectly red after the taking out of the potash, and is allowed to cool, the fire being hauled out with a "scraper," (a piece of board with a hole in it, in which a long stick is placed.) The potash is allowed to remain in the coolers until cool enough to admit of being barreled. It generally cracks or splits into two or three pieces, by which you can see the colour; good potash is dark green—bad is full of brick red streaks. The cakes have a cavity in the centre, and sink one or two inches in the middle. When the potash is not done enough, it

risers and flows over the coolers, and is very porous. Bad potash when melted becomes black, but good does not. As to tolling with accuracy when potash is done, is rather difficult—some say when it lies perfectly still, which is a good sign, others when it commences to roll into the centre of the kettle, and others when it has all the black scum off its surface. It is generally ready when it makes no noise, except a noise similar to pork frying, and has no lumps of salt in it. I omitted to mention, that when *drying down*, a long iron rod, called a "spud," so bent out as to present a broad sharp point to the kettle, is used to keep the salts from sticking to the kettle—the operation is called "spudding," and is continued all the time that the kettle is in the scell. The quantity of lye required to make a barrel, is from 200 to 300 or 400 patent pails, as the lye is strong or weak. A barrel of good potash weighs nearly 700 lbs., bad is perhaps heavier. The quantity of timber required to produce a barrel varies. Some timber will make more, others less, elm, black ash, and hard wood being the best. An acre of very good elm timber will produce about two barrels, but if the timber be light, it will require an acre to make one.

### Effect of Four and Two-Wheel Carriages on Horses and Roads.

To the Editor of THE CANADA FARMER :

SIR,—A less philosophical principle for the division of weight and power could not be adopted than that in general use amongst the habitants of the Lower Province, and the cabmen and cartors of both sections, as the vehicle in most common use with them is the cart or carriage of only two wheels.

Were our roads formed of solid rock, and the surface as smooth as the face of this paper, it would not make any difference to the draught whether the carriage was of two, four, or more wheels; allowing that the carriages are of equal weight and the wheels all of an equal size. Neither, if the tire of the wheels were broad or narrow, supposing the wheels to be built upon the best philosophical principle,—that is, that they are upright or vertical, and perfectly cylindrical, the axle of the same size, and kept equally lubricated.

As all wheels work upon the same principle of the lever, we come to a more important part of our subject when we treat of their size. The larger in circumference will require lesser motive power than the smaller upon either a smooth, a rough, a hard or soft surface. The farther we get from the fulcrum of the lever, the greater power we possess over the obstacle we may wish to raise or move. Now, as the axle stands for the fulcrum of the lever, and the ground, by the gravitation of the wagon, the means by which the wheel is put in motion through the motive power of the horse, it stands to reason that each spoke acts precisely as a lever while the felloe or rim and tire serve to distribute the weight of the wagon or carriage, and motive power to several or every spoke. The greatest portion of the weight rests on the spoke or spokes being nearest a perpendicular and downward line from the axle. Whatever may be the weight of the carriage, it will all rest upon the lower half of the box of the wheel; and it is at this point the whole of the friction has to be overcome. Therefore, a wheel six feet in diameter, covering in one revolution about eighteen feet, will have but one-half the friction to overcome in the space of eighteen feet to the wheel of three feet in diameter, having to make two revolutions over the same distance. In the same ratio, we have a saving of motive power in favour of the large wheels either on the level or upon downhill.

In speaking favourably of four wheels in place of two, we are simply treating of the distribution of weight. It is admitted in the second paragraph of this article that if the road was solid and the surface smooth, no gain could be derived from having more than two wheels. But inasmuch as we cannot bring our roads into a perfect state of solidity, nor yet of smoothness, but have to deal with them as we find them,—that is, with a giving and rough surface,—we must cast aside the theoretical and adopt the practical. We must also consider our roads but as quantities of matter very poorly cemented together, and in many cases not cemented at all; also, that there are many hollows and obstructions. A great weight has a tendency to disturb the bed of the road, or, as can be seen, to crush and displace the surface stones.

Therefore, on behalf of both the horses and the road, what we wish to achieve is light pressure. It is the intensity of pressure that injures the road. The facility given to the horse by a four-wheeled wagon is owing to the lighter pressure of the wheels on the road; and in proportion as the labour of the horse is lessened, in that proportion is diminished the wear and tear of the roads. Yet notwithstanding this fact, we will find a decrease of tolls allowed for a cart, loaded or otherwise, on our macadamized roads: while the road has, by the concentration of weight, through the use of only two wheels, had to sustain just twice the burden it would had it been a four-wheeled wagon; consequently, the material of the road has received injury one-half greater. Double the exertion is also required of the horse every time the wheel of a cart has to surmount an unevenness of the surface or loose stone on the road, and twice the wear of the road where he places his feet, and the resistance is overcome. A cart loaded to the weight of say two tons will crush nearly the majority of the stones of which our roads are macadamized; while the fore and hind wheels of a wagon of the same weight will pass, comparatively speaking, uninjuredly over them. If the mathematical axiom of action and reaction being equal is true, it must tend greatly to confirm this theory. R. P. D.

Quebec, July 8, 1861.

### Artificial Fish-breeding.

STEPHEN H. AINSWORTH, President of the Western New York Fruit Growers' Society, gives the following account of his experiments in fish-breeding:—

"I have taken a very great interest in the growing of brook trout artificially in ponds on my place. I have tried from seven years old down to last spring's hatching, in three different ponds, keeping the young fry until two years' old before I put them into the large pond with the older ones, at which time they are able to take care of themselves. The original stock was put in my larger pond, containing sixty-one square rods of ground, fourteen feet deep, supplied from springs three years ago last spring, 1,400 in number, age then from one to four years' old. They weigh now from one to three pounds each. They have been fed daily with liver, and are about as tame as kittens—come at call, and take their food like pigs, throwing themselves clear out of the water in their haste for the food, by the five hundred at a time, and even take it out of a spoon six inches above the water. Think of seeing five hundred trout, all at the same instant, weighing from one to three pounds, and from twelve to eighteen inches long! The like has never been seen in this country to my knowledge before. It will well pay the disciple of Sir Izaak Walton a long journey to see; visitors from hundreds of miles come to see them—ponds and fixtures for breeding and growing.

"The trout spawns in November, December, and January. When on their spawning beds I take them and exude their ova artificially, and impregnate them with milt from the males, and then place the spawn in troughs, on gravel with pure spring water running over them. They hatch in seventy-eight days, and commence feeding from forty to fifty days after, during which time they live on the egg attached to them.

"Last fall I took in this way about 60,000 eggs, and hatched say 40,000 of them, which are now from two to four inches long. With all things right nearly all will hatch in this way. These will grow to a pound weight in four years, with good water and plenty of food.

"A two-pound trout will furnish about 8,000 spawn; smaller ones less in proportion. They commence spawning when one year old.

"In this way they can be increased and grown to any extent, and all the ponds and streams in the country stocked to overflowing.

"They can be raised in this way with great profit for market. Price from four to six shillings per pound."

WHAT IS ASTRAKAN?—Many women the past winter have worn Astrakan without thinking what it is. Astrakan, as its name indicates, is an Asiatic invention. They couple a black ewe with a black ram. Before the dam has given birth to the young, she is killed and the lambs, are taken from her womb. Their wool is jet black and of an extreme fineness. It costs very dear; there are Persians whose Astrakan bonnets are worth 500 francs (\$100) a piece. This statement is worthy of notice by ladies who have false Astrakan—Astrakan the wool of which is long and dyed.—*Le Moniteur Illustré des Inventions.*

TWENTY-THREE citizens of the town of Washington, N. H., made the past season 63,136 lbs. of maple sugar, worth about \$10,000. The largest amount made by one individual was 4,533 lbs.

### Water Tanks and Eave Troughs.

To the Editor of THE CANADA FARMER :

SIR,—As the season of the year is fast approaching when water becomes very scarce in many parts of the country, causing great suffering on the part of cattle and other animals, and loss of time to the owners in having to drive them often for miles to water every day for months together, and that at the busiest season of the year; and whereas cattle watered in that way never thrive well, causing great loss to the owners in the value of their stock,—now, to avoid all this harm and loss, I would advise my brother farmers who experience a scarcity of water to adopt the following plan: Dig a tank at the end of the barn or sheds, and put up eave troughs, so as to catch all the rain you can, and run it into the tank. The said tank can be built up with stone, brick, or wood. I speak from experience, for I used to lose about as much time every summer in watering as it took to make a tank; and I find it one of the greatest conveniences that a man can have on his farm. I dug my tank about 10 feet square, and the same deep, and built it up with hewed timber. My troughs are made of one-inch lumber, and sawed three and four inches wide, and nailed firmly together. By daubing the joints with a little tar, they do not leak. These troughs are 100 feet long on each side of the barn and sheds, which are 34 feet wide. With the surplus of water which each shower of rain gives, I have not had the tank half empty in five years. A. H.

Hossville, June, 1864.

### Poetry.

#### Remonstrance with the Snails.

Ye little snails,  
With slippery tails,  
Who noiselessly travel  
Along this gravel,

By a silvery path of slime unsightly,  
I learn that you visit my pea-rows nightly  
Felonious your visit, I guess!  
And I give you this warning,  
That, every morning,  
I'll strictly examine the pods,  
And if one I hit on,  
With slaver or split on,  
Your next meal shall be with the gods!

I own you're a very ancient race,  
And Greece and Babylon were aml'd,  
You have tenanted many a royal dom,  
And dwelt in the oldest pyramid;  
The source of the Nile!—oh, you have been there!  
In the Ark was your floodless bed;  
On the moonless night of Marathon  
You crawled o'er the mighty dead;  
But still, though I reverence your ancestors,  
I don't see why you should nibble my peas.  
The meadows are your's—the hedgerow and brook—  
You may bathe in their dews at morn;  
By the aged sea you may sound your shells,  
In the mountains erect your horn;  
The fruits and the flowers are your rightful dowers,  
Then why—in the name of wonder—  
Should my six pea-rows be the only cause  
To excite your midnight plunder?

I have never disturbed your slender shells  
You have hung round my aged walk,  
And each may have sat, till he died in his fat,  
Beneath his own cabbage-stalk:  
But now you must fly from the soil of your sires,  
Then put on your liveliest crawl,  
And think of your poor little snails at home,  
Now orphans or emigrants all.  
Utensils domestic, and civil and social,  
I give you an evening to pack up:  
But if the moon of this night does not rise o'er yo flight,  
To-morrow I'll hang each man-jack up.  
You'll think of my peas and your thievish tricks,  
With tears of silence, when crossing the Styx.

P. S.—If darkness should not let thee read this,  
Turtive snail,  
Go ask thy friend, the glow-worm,  
For his tail.

—From a Scrap Book.



Markets.

Toronto Markets.

"CANADA FARMER" Office, July 27, 1864. Flour Armer; superfine, \$4 to \$4 60 per barrel; double extra, \$4 65 to \$4 80 per barrel. Full Wheat at 90c to \$1 per bushel. Spring Wheat active at 90c to 94c per bushel. Barley nominal at 45c to 60c per bushel. Oats unsteady at 40c to 47c for Canadian, 40c to 41c for United States per bushel. Pease 50c per bushel. Rye 60c per bushel. Hay in good supply and demand at \$10 to \$11 per ton. Straw active at \$8 to \$9 per ton. Provisions—Butter—1/2 Dash, wholesale, per lb., 10c to 14c, retail, per lb., 14c to 17c. Eggs—Wholesale per dozen, 12 1/2 to 14c, retail, per dozen, 10c to 12c. Hams—Wholesale, per lb., 11c to 11 1/2c, retail, per lb., 12 1/2c. Fat Bacon—Wholesale, per lb., 8c to 8 1/2c, retail, per lb., 10c. Cheese—Wholesale, per lb., 11c to 11 1/2c, retail, per lb., 12 1/2c to 14c. Hops—Wholesale, 15c to 17c per lb. Lard—Wholesale, 11c per lb, retail, 12 1/2c. Beef—Market well supplied—light consumption with little activity—a fair export trade to Montreal and Quebec inferior \$3 to \$3 50 per cwt.; second quality \$4 to \$4 50 extra \$4 75. Sheep—Clipped, \$3 50 to \$4 50 by the cut head. Lamb each \$2 to \$2 50 for good. Calves—Each \$3 50 to \$4 50. Hides (green) per 100 lbs, \$4 to \$5; tanned do. \$6 25 to \$7 50. Calfskins per lb., 10c to 12c. Sheepskins \$1 90 to \$2 each. Lambskins per lb., 3c. Sheep Pelts 25c to 35c each. Coal \$7 to \$8 per ton. Wood \$4 to \$4 75 per cord. Salt \$1 25 to \$1 50 per bbl. Water Lime \$1 to \$1 50 per bbl. Potatoes—Few old ones in market. Now plentiful at 6c, 7c, and 8c per quart. Cod Oil at 30c to 40c for Canada; 45c to 50c and 60c for Penn. sylvan.

Montreal Markets, July 28. Flour—Superior extra, \$4 90 to \$5 25 extra \$4 50 to \$4 65, nominal, fancy \$4 40 to \$4 50, nominal, superfine from Canada wheat, (old ground) \$4 40, do. (fresh ground) \$4 50; super from Western wheat \$4 50 to \$4 55, Super No. 2 \$4 15 to \$4 25, old, \$4 50 to \$4, nominal, middlings, \$3 50 to \$3 70, nominal, Potatoes \$3 10 to \$3 25, nominal; bag flour, \$2 35 per 112 lbs. Business continues mostly of a retail character, there being no inquiry for shipment; quotations are, therefore, on the whole, nominal. There were one or two transactions in extras and fancy reported, some superior extra bringing a very high figure. A 200-bbl. lot of superior from Western wheat was sold at \$4 50, and 500 barrels of Western States flour before the Change hour at \$4 40. Previously noted high rates continue to be paid for fresh ground superior from Canada wheat, the figures mentioned this forenoon being \$4 75, \$4 80, and \$4 87 1/2, or much more than extra and fancy were sold for. Some fine was sold at \$4, and sour fine at \$3. Oatmeal, per bbl. of 200 lbs.—Prices vary according to quality, a sale of 100 barrels reported at \$4 90, and 100 at \$4 60. Wheat, per bush, of 60 lbs.—No cargo sales this forenoon. Ashes, per 100 lbs.—Sales of first pots reported this forenoon at \$5 57 1/2, and inferiors at \$5 02 1/2. Pearls nominal. Pork, per bbl. of 200 lbs.—No sales reported. Lard, per lb.—Hogs 9 1/2c to 9 3/4c per lb., barrels a tierce 8 1/2c to 8 3/4c. Cheese, per lb.—A parcel of factory made brought 8 1/2c, and a lot of over 400 boxes dairy at 8 1/2c, both shipped per Bahamas. Butter, per lb.—Receipts light, and but inquiry, choice dairy, 14 1/2c to 16c, a parcel shipped per steamer of neat Saturday bringing 15 1/2c, medium 13c to 14 1/2c.—Witness.

Montreal Cattle Market, July 28.—Extra Cattle, medium 1st quality, do \$6, 2nd and 3rd, \$5 50 to \$4 40. Much cows \$10 to \$20. Extra \$9 to \$10. Sheep \$3 to \$5. Lamb \$1 to \$2 50. Hogs, live weight, \$5 25 to \$5 75. Hides \$1 to \$5 50. Pigs, lamb and clips, 40c to 50c each. Tallow 5c to 7 1/2c.—Witness.

London Markets, July 26.—Grain—Fall Wheat, per bushel, 87 1/2c to 90c. Spring Wheat 84c to 87c. Oats, per bushel, 47c to 48c. Pease, per bushel, 50c to 53c. Corn, per bushel, 60c to 75c. Hay, new, per ton, \$10 to \$12, old, \$14 to \$15. Beef, per lb., 7c to 10c. Oat Straw, per load, \$2 to \$4. Butter, fresh, per lb., 12 1/2c to 15c; keg 20c, 11c to 12 1/2c. Potatoes 70c to 50c. Flour, per 100 lbs, \$2 25 to \$2 50. Hides, dry, per lb., 9c to 10c, green, 4 1/2c to 5c. Sheepskins \$1 25 to \$1 75. Calfskins, per lb., 8c to 10c, do. dry, 12 1/2c to 16c. Pelts, each, 25c to 30c. Wool 40c to 44c.—Prototype.

Hamilton Markets, July 26.—The farmers are too busy at the present season to bring their produce into market, so that our quotations may be regarded as nominal. Grain—Fall Wheat, per bushel, 90c to 95c. Spring Wheat, 87c. Rye 60c to 65c. Barley 60c to 65c. Oats 45c to 50c. Peas 50c to 55c. Corn 70c to 75c. Provisions Potatoes 5c per quart. Turnips, per bushel, 20c. Apples \$1 to \$1 50. Butter, per lb., 16c to 20c. Eggs 10c to 12 1/2c. Beef \$4 to \$6. Cheese, per lb., 10c to 11c. Hay \$10 per ton, old, from \$14 to \$15. Straw \$5 to \$6 per ton.—Spectator.

Quebec Markets, July 26.—Fall Wheat per bushel 55c to 95c. Spring Wheat per bushel 78c to 87c. Oats per bushel 49c to 51c. Pease per bushel 60c. Barley per bushel 45c to 50c. Pork per 100 lbs \$5 to \$7. Hay per ton \$8 to \$9. Straw \$2 to \$2 50. Beef per 100 lbs \$3 50 to \$5 50. Potatoes per bushel 60c to 75c. Butter per lb. 12 1/2c. Wool per lb. 37c to 38c.—Herald.

Galt Markets, July 28.—Flour per 100 lbs, \$2 to \$2 50. Fall Wheat per bushel 90c to 98c. Spring Wheat per bushel 70c to 77c. Barley per bush 70c to 75c. Oats per bush 46c to 48c. Butter per lb. 12 1/2c. Eggs per doz 10c to 12 1/2c. Wood per cord \$2 50 to \$3. Wool per lb. 42c to 46c. Hay per ton \$8 to \$10. Straw per ton \$4 to \$5. Potatoes per bushel 37 1/2c to 50c. Pease per bush 50c to 55c. Beef per 100 lbs \$5 to \$7. Pork per 100 lbs \$5 to \$5 50. Hides per 100 lbs \$3. Pelts per 100 lbs 30c to 40c. Lambskins 60c.—Reformer.

Goderich Markets, July 26.—Grain—Fall Wheat, \$1, Spring Wheat, 78c to 80c. Oats 15c. Barley 60c to 65c. Hay, per ton, \$8 to \$9 50. Wool, washed, 1, per lb., 40c to 44c, unwashed, 28c. Pease 40c to 45c. Pork \$4 60 to \$4 75. Beef \$3 to \$4. Hides, green, \$1. Butter 12 1/2c. Potatoes 60c.—Signal.

New York Markets, July 27.—Flour—Receipts 12,655 bbls; market dull, 10c to 20c lower; sales 8,000 barrels at \$9 50 to

\$9 60 for superfine State; \$10 16 to \$10 25 for extra State; \$10 30 to \$10 5 for choice do; \$9 30 to \$9 60 for superior Western; \$9 60 to \$10 25 for common to medium extra Western, \$10 15 to \$10 60 for common to good shipping brands extra round hoop Ohio. Canadian flour dull, 10c to 20c lower, sales 600 barrels at \$9 60 to \$10 15 for common, \$10 20 to \$12 for good to choice extra. Rye flour steady at \$3 to \$9 25. Wheat—Receipts 27,909 bush; market heavy at 10 to 20 lower and drooping, sales 40,000 bushels, at \$2 25 to \$2 45 for Chicago spring, \$2 30 to \$2 47 for Milwaukee club, \$2 60 for amber Milwaukee, \$2 60 to \$2 63 for amber red Western, \$2 64 to \$2 68 for amber Michigan. Rye quiet. Barley quiet. Corn—Receipts none; market dull; sales 10,000 bushels at \$1 01 for new mixed Western, \$1 64 for unmixed. Oats firmer at \$1 02 for Canada and State, \$1 01 to \$1 03 for Western. Pork lower, sales 1,800 bbls at \$35 for mess; \$40 25 to \$40 50 for new do, \$37 for prime. Beef quiet.

New York Wool Market—There has been only a moderate inquiry for this staple since our last, and prices have been very irregular. The regular traders paying full rates, while outside parties who are operating on a margin are trying to get the prices down, in fact, the market has been more unfavorably affected than for some time past, owing to the continued stringency in the money market. At the close prices are entirely nominal. We quote New York, Michigan, and Indiana as follows.—\$1 to \$1 10 for Saxony fleece, 85c to \$1 for full blood Merino, 80c to 97 1/2c for Lull and three quarter do., 90c to 10c for native and quarter do.

Boston Market, July 25.—Flour—The market is steady with a moderate demand. Sales of Western Superfine at \$9 50 to \$9 65, common extra \$10 25 to \$10 60, medium do \$10 75 to \$11 25, good to choice do \$11 50 to \$13 50 per bbl. Grain—Corn is firm but the trade has sparingly. Sales of Western Mixed at \$1 70 to \$1 84, Southern Yellow \$1 75 per bushel. Oats are in steady demand, sales of Northern and Canada at \$1 to \$1 10 per bushel. Rye is scarce at \$2 25 per bushel, Shorts are selling at \$3 75 to \$3 85; fine feed \$4 25 to \$4 40 per ton. Provisions—Pork is dull and prices are nominal. We quote prime at \$30 to \$35; mess \$30 to \$43; choice \$43 to \$45 per barrel, cash. Beef is in moderate demand; sales of Eastern and Western mess and extra mess at \$20 to \$30 per barrel, cash. Lard is dull; sales in barrels at 20c to 21c per lb. cash. Hams are selling at 20c to 25c per lb. cash.

Chicago Cattle Market, July 25.—In beef cattle the market has been active and firm at previous quotations. Entered sales, 800 head at \$3 62 to \$3 12 1/2, chiefly at \$4 25 to \$5 25 per 100 lbs. In hogs the market has been active with a limited supply. The entered sales amount to 1,275 head, at \$8 50 to \$10, chiefly at \$9 to \$9 12 1/2 gross.

Buffalo Markets, July 27.—Flour—There was only a moderate demand for flour yesterday, and the market ruled steady sales within the range of \$10 50 for Red Hair, and \$12 for Dutch extra from white winter wheat. Wheat—There was only a moderate demand yesterday, and the market ruled a shade easier. Sales No 2 Chicago Spring at \$2 10. Corn in good demand and market steady; sales at \$1 30. Oats—There was an active demand, and the market ruled steady; sales at 65c. Barley—Market quiet and nominal within the range of \$1 40 to \$1 45, as to quality.



I WILL give a Township Right to any man who will make an improvement on my fence, or as good a portable and permanent farm fence on any other plan, COST, CONVENIENCE AND DURABILITY THE TEST. Mr Samuel Hall, of Toronto, is exhibiting in the market, opposite the City Scale, a Patent Fence. It is very simple in construction; alleged to be the cheapest ever made, and is highly approved by the farmers who have examined it.—Toronto Globe. Mr. Hall, now of Toronto, has invented a new kind of Fence, which is thought by good judges to have decided advantages over the common, both for cheapness and convenience, especially where it is desirable to have a movable fence.—Christian Guardian. I hereby certify that Samuel Hall, of Toronto, was awarded First Prize for a FARM FENCE, at the last Provincial Exhibition, in Toronto, 1862, and at Hamilton.

HUGH C. THOMSON, Secretary Board of Agriculture of Upper Canada. With the Right I will send my newly invented plan, by which any man or boy can make mortices without boring. The fence is made of any kind of wood, sawed or split, without nails or pins. Rights sent to any part of Canada, East or West, with a plan how to make and set it, for \$1 for 100 acres. Give the number of the lot, concession and township. Apply at 16 Richmond street east, or address SAMUEL HALL, Patentee, box 592, P. O., Toronto. Toronto, August 1, 1864. 14-11

WHITE WILLOW. I HAVE now the White or Hedge Willows planted and growing on Lot No 13, Cox 4th, Township of Delaware, Middlesex Co., where those wishing to see the said White or Hedge Willows can do so by calling at my place, where I shall be prepared to take orders for any number of cuttings they may think proper to order, to be sent or delivered through the coming winter, as that season is the best time for parties to get them, so that they can plant in early spring, and the cutting will not sustain damage in being so long on the road, as they sometimes do. I shall furnish parties purchasing full directions for planting, &c. P. O. address— JOHN CALCOTT, Lambeth, C. W. August 1, 1864. 14-11



Advertisements.

CHOICE STRAWBERRY PLANTS BY MAIL.

WE will send by mail (post paid), to any address, packed in the best manner, the following varieties, upon receipt of price.—Darr's New Pine, Large Early Scarlet, Dotner's Prolific, Wilson's Albany, each 30 cents per dozen; \$2 per hundred. BARTLETT (the hardiest and best variety in cultivation), 50 cents per dozen, \$4 per hundred.—Plants warranted genuine. Address A. R. CASS, Box 31, L'Orignal, C. W. August 1, 1864. 14-11

TO FARMERS' SONS AND OTHERS.

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