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### RURAL NOTES.

DAIRYING is reported by the *Prairie Farmer* to be making progress in Kansas.

A MEETING of the Holstein cattle breeders was recently held in Detroit, which resulted in their organizing themselves into an association.

THE *Massachusetts Plowman* considers leached ashes, for nearly all crops, cheaper at twenty-five cents a bushel than commercial fertilizers at current prices.

THE death is announced of Jesse A. Storrs, the well-known horticulturist of Painesville, Ohio. He was a member of the nursery firm of Storrs, Hanison & Co., and his loss is a public calamity.

THE London (Eng.) *Agricultural Gazette* records the recent purchase of ten fine polled cattle from the herd of Mr. Strachan, Aberdeenshire, by parties from the United States. The price paid was about \$200 each.

A PORK packer in Boston says he ships 100,000 pounds of leaf lard weekly to New York city for manipulation into butter imitations. Another sells 40,000 pounds of suet and tallow per month for the same purpose.

THE Michigan Horticultural Society recently resolved that the grounds about a country school-house ought to be at least one acre in extent, and handsomely laid out, ornamented with trees, shrubbery, and flowers.

A LATE number of the *Markham Express* reports large sales of Hereford cattle to Missouri and Illinois stockmen. A hundred cows and heifers had been sold, and the purchasers intended buying about the same number of bulls.

THE tenth Duchess of Oneida (1878), by second Duke of Oneida, 9986, purchased by Mr. A. J. Alexander at the celebrated New York Mills sale, September 10th, 1878, for \$27,000, died on the 2nd instant on the Alexander farm.

WOLVES are not yet extinct in Wisconsin. In the vicinity of Elkhorn, a farmer has lost during the past winter over one hundred sheep from their ravages. A grand wolf-hunt was to be organized in that region toward the end of March. High time!

THE Maine Board of Agriculture, in recent session, unanimously advised the "average farmer to await the results of experiments now in progress on the ensilage of corn and other crops, before adopting the system on a scale involving any considerable expense."

A WESTERN U. S. paper, the *Pacific Life*, describes a creature owned by a gentleman near the sea-coast, and said to be a cross between a deer and a cow, having the delicate head, nose, legs, and feet peculiar to the former. She is probably a Jersey heifer.

BRITISH anglers are striving to secure the introduction of black bass from this continent into suitable waters of England. There are many such where trout will not thrive, and in which it is believed black bass will do well. Success to "fish-farming" everywhere!

It is a significant fact, and one full of encouragement to cattle feeders on this side of the Atlantic, that, as a matter of economy, the British Government have decided to use "American beef" as the animal food for its navy. From the quantity required, this piece of policy must greatly increase the beef export of the new world.

It is very important that farm horses be trained to be good walkers. A very fast gait can be obtained if the proper means are taken. Next to strength, speed is wanted in a draught horse. There is no need that teams should crawl along the road and in the furrow at the snail's pace which is so common. Fast or slow walking is a matter of habit.

ABOUT 250,000 bushels of leached ashes were taken from Canada to Connecticut last year for fertilizing purposes. They cost 17 cents per bushel. There are "heaps upon heaps" of these ashes in various parts of the country that can be had for the hauling. If it pays to buy them and freight them hundreds of miles, it is surely worth while to team them a few rods, when they can be got for nothing.

SAYS the *Fergus News Record*:—"The latest swindle on the farmer is in the weigh scale line. Large numbers of scales, said to be of inferior quality, are being sold by agents to the farmers in the eastern part of this county, at prices from \$5 to \$12 higher than a first-class scale can be bought for from regular dealers in hardware. Some of the parties victimized consider this sell about as bad as the lightning rod fraud."

OSCAR WILDE says a good thing now and then. In a recent lecture he condemned poorly-constructed buildings; walls painted to resemble stucco or marble blocks; chairs glued together, and so weak that they creak when you sit on them, a "gaudy gilt horror in the shape of a mirror;" and dishonest work of every kind, which constantly decreases in value, while good, honest work becomes more valuable as it gets older.

BEE-KEEPING is coming to the front, as it well deserves to do. The Irish Bee-keepers' Association is to have space at the Royal Dublin Spring Cattle Show. Lectures will be given, and if the weather is propitious, the practical manipulation of bees will be shown by skilled apiculturists. It will be a brief session of an apicultural college. In this country there is a manifest "boom" in bee-keeping. If gone into intelligently, great gain of national wealth will come of it.

THE idea has been extensively entertained that the only effectual way of exterminating the pea bug was to cease growing the crop on which it feeds. But Mr. Lewis Coryell, of East Whitby, informs the *Cannington Gleaner* that the following is a sure cure for this insect pest:—"Mix thoroughly one gallon of coal oil with twenty-five bushels of peas one month before seed-time, and the object is accomplished." He says he has already doctored 1,600 bushels for this season's seeding, and thinks if every farmer would adopt this plan the bug would soon be exterminated.

A WRITER in the *N. Y. Tribune* urges farmers to put up trespass notices forbidding sportsmen and pot-hunters from roaming over their premises with dog and gun, without permit from the owner. By adopting this method of game protection, the woods and fields of Westchester County, N. Y., have within a few years become re-stocked with quail, partridges, and other valuable birds, and there is beginning to be a return to the good old days when there used to be sporting and hunting. By adopting similar means, there are many trout streams and ponds that might easily be re-stocked, so as to invite the angler as of old. It is as well to teach a certain class of people that a farm is private property, and not a public highway.

IN reply to a question from Sheriff Clarke, of Prince Arthur's Landing, the *Globe* names "Duchess of Oldenburg, Red Astrachan, Wealthy, Tetofsky, and several of the crabs" as suitable apples for high latitudes, and recommends that they be planted under evergreen belts. In ordinary years, these and some other "iron-clads" may survive, but we should fear that an occasional dip of the thermometer, or an unusually cold arctic wave might destroy them. We are inclined to think that low espalier training, practiced in England as a matter of taste, might be found practically valuable in high latitudes. We have seen apple trees trained within a foot of the ground, and running in long lines as walk borders. In a country sure of a deep snowfall, they would get natural protection, or failing that, might easily be covered with straw, some kind of litter, or, better still, with evergreen boughs.

## FARM AND FIELD.

INSECTS INJURIOUS TO GRAIN  
AND GRASS CROPS.

The midge, a European importation, according to the evidence of the Rev. C. J. S. Bethune, first made its appearance in Vermont in the year 1820, rapidly spread itself over the Eastern and Central States, occasioned in the State of New York, in 1854, a loss to the agriculturists of not less than \$9,000,000 by its ravages, appeared in Canada in 1856, in which year the injury it did to the crops was estimated roughly at \$2,500,000, and, in the year following, destroyed, as was calculated, 8,000,000 bushels of wheat in the Province of Ontario alone. For ten or twelve years its unwelcome presence was more or less felt, but since 1869 it has ceased to do any appreciable mischief, although in one or two instances, farmers examined by the Commissioners have referred to it as one cause of recent injuries to their wheat crops.

This tiny insect, in its several stages, is represented in the accompanying illustration, both magnified and of its natural size (see Figs. 1, 2, 3, 4). In appearance it resembles the Hessian fly in many respects. The chief distinction is in the colours of the body, the midge being yellow and the Hessian fly black.

Mr. Bethune thus describes its habits:—

"The midge frequents the ripening ears of the grain; the eggs are laid in the young and tender blossoms of the wheat, and as soon as the larvæ are hatched from the eggs they begin to feed upon the juices of the grain-kernel, and continue extracting the juices of the grain, causing it to shrivel up and become utterly worthless. When the period of the ripening of the grain arrives, the larva descends to the earth, and remains there throughout the winter. In the following spring it transforms into the pupa state, and in the month of June—earlier or later, according to the season—the perfect insect or fly makes its appearance, just about the time when the young crop of grain is beginning to assume the flower state. Its presence at this time of the year is made known to entomologists and others by large numbers flying in at the windows at night, covering the lamps, the papers on one's table, etc. It is in that way I have chiefly noticed the perfect insect."

The serious loss sustained by the operations of this pest, led to many experiments with the view of arresting its depredations. It was chiefly fall wheat that suffered, the plant being, in the month of June—the time of the

appearance of the midge in the fly and breeding stage of its existence—just in a condition to suit its purposes. Efforts were made by Mr. Arnold, of Paris, and other hybridists to produce a wheat that should be midge-proof. Mr. Arnold referred to these attempts in his late examination before the Commissioners. He said:—

"When I first began, the midge was very destructive, and there were certain varieties which were midge-proof but of miserable quality, and my idea was to get our old Soule's wheat in midge-proof chaff, which I believe I accomplished; but, fortunately for

vantage resulting from this mode being that, in the following year, they would not be influenced by the warmth so early as otherwise, their development would be retarded, and in all probability their appearance would be too late to be followed by any great injury. By these several methods they would, in fact, be starved out. . . Besides these remedies another was proposed, viz., that spring wheat should be sown as late, and fall wheat as early as possible; the object being that the former should be matured too late, and the latter too soon, for the attack of the midge in the month of June."

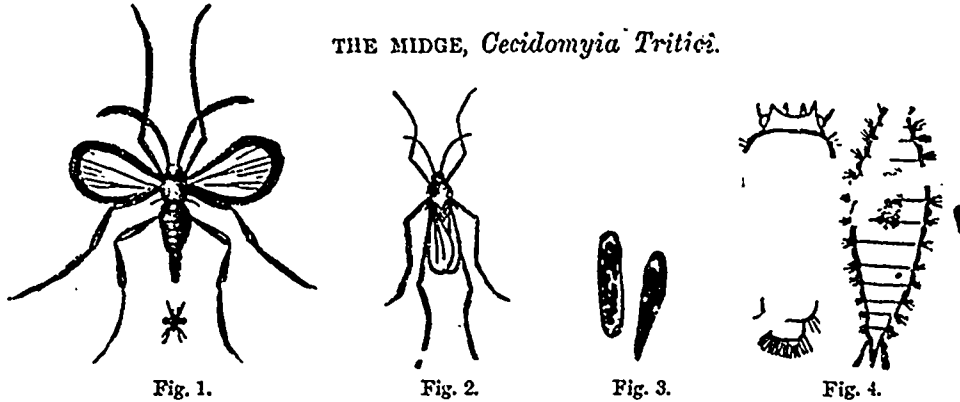
In the opinion of Mr. Bethune, the chief cause of the disappearance of the pest was due to parasites preying upon the midge, but so minute as to have escaped discovery. These friendly insects with others will be noticed later on.

The "Hessian fly" (see Fig. 5) is now supposed to be an indigenous insect, the belief, from which it received its popular name, that it was introduced into the States by Hessian troops during the revolutionary war, being now dispelled. It is, however, a fact, that it was first noticed in the States in 1776. It was seen at Quebec in 1816, and in this Province in 1846, since which date it has been a frequent and unwelcome depredator upon the fall wheat crops, few years passing without notice of its presence being announced from some quarter. Its habits are described by Mr. Bethune as follows:—

"It appears first in the fall at the root of the fall wheat plant; its eggs are laid, and the larvæ hatched out below the surface of the earth on the surface, and there they remain all winter, the brood appearing in the spring. There is a second brood in the spring which attacks the stalk, where the insect is most generally noticed. Farmers hardly ever observe the insect at the root, but every one who has observed

it has seen it on the stalk. |  
"It attacks the stalk just above the first or second joint from the root, where it is enveloped by the leaves. The larvæ vary in colour at different periods of their existence, being very pale at first, but afterwards of a deep chestnut colour. Their first attack is made when the stalk is very tender and green, and they puncture it to extract the sap, the result being to cause a small depression where the larvæ remain. There may be five or six encircling a single stalk at one time, and the result of their combined efforts is to weaken and finally to break it, causing it to fall down, thus ruining the grain.

"After the larva has fed for a considerable time upon the stalk, it assumes what is called the 'flax-seed' state resembling in colour, size,

THE MIDGE, *Cecidomyia Tritici*.

Not more than one-tenth of an inch long. Fig. 1 represents a highly magnified specimen with the wings expanded; the outline below shows its natural size. Fig. 2, the same, with closed wings. Fig. 3, the eggs. Fig. 4, the outline of the larva, highly magnified.

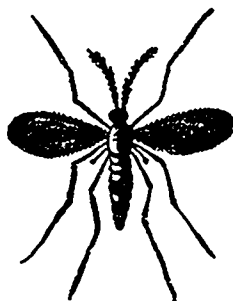
THE HESSIAN FLY,  
*Cecidomyia destructor*.

Fig. 5.

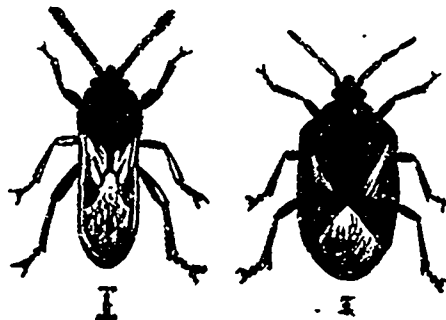
THE CHINCH BUG,  
*Micropus Leucopterus*.

Fig. 6.

Shows, on the left hand a specimen of the true chinch bug, on the right an ordinary bug, magnified.

## THE APHIDÆ, OR PLANT LICE.

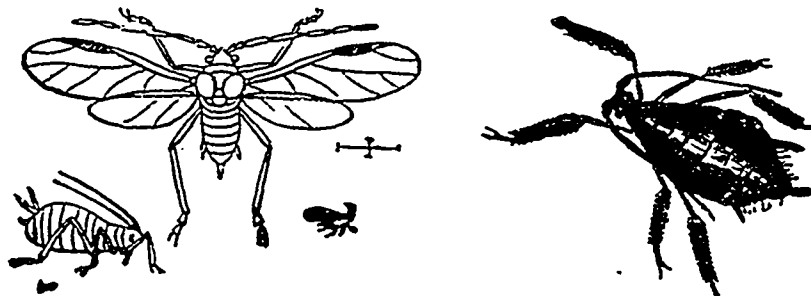


Fig. 7.

Fig. 8.

The above figures will serve to illustrate the insects belonging to this family. Fig. 7 represents a highly magnified winged male and wingless female. Fig. 8, the wingless female very much enlarged.

the country, by the time my wheat was ready to introduce, the midge had disappeared everywhere, though I believe it has re-appeared since in some localities."

Other proposed remedies are thus referred to by Mr. Bethune:—

"One practical remedy that was recommended at the time was to burn all the screenings of affected wheat—all the refuse of the fanning-mill, the sweepings of the barn floor or any place where the grain had been stacked, and where the insects would naturally be shaken out. Another remedy was that in the fall the infested wheat fields should be very deeply ploughed, with the object of burying any insects that might remain, as far below the surface as possible, the ad-

and general appearance, a grain of the ordinary flax seed. In that state it continues for a considerable period, and it is carried from the field to the granary while in this condition. It is a very much-discussed point as to what this 'flax-seed' stage exactly is. It is looked upon as a pupa stage, but how it is produced—being so different from the form common among insects—has not been determined upon by entomologists, some thinking that the 'flax-seed' covering is the pupa stage, and others that it is an exudation from the body. The Hessian fly attacks the stalk solely, never the ear."

Numerous parasites attack the Hessian fly, and to them is probably due, more than to any other cause, the curtailment of its ravages. As means to the same end, Mr. Bethune suggests the following artificial remedies:—

"The artificial remedies I would recommend would be the abandonment of fall wheat *pro tem.*, or to sow as late as practicable in the autumn, in order that the larvæ may not find the plant sufficiently advanced for their attacks at the roots before winter sets in. An additional remedy—if it may be so called—is to practise thorough cultivation, in order to make the plant as strong and healthy as possible, that it may the better withstand the attacks of the fly. I have not observed that the Hessian fly is attracted by moisture in the same manner as the midge. Its *habitat* in the summer is a very dry one, being under the close envelope of leaves which protect the stalk above the first or second joint."

The Chinch bug, although found in Canada, is scarcely known here as a destructive insect, although a great pest to the farmers of the Western States. The insects represented in the illustration (see Fig. 6) are largely magnified, the lines below indicating their natural size. It attacks various kinds of grain, is a persistent and incessant feeder throughout the whole of its existence and at every stage of its growth. Brood after brood appears, and no living article of vegetation is safe from their attacks. Wet weather is a check to its mischief, "a heavy thunderstorm," says Mr. Bethune, "being worth millions to the farmers of the Western States during the season of its ravages." It is, however, assailed by lady birds, lace-winged flies and *syrphus* flies, very effectively, and thus, to some extent, restrained in its depredations.

The Aphidæ, or Plant Lice (see Figs. 7 and 8) are a well-known family of insects, and are found on a large number of plants. As a rule the Aphidæ are not very injurious to grain, but there are occasions when their propensities for mischief take that direction. Mr. Brodie, of Toronto, says in his evidence on that point:—

"Among the Hemiptera, the grain-aphis, the cabbage-aphis, the apple-aphis, and the oyster shell bark louse, have all done a great deal of injury. In 1863 the oat crop in North York was injured by the grain-aphis to such an extent, that the average weight of oats that season was only fifteen pounds per bushel, and the yield per acre very small."

Of the habits of the Aphidæ, Mr. Bethune says:—

"In the early part of the summer, the Aphidæ may be found in great abundance, and they continue very numerous until towards the close of the season. It has been found, by close observation, that the females require only to be fertilized by the male once during a very large number of generations,

that is to say, one impregnation by the male will last through the descendants of the original female for perhaps twenty-five or fifty generations. The males, consequently, are not required very frequently, and they make their appearance usually towards the close of the season. The males possess wings.

"The excessive fertility of this insect may be imagined, when I mention that each female produces about four young ones a day, and these young ones are all females and able to produce offspring in like proportion when three days old, so that it has been calculated that, in twenty days, the progeny of one female—provided there were no disease or accident in the family—would amount to 2,000,000 individuals. If it were not for the various checks imposed upon them, in a very short space of time the whole habitable portion of the earth would be covered by these insects, and man would be quite driven off. There is probably no kind of vegetation that is exempt from their attacks.

"Some few of these insects pass the winter in hiding places out of doors. The impregnated females lay eggs in the autumn that survive the winter, and these hatch out in the spring. It is my opinion that these eggs all then hatch females, and the series of females continues until about the close of the season, when the males make their appearance.

"The insect's mode of life is the same from the time it is born until it dies,—it has, as a rule, its proboscis inserted into the plant on which it lives, pumping out its juices; in fact, needs a constant supply of food to live, and if it were detached it would die. This does not, however, apply to the winged specimens; their object is to establish new colonies, and to perpetuate their kind.

"In feeding, this insect takes in such a large supply of liquid that it cannot assimilate it all, and is consequently obliged to part with some of it. This, dropping upon the surrounding leaves of the plant, is a sweet, sticky substance, called 'honey-dew,' and ants and other sweet-loving insects are excessively fond of it.

"Ants are so intelligent that they make a regular business of looking after the aphidæ, and getting them to part with their 'honey-dew,' just as we obtain milk from the cow. They may be often seen pressing the body of the aphidæ at the hinder part of the abdomen, thus forcing the latter to part with little drops of 'honey-dew,' of which they immediately make use. Indeed, aphidæ used for this purpose have been known to be enclosed in a regular pasture, over which the ants keep watch to ward off intruders."

Happily, not only such casualties as storms and climatic changes reduce the aphidæ in numbers, but they are also preyed upon by numerous parasites.

MANURE heaps should always be kept scattered with plaster, to arrest the ammonia. Plaster saves one-half of the virtue of manure, which otherwise escapes as gas in the air: therefore always keep manure covered with it, whether in the heap or thrown on the field. Should always be used for the same purpose to stable and hen house—it saves the valuable ammonical urine. *These combinations make the richest manure in the world.* It also has a sanitary effect by purifying the atmosphere.

A. GOODWIN, of the Maitland concession, Goderich township, has sold lot 77, 55 acres, to A. Beadore, for \$2,400.—Michael Heffernan has purchased the 50-acre farm of Wm. Nash, McKillop, for \$1,955.—Matthew Parcell purchased from John O'Sullivan 50 acres on east half of lot 13, con. 3, McKillop, for \$2,175.

## CURRENT NEWS ITEMS.

THE Toronto Industrial Association have decided to open the exhibition on the 11th of September, and continue it till the 23rd.

THE Foresters of Listowel have given the widow of the late John Welsh, of that place, a cheque for \$1,000, in accordance with the rules of Forestry.

SOME of the horsemen about Clinton have been very unfortunate this year. W. J. Ferguson, Smith's Hill, lost three stallions on the voyage out from Scotland, which is the more to be regretted as they cannot be replaced this season.

A JOINT stock company is about to be organized in Toronto, with a capital of \$10,000, under the style of "The Ontario Poultry Breeding and Stock Association." The company is said to have purchased several acres of ground in close proximity to one of the suburbs of the city, and they intend erecting suitable buildings immediately.

A PROMINENT Biddulph farmer gives the following reasons for wishing to dispose of his fine old homestead. He says:—"As the owner is now over three score and ten, and the heir for whom it was designed has been so stunted with hard toils on the farm, that when seventeen (his last birthday), he was only a little over six feet high, and though healthy as an ox, he is not quite so strong, and does not care to work."

THE number of emigrants who arrived in Toronto during March were 362 English, 165 Irish, 103 Scotch, 154 Germans, and two Scandinavians. Of this number 439 remained in the Province of Ontario, 197 went to Manitoba, and 140 Germans passed on to the Western States. The returns for the corresponding month last year were 149 English, 174 Irish, 23 Scotch, one German, and one Scandinavian. Three hundred and thirty-eight remained in Ontario, and twelve went to Manitoba. The class of emigrants that arrived last month were superior to that of former years. Many of the new arrivals possessed considerable means.

THE Elora correspondent of the *Guelph Mercury* says:—"Mr. Rhodes Letson, of Alma, is decidedly impressed with the idea that he has been 'done' by one of the numerous travelling agents, who may in the present day be fairly classed amongst the pests of the farm. A fellow came to him, asked permission to put up a sample hay lifter in his barn, which would never be removed therefrom, and of which he might have full use, 'free, gratis, for nothing.' Mr. Letson told him to 'send her along,' and Mr. Agent asked to be permitted to send ten others, to be sold by Mr. Letson on commission, at \$25 each, and a profit of \$5 each to Mr. L. 'All right,' said Mr. L., and then graciously signed a paper binding the bargain. A few days ago, the forks arrived, and with them another agent, who demanded cash on the nail for the whole lot, and drew from his pocket Mr. Letson's promise to pay on demand. Mr. Letson demurred. The forks are still at the Alma station, and Mr. Letson possesses a lawyer's letter demanding his note at six months, or threatening an immediate suit. Mr. L., it is presumed, will look twice before signing another order."

**GARDEN AND ORCHARD.****OPINIONS ON THE POCKLINGTON GRAPE.**

"Lahrax," of Goderich, Ont., in a letter to the *Country Gentleman* on grapes in Ontario, admits the fine appearance of this new variety, but thinks it shells badly, and has a foxy taste. His opinions are based on bunches that were shown at the fall exhibitions. These were gathered before fully ripe, and subjected to considerable handling. We saw the Pocklington on an eighty-foot trellis, which was completely covered with young vines, and heavily laden with fruit, at date of Oct. 12th, in the nursery of Mr. John Charlton, Rochester, N.Y. It was then dead ripe, but there was no tendency to shell off the bunches, and the berries had the slightest possible flavour of foxiness. Mr. C. W. Campbell, originator of the Delaware grape, after comparing the Pocklington with all the other white grapes exhibited in Boston last fall, says of it:—"Much the largest and most attractive white grape of native origin yet introduced, throwing the Niagara which were exhibited beside it entirely in the shade." Mr. Samuel Miller, originator of the Martha, a white grape of superior quality, says:—"While the Martha has done nobly, and I have no need to be ashamed of having originated it, I now resign, and give the palm to Mr. Pocklington." The adaptation of this beautiful grape to the Province of Ontario remains to be proved, but as it is earlier than the Concord, and quite as hardy, there is every reason to believe that it will do well here. It is to be hoped that it will get a general and impartial trial in all parts of this country. If it makes itself as much at home among us as it does among the fruit-growers in the State of New York, it will prove a most valuable addition to our list of out-door grapes.

**DRAPING FOREST TREES WITH VINES.**

A writer in the *Gardener's Chronicle* (Eng.), suggests a very pleasing idea, which is capable of being carried out in the line of use as well as beauty. It is natural for grape vines to climb into trees, and we have noticed that the shoots entwined around branches endure the extreme cold of winter better than those entirely exposed. Trees growing on lawns might thus be utilized as living trellises for grape vines. The same use might be made of trees on the edges of partially cleared woods. In a variety of ways, the suggestion embodied in the following paragraph, may be put in practice:

"When we read descriptions of tropical forests we are always struck with the amount of climbers, creepers, lianas, growing on the trees and dropping fantastically from branch to branch. The nearest approach that I have seen to these fascinating descriptions was in the virgin forests of Sardinia. There the clematis, wild vine, blackberry, ivy, all but realize these descriptions of tropical scenery, and add much to the beauty of the forests. On my return home I determined to imitate this feature of the Sardinian forests, and planted a number of climbers at the roots of many of my trees, making soil for them, I

had, however, no success; the roots of the trees ate up the soil, and the creepers dwindled away. Eighteen months ago I hit upon a plan which promises to be a complete success. I had some casks, large and small, cut in two, and holes made at the bottom for drainage. Then I had holes as large as the half casks made at the foot of the trees, cutting away roots to make room. The trees no doubt suffer, but they soon recover themselves. The casks were filled with good soil, and the creepers planted therein—Virginian creepers, Bour-sault roses, vines and ivy. They are all doing very well, and are running up the trees vigorously. By the time the wood of the casks rots the plants will have established themselves, and will, I trust, be able to hold their own. I expect in two or three years to have my trees covered with garlands, festoons of creepers, imitating the lianas of the tropics. Many other creepers would no doubt do equally well, such as *Bignonia radicans*, *wistaria*, *jasmine*, etc. I mean to try them. The vigour of the creepers seems to depend on the size of the casks. I mean to try large sugar casks."

**A FRUIT-LIST FOR THE NORTH-WEST.**

At the annual meeting of the Minnesota Horticultural Society, just passed, much valuable information was elicited. In the revision of the fruit-list the following were recommended:—Apples for general planting: *Wealthy*, *Duchess of Oldenburg*. For planting in limited quantities in southern and eastern Minnesota: *Plumb's Cider*, *Fameuse*, *St. Lawrence*, *Wallbridge*. The *Wealthy* was kept on the list by a vote of nineteen to one. For a general planting in limited quantities: *Tetofsky*, *Plumb's Cider*.

The crab list, as completed, for general planting: *Beache's Sweet Orange*, *Early Strawberry*, *Whitney No. 20*, *Minnesota*, and *Power's Large Red*. After a motion to strike the *Transcendent* from the last list, on account of its liability to blight, the crab was retained and recommended to be separate from the main orchard. For planting in limited quantities: *Conical*, *Hesper Blush*, *Virginia*, *Hutchinson's Sweet*.

The grape list for general planting: *Concord*, *Delaware*, *Janesville*. For planting in limited quantities: *Worden*, *Rogers' 3*, *4*, *15*, *19*. Recommended for trial: *Moore's Early*, *Lady*. Struck from the list for tenderness: *Bryton* and *Lady*. The *Iona*, offered for trial, was rejected.

The raspberry list for general planting: *Blackcaps*—*Doolittle*, *Seneca*, *Mammoth Cluster*. *Red*—*Turner*, *Philadelphia*, *Purple Cane*. Recommended for trial: *Gregg*.

The currant was left as it stood in the *Transactions* of last year. *Stewart's Seedling* was put on the list for trial; also *Lee's Black Currant*.

The gooseberry list and the plum list were left unchanged.

The strawberry list for general planting, given in the order of their value: *Wilson's Albany*, *Charles Downing*, *Downer's Prolific*, *Crescent Seedling*. For general trial: *Seth Boyden*, *Sharpless*, *Cumberland Triumph*, *Miners*, *Pacific*, *Red Jacket*, *Pioneer*,

**MAKE AN ASPARAGUS BED.**

Asparagus is as easily raised as anything that grows in the garden, and yet it is comparatively rare to find it upon the farmer's table. The reason may be that much nonsense has been published about the difficulties of raising it, and that we have to wait two or three years for the full maturity of the plant. It is true that a full crop will not be given in less than three years, but when the bed is once made, the job is done for a dozen or twenty years. If made this spring, there will be one year the less to wait. Any good well-drained soil that will bear corn is suitable for asparagus. Put in a half-cord of manure for every four square rods of ground. Work it in thoroughly. Set out one-year-old plants, in rows four feet apart, and two feet in the row. They can be kept clean then with the harrow or cultivator. It should have cultivation once in two weeks, through the growing season. Cover the bed with manure in the fall, and fork it under in the spring. Cultivate thoroughly through the second season, and top-dress as before. The second season a few stalks may be cut in April and May, but there should be no close cutting until the third year, and this should not be continued later than the middle of June. The plants must have time to grow, and recuperate in midsummer, or the bed will soon fail. The secret of large fine asparagus is abundant manure, applied in the fall every season, thorough cultivation until the tops prevent, and stopping the cutting by the middle of June. The blanched asparagus that is so popular in some markets is secured by covering the beds with seaweed, straw, or other mulch. It is poor stuff in comparison with the long, green, tender shoots that have had the full benefit of the sunlight on a rich soil. The leading varieties are the "Colossal" and "Defiance," and are advertised by the seedsmen and other dealers each spring. —*American Agriculturist*.

**LAWNS.**

In response to the usual spring inquiry about the making of lawns, some one who is apparently competent to advise on the subject writes: "When a person has a piece of ground around his premises of half an acre or more near the city, it is rather expensive work to sod it down by the square yard, and hence information is wanted about the way to go to work to seed down an acre so that it will be a permanent lawn in the shortest space of time. The first work is to have it ploughed or dug all over, and worked till it is perfectly level, and with the top soil so perfected by the use of the harrow and the roller that it is equal to a good onion bed. And we would not be in a hurry to sow the seed, but let the surface lie for a time till the sun had warmed the soil and started all the seeds of weeds into life, so that it might be clean and free from these seeds first. Then the next subject for consideration is the seed. Of this we would make a mixture that would be equal to three bushels for an acre, of which the proportion would be as follows: A bushel and a half of Kentucky blue grass, half a bushel of timothy seed, half a bushel of red top, and half a bushel of white clover seed. The great defect in the sowing of a lawn is the

small amount of seed that is used. It is the same defect that causes so many pastures to fail. We notice that Sutton & Co., the great grass seed dealers of Reading, England, prescribe three bushels of their lawn mixture as the quantity required to seed down a lawn, and we know that it is not any too much."

Matthew Crawford, of Ohio, makes lawns in the following way, saving the heavy labour: or expense of turving the whole surface: He first grades the ground carefully, then chops up sods into small pieces about three inches square, and sets them in regularly about a foot apart, pounding them down and making all even. The whole surface is then soon covered with grass, as the turf has only to spread a few inches on each side to meet between the pieces. Care is taken to keep out weeds.

A correspondent in an exchange says:—"The coarser, strong-growing grasses, well attended to, make a good covering for a lawn, but necessarily coarse in comparison to the finger-leaved June grass. A clover catch can also be secured by the latter, forming a thick, soft mat, the surface of which suggests the furry coat of an animal. Nothing can be compared to it for a door-yard or lawn. By fertilizing, rolling and frequent moving, I have established quite a nice green, but in no way comparable with that formed in the door-yard by the little blue grass. Part of my ground—a ditch and its border—was sown with timothy; ground and seed clean. The set was very crowded, and formed a very pretty sight, and is so still. But with all the pains I have taken—and the success is complete—it is coarse compared with the velvet of the small grass near it. The further difficulty with the larger grasses is that they grow too rapidly, requiring two or three cuttings per week, whereas the 'weaker-growing June grass' demands only one cutting during that time."

### THE VIRGINIA CREEPER.

The London *Gardener's Chronicle* speaks highly of the ornamental effect of the Virginia creeper (*Ampelopsis*), when it has assumed its crimson hues in autumn, when the buildings which it covers "are clothed in a garb of great beauty, with its long, loose branches streaming in the wind, the colours almost as bright and vivid as the bracts of the Poinsettias. Planted in parks and pleasure grounds, so as to run up the trunks and about the branches of old oaks, the Virginia creeper gives life to the scenery and landscape, and exhibits in most pleasing contrast the more sombre hues."

### SOWING SEEDS.

Joseph Harris, of Rochester, in his new seed catalogue, gives his young customers some good directions about sowing garden seeds. He says they should be covered only deep enough to keep moist, and that small seeds, such as of lettuce, radish, Drummond phlox, aster, verbeum and pansy, need not be covered deeper than a sheet of writing paper is thick. If pressed into the soil and kept moist, they need not be covered at all. Petunia seeds are easily covered so deep that they will not grow; while peas will grow if

covered two or three inches deep. We may add to the above, that for out-door planting it is a good rule to cover seeds to a depth of three to five times their diameter, and no more, so that large seeds like corn and peas will be many times deeper than the minute seeds of the portulaca. All must have the three requisites of warmth, moisture and air (but not light), and if buried too deep the air will be excluded. Peter Henderson finds great benefit in covering the seed, after pressing into the soil, with a thin coat of finely pulverized moss, evenly sifted on, and watered with a fine rose.—*Country Gentleman*.

### CHEAP HOT-BED FRAMES.

It will soon be time to think about making hot-beds for starting early plants. Glass is so cheap that few persons will think of using anything else for covering the frames; but there are cheaper materials that will answer very well, besides being more speedily prepared. One of the best materials for covering frames, besides glass, is common white muslin, coated with the following composition:—Take one quart of linseed oil, one ounce of sugar of lead, and three or four ounces of rosin. Pulverize the sugar of lead in a little oil, then add to the other materials. Put all into an iron kettle and heat it until the rosin is dissolved and the other ingredients are thoroughly mixed; stretch the muslin upon the frames, and apply the composition while hot. Frames prepared in this manner will last for several years, if kept under cover when not in use.

### GYPSUM, OR LAND PLASTER.

This is undoubtedly the best and cheapest fertilizer in the world, and is absolutely necessary in greater or less quantity to every sort of land. We notice that, except in the oldest and best farming districts in Ontario, plaster is used almost exclusively on the sandy soils. This is a mistake. Evidence given in connection with the great agricultural depression in England teaches us that *heavy clay land should be more extensively used for grazing, and far more plaster sown on it to make good meadows.*

Gypsum is composed of eighty-three parts of lime, forty-six of sulphuric acid, and twenty-one of water of crystallization. The fertilizing property of land plaster is entirely due to gypsum. This substance, when chemically pure, is absolutely white, any colouring matter being due to impurities, such as clay-shade, limestone, etc. From evidence given before the Ontario Agricultural Commission, it was conclusively proved that it is *impossible to adulterate white land plaster*, for the simple reason that there is nothing it would pay to adulterate it with, while the very colour and extra weight of grey plaster shows it is adulterated with limestone, clay-shade, etc., to what extent the chemist alone can tell. Therefore in buying land plaster that is *not white, so much money is thrown away on useless stone* which has no fertilizing properties, but has got mixed with the pure gypsum. American is grey; therefore our Canadian white should receive patronage from farmers, if only from the fact that the white is 30 per cent. purer.

### CREAM.

THERE IS NO UNBELIEF.

Whoever plants the seed beneath the sod,  
And waits to see it push away the clod,  
Trusts he in God.

Whoever sees 'neath winter's field of snow  
The silent harvest of the future grow,  
God's power must know.

YOU cannot make a horse drink. It is different with men.

WHEN is a lamp in a bad temper? When it's put out, of course.

It takes a smart man to conceal from others what he doesn't know.

WHAT fruit does a newly-married couple most resemble? A green pear.

Through primrose tufts, in that sweet bower  
The poriwinkle trail'd its wreaths;  
And 'tis my faith that every flower  
Enjoys the air it breathes.

—Wordsworth.

THE most pleasant time to bathe during cold weather is last night or to-morrow morning.

"YES, sir," said Mr. Gallagher, "it was funny enough to make a donkey laugh. I laughed till I cried."

HENS scratch up flower beds only when they are barefooted. That's why women run out and "shoo" the hens to keep them from doing damage.—*New Orleans Picayune*.

SAID Edith to her doll: "There, don't answer me back. You mustn't be saucy, no matter how hateful I am. You must remember I am your mother!" We know several homes where Edith might have imbibed that principle.

"How do you pronounce s-t-i-n-g-y?" Professor Stearns asked the young gentleman nearest the foot of the class. And the smart boy stood up and said it depended a great deal whether the word applied to a man or a bee. "Go to the head, young fellow."

### TWO PICTURES.

An old farm-house, with meadows wide,  
And sweet with clover on each side;  
A bright-eyed boy, who looks from out  
The door with woodbine wreathed about,  
And wishes his one thought all day—  
"Oh! if I could but fly away  
From this dull spot, the world to see,  
How happy, happy, happy,  
How happy I should be!"

Amid the city's constant din,  
A man who round the world has been,  
And amid the tumult and the throng,  
Is thinking, thinking all day long:  
"Oh! could I only tread once more  
The field path to the farm-house door,  
The old green meadow could I see,  
How happy, happy, happy,  
How happy I should be!"

LITTLE Isa, three years old, in her father's absence at business, happened to let a china plate fall. Her mother was very sorry for the accident, as it broke her set. At night she told her husband about it, and he said, "Why, Isa, how did you do such a careless thing?" "This way, papa," said she, quick as a flash, taking another plate from the tea-table and dropping it on the floor.

A LADY whose love of flowers and whose success in cultivating them are far in advance of her own culture, was heard by a passer-by to call to one of her family the other day, "Mary, go show her my bed of double spittoonias, that grow doubler and doubler every day." Then she added, "And when my salivas are bloomed out you must be sure and come and see them!"—*Elmira Free Press*.

## HORSES AND CATTLE.

### ORIGIN OF THE SHORTHORNS.

There is much obscurity about the early history of the now justly celebrated breed of cattle known as the Durham or Shorthorn. It is admitted that they had a dash of Ayrshire blood in them, and if the conjecture set forth in the subjoined letter as to the parentage of "Hubback" be correct, they also had a strong infusion of Holstein blood. These two facts, if such they be, account for the extraordinary milking qualities of the Shorthorns during the earlier period of their career. It is found that, by careful breeding, these valuable qualities can be reproduced, and it is questionable whether, all things considered, we have a better dairy cow to-day than the Shorthorn, when bred for that use. The great size of the Shorthorn, and its aptitude to fatten, render it very valuable for beef, when no longer available or profitable for milk. We will only add, that the writer of the following letter is well known to the Editor of this journal, who can vouch for his probity and trustworthiness as a deponent to the facts he narrates. We hope to have other contributions from his pen on this subject.

Editor RURAL CANADIAN:

Having lately been favoured with a perusal of the Nineteenth Annual Report of the State Board of Agriculture of Michigan, my attention was directed to the article on Shorthorns, page 232 of said volume. I think that I am able to throw more light on the subject than Mr. Allen, author of the American Shorthorn Herd Book, and also to correct a few legendary flights of imagination in which he has indulged. The article in question never reaches the primary root of the question—what was the beginning of the Shorthorn breed? I propose, through the medium of the RURAL CANADIAN, to lay before the public a distinct and authentic account of its origin. Let me premise by saying that the writer of this article was born in the very neighbourhood, and was acquainted in their day with the originators of the Shorthorns, many of whom he could number amongst his intimate friends. Mr. Allen seems to think that the county of Durham is the original home of the Shorthorn, and fits in a legendary story of St. Cuthbert and the image of a cow, on the front of Durham Cathedral, to corroborate his view, as also the wild cattle in Chillingham Park, as instances of the original breed of Shorthorns roaming in ancient times; and little dreaming that in the nineteenth century they would be eulogized by Mr. Allen, and form an article in the Report of the Michigan State Board of Agriculture, United States N.A. I shall now proceed as briefly as I can to give a correct history of the commencement of the Shorthorns. The latter part of their history is too well known for me to employ my pen upon it. As I write from memory, the reader will excuse my not giving dates, as I have not memoranda at hand, but the facts I narrate have no mythical stories connected with them. In the village of Hutton, North Riding of Yorkshire, some ten miles to the north-west from Richmond, and along the banks of the River Tees, which separates the county of Durham from the North Riding of Yorkshire, lived a poor man of the name of Page, whose daily employment was working

for the farmers near the village. He kept a single cow, whose summer pasturage was a road on the north side of the village. In the usual course of things this cow had a calf, but to what bull is unknown. It was always supposed that this calf had for its sire some bull that was travelling along this road, which was much used by drovers, who brought stock along it for sale further south, selling such stock at regular fairs along the route. These animals were brought from Holland, and disembarked at Sunderland or Shields, sea-port towns. This is all that is known on the subject, and there is every probability that some Holstein male animal driven along this road was the sire of the Shorthorn bull "Hubback." As to how the peculiar qualities of the calf "Hubback" came to be known, I may say that it is the practice with cottagers in Hutton, who are unable to keep more than a single cow, to sell the calves to the farmers around. At this time Page was working for a farmer of the name of Thomas Newby, and told him he had a nice calf for sale. Newby arranged to go to see it. Knowing that one Collings was engaged in experiments with a view to improve stock, Newby invited him to go with him, and they went together. One account has it that they met accidentally at Page's. However, when they saw the calf they were both so struck with its appearance and handling that they were each anxious to obtain it. However, as Newby had the first offer it was settled that he should have the calf, and Collings was to have the first use of him. It was named "Hubback" in consequence of a weakness in its back, and tradition says he was only the sire of one calf. His subsequent history is short. Newby fell into insolvency, and the calf came into possession of Messrs. Collings. As to his ultimate fate there is no tradition in the locality. The colour of the calf was said to be white; and while the noted breeders in that locality breed to suit a popular taste in favour of roans, white is still the standard colour, to which the breeders of the Shorthorn keep their best stock. There are many other strains or colours at present in vogue, but the nearer any animal approaches to white in its hair, hoofs and horns, the more it may be said to have in its constitution the stamina and peculiarities of its ancestor, the bull "Hubback." I need not further enlarge on the subject, but I now endeavour to rescue from oblivion a part of the early history of the Shorthorns, and which I think is not generally known to the admirers of this noted breed of cattle. Yours respectfully,

A DESCENDANT OF THE ORIGINAL BREEDER  
OF THE SHORTHORN BULL "HUBBACK."  
Listowel, April 4, 1882.

### HOW TO JUDGE A HORSE.

The weak points of a horse can be better discovered while standing than while moving. If he is sound, he will stand firmly and squarely on his limbs without moving any of them, the feet planted flatly upon the ground, with legs plump and naturally poised. If one foot is thrown forward, with the toe pointing to the ground and the heel raised, or if the foot is lifted from the ground and the weight taken from it, disease may be suspected, or at least tenderness, which is a precursor of disease. If the horse stands

with his feet spread apart, or straddles with his hind legs, there is weakness in the loins and kidneys are disordered. Heavy pulling bonds the knees. Bluish or milky cast eyes in horses indicate moon blindness or something else. A bad-tempered horse keeps his ears thrown back. A kicking horse is apt to have scarred legs. A stumbling horse has blemished knees. When the skin is rough and harsh, and does not move easily and smoothly to the touch, the horse is a heavy eater and his digestion is bad. Never buy a horse whose respiratory organs are at all impaired. Place your ear at the side of the heart, and if a wheezing sound is heard it is an indication of trouble—let him go.

### THE FIRST CALF.

It is often the case, when a heifer has her first calf, says the *Indiana Farmer*, that the farmer thinks she will not give more milk than will keep her calf in good condition, and lets them run together to teach her the mystery of being milked when she has her next calf. In this decision there are two mistakes that go far to spoil the cow for future usefulness. Cows are largely the creatures of habit, and with their first calf everything is new and strange to them, and they readily submit to be milked, and think it is all right; but suffer them to run with the calf the first season, and a vicious habit is established that they will hardly forget in a lifetime. If they ever submit to be milked quietly, it is evidently under protest. But there is a greater objection than this. The calf, running with the cow, draws the milk every hour or two, so that the milk vessels are at no time distended with milk, though the quantity secreted in a given time may be large. But this is the natural time to distend the milk ducts, and expand the udder to a good capacity for holding milk. When, with her next calf, you require the milk to be retained twelve hours, the udder becomes hard and painful, and the milk leaks from the teats, or, more likely, nature accommodates the quantity of the milk secreted to the capacity to retain it, and the cow becomes permanently a small milker. Much of the future character of a cow depends on her treatment with her first calf.

### PINK-EYE.

The following *multum-in-parvo* account of this now prevalent disease among horses is from the veterinary department of *Turf, Field, and Farm*:—

"Pink-eye" is simply a radical form of influenza, and like inflammatory diseases is characterized by different stages, the first being always febrile. Just where to draw the line between the attack and development of the malady is too fine a point for us, and as it is not essential we will leave it for those to decide who are better versed in pathology than we are. It is not contagious, and there is no necessity to keep an infected case isolated. The treatment consists at first in reducing the fever; this may be accomplished by a liberal use of sedatives and sweet spirits of nitre. When the pulse begins to recede, change to stimulants and tonics; keep the animal warm, give plenty of water to drink,

with nutritious and soft feed, and if partial paralysis follows as a sequel give thirty-grain doses of nux vomica three times a day in his feed. Avoid violent exercise until the animal is thoroughly convalescent."

#### GRADE JERSEYS.

A writer in the *New York Times*, in speaking of how to secure the best dairy cows, advances the theory that grade Jerseys—that is, calves produced by breeding from a pure bred Jersey bull with cows of another breed, the Ayrshire, for instance—will result in the production of a better breed for dairy purposes than the pure Jerseys. He holds that widespread advantage of the Jersey will be found in the use of the bull, not in the production of pure blood animals, but by crossing with other breeds. As to the relative milk producing of the grade Jerseys and thorough-breds, this writer says:—

"It is a well-established fact that the Jersey bull always transmits the rich property of milk into whatever breed he serves. To sustain my opinion, I will place one or more of my cross-breed, of the same age, in the hands of any fair, disinterested gentleman, as a test, for ten consecutive days, against any thorough-bred Jersey heifer or cow of any breeder in New England. I care not what particular strain of blue blood she has, from the Alphea to the Coomasie, a descendant of Taintor's importation of 1850, or Kent's of 1881, weigh the heifers or cows, weigh the feed, care and feed to be alike, in proportion to weight of animals, and if my cross-breeds do not yield as much butter, *pro rata*, to their weight and feed, I will pay the testing expenses, and will contribute \$100 for a special premium at the World's Fair to be held in Boston, for the best cow exhibited there of any breed, or *vice versa*. The same condition shall apply to my opponent. I make the proposition only to show my faith by my work."

#### IS YOUR HORSE BALKY?

If he is, and you cannot find any means of stirring him, try the effect of patience. Here are too odd methods involving patience that a London paper suggests: "1. Tire your steed out by remaining perfectly quiet until he starts of himself. I once sat in my cart nearly two and a half hours in this way. 2. Now and then a horse is me' with that refuses to draw at all; put him in a cart in a shed, and keep him there until he walks out. In one instance that came to my knowledge the obstinate one was thirty-six hours in the shafts before he gave in."

#### HOW TO TAKE CARE OF HARNESS.

A harness that has been on a horse's back several hours, in hot or rainy weather, becomes wet; if not properly cleaned, the damage to the leather is irreparable. If after being taken from the horse in this condition, it is hung up in a careless manner, traces and reins twisted into knots, and the saddle and bridle hung askew, the leather when dried retains the shape given it when wet, and when forced into its original form damage is done the stitching and the leather. The first point to be observed is to keep the leather soft and pliable. This can be done

only by keeping it well charged with oil and grease. Water is a destroyer of these, but mud and the saline moisture from the animal are even more destructive. Mud, in drying, absorbs the grease and opens the pores of the leather, making it a prey to water, whilst the salty character of the perspiration from the animal injures the leather stitchings and mountings. It therefore follows that, to preserve a harness, the straps should be washed and oiled whenever it has been moistened by sweat or soiled by mud. If a harness is thoroughly cleansed twice a year, and when unduly exposed treated as we have recommended, the leather will retain its softness and strength for many years.—*Boston Journal of Chemistry*.

#### GUERNSEY CATTLE.

There has been a feeling widely prevalent that milk and beef were antagonistic qualities—that a good milch cow would necessarily make poor beef. Facts do not sustain this notion. Shorthorns are often great milkers, and such cows, when dry, fatten well. The Dutch cattle fatten well also, and so do the Devons, and yet both, especially the former, are famous for milk. The Guernseys have been bred for milk and butter, and at the same time for beef points. The yellow colour in the skin and in the butter has also been cultivated, so that it is exhibited in an extraordinary degree. The cows average fully one-fourth and possibly one-third heavier than the Jerseys, and give on an average a proportionately larger quantity of milk. After they have been longer tested, no doubt there will be found many cows which will compete closely with the famous Jerseys so well known as great milk and butter cows.—*American Agriculturist for March*.

#### MIXED FEEDS.

One of the strong points in favour of the much-praised ensilage is, that animals eat it with a relish. No food, however rich it may be in food elements, will prove profitable if the farm stock cannot be made to take to it kindly. It is on this account that a mixing of feed has been so successful. Sameness palls upon the appetite; a change of diet encourages and sharpens it. A few roots cut, or, better, pulped, and given to the animals, will make them eat the corn fodder or cut straw with all the greater relish. Try and make a little change in diet of the animals, even though it be only once a week, with some roots, potatoes, apples, etc. It will pay. The more an animal eats, and healthfully digests, the more profitable it is.

#### BIG HEAD IN HORSES.

The so-called big head is a disease of the bony structure. It is not always confined to the head, but may develop in any part of the skeleton. It consists in a gradual softening and enlargement of the bones, which become spongy and porous from want of proper nutrition. It is a disease of young animals, and, being mainly due to malnutrition, such animals should be kept on liberal, wholesome, and very nutritious food, such as oats, barley, and bran, mixed, ground or steamed, as chewing is often slow, painful and difficult. Dur-

ing the summer season pasturage is beneficial. Local applications, such as blistering, firing, etc., generally proves useless, because the disease is of a constitutional nature, affecting the whole system. For internal use tonic remedies may be employed, such as a drachm of peroxyde of iron and two drachms each of powdered boneset and gentian, mixed together, and such a dose given among food morning and evening during every other week. Such animals should not be used for breeding purposes.—*Prairie Farmer*.

#### VALUE OF THOROUGH-BREDS.

How shall the average farmer avail himself of thorough-breds? By getting a good bull of the breed best adapted to his location, farm and farming. From him he will raise good half-bloods. A second will give service by a thorough-bred, three-fourths blood, and the stock improved every time. One bull will do for half a small town, and will soon leave his mark on the stock. How soon \$50 or \$100 would be returned in the enhanced value of the stock, its earlier maturity, its better size, its dairy improvement, or its larger returns for food consumed! How little this is thought of as it should be! A good Cotswold ram, or any other standard breed, will improve each flock in progeny in a sum nearly equal or exceeding his own cost every year, according to the size of the flock on which he is used.

BOILED potatoes are said to be a cure for diarrhoea in cattle. Feed warm, and give as much as the cattle will eat.

THE *Michigan Farmer* says that polled (hornless) cattle are not only more economical to keep, but are also more desirable for beef. Twelve Aberdeen cattle can be kept on the land that would only suffice for ten Shorthorns; and the old cows, properly fattened, will sell to the butcher for two to four cents per pound more than Shorthorns in the same condition.

IN breeding horses for general use, after securing the proper size and figure, the endeavour should be to get those which have a free-and-easy, natural walk of four and a-half to five miles per hour, and a trot of seven to eight. Such animals would be much more useful than those which can be driven at a three or four minute gait for a single mile, but whose ordinary paces are less than those spoken of above; and the former would out-work and out-travel the latter considerably in a succession of days.

JOHN MASON, of Hullet, has sold his stallion colt "Time o' Day" to Colquhoun & Dow, of Hibbert, for \$1,200, and has refused \$2,000 for "Boreland Chief."

LIEUTENANT-GOVERNOR CAUCHON has purchased the Goldstein farm at Headingly, 1,500 acres, for \$40,000. He intends to raise thoroughbred horses on the farm.

A GENTLEMAN who was purchasing horses in the vicinity of Goderich to ship to Winnipeg, received a letter a few days since stating that there were 1,700 horses in the market there unsold. The majority of them were from Ontario. He will send his stock to the Western States.



## GOOD PAY TO AGENTS.

Agents wanted in every village, town, and township, to make a thorough canvass for the RURAL CANADIAN. Liberal inducements. Work to commence at once. For full particulars address

**O. BLACKETT ROBINSON,**

5 Jordan Street, Toronto.

Publisher.

LETTERS on business should always be addressed to the PUBLISHER; while communications intended for insertion in the paper, or relating to the Editorial department, to ensure prompt attention, must be addressed to EDITOR RURAL CANADIAN.

## The Rural Canadian.

EDITED BY W. F. CLARKE.

TORONTO, APRIL 15th, 1882.

### THE FARMER'S INSECT ENEMIES.

We call special attention to the article in this issue under the heading of "Field and Farm," on insects injurious to grain and grass. It will be followed by other articles of a similar character as opportunity and space permit. This is a subject which is far too much overlooked. As an example of what one sensible man thinks of the prevailing indifference to this matter, we quote the following, which is "going the rounds" of the rural journals:—

Mr. C. D. Zimmermann, in an address before the Western New York Horticultural Society, upon the value of papers containing correct entomological information, said:

"Why do we fruit-growers grope about as with a smoky lantern for remedies for insects, sure to pick up some self-acting 'sure cure' for the curculio or other pest, that some editor invented to fill up his columns? Why not take a paper on the subject that will give us sound advice (no patent-medicine remedies), and whose editor will be glad to receive specimens of troublesome insects, give us the name and a remedy? Is the subject not of enough importance?"

"When a thief steals a peck of apples, some of us will invest from \$5 to \$25 for a lawyer's advice, etc., how best to capture the thief. But when the codling moth breaks into our orchards and destroys from one-fourth to one-half of our crops, we are not willing to give an entomological lawyer \$2 a year to keep us posted as to how best to fight the insect thieves."

### EXCLUSIVE WHEAT-GROWING.

The most attractive charm of the great North-West to many is the continuous and unfailing yields of wheat in that region, of which such glowing accounts are published from time to time. It is currently believed that the resources of the soil for this crop are absolutely inexhaustible. Only the other day it was affirmed in our hearing that at one of the Hudson's Bay stations in that country, wheat had been grown fifty years in succession on the same land, with the exception of a single season, and that the last yield was as abundant as the first. It must indeed be a magnificent soil that will bear such murderous farming. But it is only a question of time, and when nature's day of judgment comes, as it surely will, sooner or later, the exhaustion will be as direful as the original productiveness was wonderful. The fact that continuous wheat-growing is a suicidal system of agriculture, wherever and by whomsoever pursued, cannot be too frequently reiterated; and those who are gone or are going to Mani-

toba to pursue it, cannot be too soon warned of the inevitable and ruinous results that will follow. We clench these few remarks with the following extract from the *Prairie Farmer*:—

"Thousands of British subjects are this year locating in the great wheat region lying between Ontario and British Columbia. Indeed the rush has already set in, and the railroads leading thither are literally blocked with passengers and their personal effects. The tide is swollen by people from Canada and the States. Land along the proposed line of the Canada Pacific Railway, which is to penetrate a country especially adapted to wheat farming, greater than the wheat territory of all Europe, is being rapidly absorbed by great capitalists, and in the Manitoba region by actual settlers, at an astonishing rate. The wheat centre is certainly moving to the northward. Dakota will not enjoy many years of supremacy as a wheat-producing country, if all is true that we now hear of the wonderful British possessions. Still, after the wave has passed, the vast north-west of the United States will be found to be adapted to other profitable and more stable industries. Growing grain for shipment is at best a low type of farming—ephemeral, uncertain, and, in the long run, unprofitable in the extreme."

### THE FAST HORSE AT FAIRS.

The "agricultural hoss trot" has done great injury to the fairs across the lines, and it seems very undesirable that such a demoralizing institution should gain a foothold in connection with the exhibitions on this side of the lines. Our Provincial and other leading fairs have, with the exception of the Toronto Industrial, kept themselves entirely free of this evil, and we hope the managing men of our great metropolitan exhibition will see it their duty to part company with it. The *New York Tribune* gives the following summary of the *pros* and *cons* of the argument in relation to this matter, as embodied in recent Michigan discussions:—

Mr. T. R. Harrison, Paw Paw, Mich., at the recent ninth annual meeting of the Association of Agricultural Societies of that State, brought up the subject of trotting at fairs, and said that in his county the offer of large premiums for fast horses brought to the show last year "a class of persons who were no credit to any community." A Mr. Baldwin, with the too common but no less strange moral obliquity, maintained that the one point for the management to consider is means of supplying "the needed revenue." If the race promises to "raise the money," that is "the policy to pursue to make the affair a success." Mr. A. B. Copley, of the Volinia Farmers' Club—may his tribe increase—combated this short-sighted and demoralizing view with the earnestness and force that right thinking inspires. Better, he said, have no exhibition, than attract gamblers and rowdies, and "teach all our young men the tricks of the turf." Such a course must lessen, if not neutralize, the opportunities for useful teaching that a properly-conducted fair always affords, and "be a disorganizer fatal to real success." The arguments of the opposition, as summed up by the *Michigan Farmer*, show a lamentable absence of the right feeling.

The first is that "the managers of fairs are not the conservators of public morals." Cain also disclaimed being "his brother's keeper." Again: "The tone of sentiment in a community where the fair is located must be the gauge of action." If all persons in positions of influence took such a view, progress of morals or growth of any kind would be discouragingly slow, if not utterly crushed out. Finally, "It is not the province of the Board (except by egotism) to say what is evil, and fairs must be run on business principles." This is mock humility, and the sentiment back of it would find favour with every blackleg or loafer or parasite of any kind. The frankness of such avowals is, however, unusual, and the poison of the doctrine as it appears in the light of cold type ought to be sufficiently repulsive to serve as its own antidote.

### TREE MUTILATION.

About this time of year there goeth forth, equipped with saw, axe, and ladder, a disguised fiend calling himself the "tree pruner." His true name is "tree butcher." Ignorant farmers, unenlightened villagers, and muddle-headed city fathers, let him loose among the fruit and shade-trees, to commit what havoc he pleases. He assails the defenceless objects of his hate, and soon there is an army of despoiled trunks, lifting up their amputated limbs to high heaven in mute appeal against the cruel wrongs that have been done them. He leaves desolation and disfigurement in his track. Orchards are robbed of their beauty, shrubberies laid waste, and highways made unsightly. Mischief is done which the growth of years cannot repair. And all for what? Nobody can tell.

A tree left to its natural development, with judicious training and pruning, is "a thing of beauty and a joy forever." The hand of man should never be observable on it. All its growth and contour should seem to be spontaneous and self-induced. Whenever the work of the pruner obtrudes itself on the notice of the beholder, that work has been badly done or overdone. With proper management, it need never be necessary to cut off a branch bigger than one's thumb. When a tree is first planted, the head should be formed in miniature outline, and all the rest can be done by pinching here and there a shoot, or severing here and there a twig. The botching and butchering that are perpetrated every spring disgrace our civilization and proclaim our ignorance.

Many orchards are slain outright by this ubiquitous fiend in human form. The removal of a large limb from a tree is like the amputation of a man's limb. It causes a terrible strain on the vitality of the vegetable or animal organism. Were a man to have both arms cut off between the elbow and shoulder, and both legs cut off just above the ankle, it is doubtful if he would survive the shock. Fruit trees treated in this manner often die, and their owners wonder what ails them! If they are not absolutely killed, they have a long and hard struggle for dear life. Meantime, they bear no fruit, and with difficulty put forth a meagre show of leaves. Their usefulness has gone, along with their beauty.

If farmers would read agricultural papers,

and study books on arboriculture, they need never employ the peripatetic tree butcher. It would be pleasant pastime for them to walk among their trees in hours of comparative leisure, and give them what training and tutoring they need. The money thrown away on tree-slaughtering tramps would, in course of time, buy a collection of books on orchard and forest-tree management. Orchards and shrubberies would become scenes of delight and sources of profit, instead of being eyesores and encumbrances, as they too often are.

As for shade-trees in villages, towns, and cities, they grow, if at all, under difficulties. The minority plant them, and the majority destroy them. Mischievous urchins break their backs while they are mere saplings. The ubiquitous cow cures the itch between her horns by rubbing them until they are uprooted. When they get large, if they succeed in so doing, the municipal councillor or alderman who is Chairman of the Committee on Streets and Sidewalks, launches the tree-butcher at them. If a common-sense man, who knows a little about tree-life, holds the office of chairman of said committee for a few years, there is, by-and-bye, a change. Some nincompoop succeeds him; forthwith there is a crusade against the trees; and in the course of a few hours a whole town is despoiled of its leafy beauty.

The mutilation of trees, and their unnecessary destruction, has led to the organization, in various parts of the United States, of improvement associations, to which the municipal authorities commit the superintendence and charge of this matter. Thus those who have made the subject their study, and take an intelligent interest in it, give the ripe fruits of their knowledge and experience to the public. It is an eminently wise arrangement. That a turn in the wheel of municipal government should put the power of tree mutilation and destruction into the hands of a barbaric ignoramus, is a contingency against the occurrence of which there ought to be an effectual safeguard. But the evil will never be thoroughly corrected until the people at large are schooled into at least the primary principles of arboriculture. Sometime in the distant future, possibly, this will be considered as important a branch of general education as the study of abstract mathematics.

#### AGRICULTURAL AND ARTS ASSOCIATION.

At a recent meeting of the Council of the above-named body, Mr. Chas. Drury, of Crown Hill, was elected President, and Mr. McKinnon Vice-President, for the ensuing year. Mr. Graham was re-appointed Treasurer. The following gentlemen were declared elected as members of the Council:—Division No. 1, P. McKinnon, South Finch; No. 2, Ira Morgan, Metcalfe; No. 3, Joshua Leffe, Gananoque; No. 4, J. B. Aylesworth, Newburgh. A resolution was passed thanking Hon. S. C. Wood for the hearty manner in which he had co-operated with the Board, and obtained the passage in the Legislature of the amendments to the Agriculture and Arts Act. The scheme of Prof. Mills in regard to agricultural education and competitive examinations was briefly considered, and laid over to a future meeting. Monday, 18th September, was fixed as the

date of next Provincial Exhibition, which was decided to be held at Kingston—a decision which would have been much more graceful and welcome had it been arrived at months ago. We are glad that in this particular wise counsels have prevailed, though tardily. Mr. Albert H. White was appointed General Superintendent of the Exhibition. The next meeting of Council was appointed to be at Kingston, April 12th. It was decided to advertise for printing tenders in both Toronto and Kingston daily papers. A report of the Committee on Finance was presented, recommending that the salary of the Secretary be fixed at \$1,800 for the present year, with a special allowance of \$200 to employ assistance in reference to the Herd Book; that Prof. Smith's account for \$100 be paid; that the Solicitor be instructed to recover the amount still due by the late Secretary; and that the recommendation of the Secretary to obtain expert reports on the live stock at the Exhibitions and print them, be adopted. The report was adopted without discussion. The Council then adjourned.

#### SKETCHES OF CANADIAN WILD BIRDS.

BY W. L. KELLS, LISTOWEL, ONT.

##### THE PAUPER, OR COW BIRD.

The plumage of the male of this species is deep black, except the neck and breast, which has a brownish hue; that of the female is of a brownish colour. Its length is eight or nine inches. It generally goes in parties of six or eight, and frequents the pasture fields, and the margins of the woods in the older settlements, being seldom found in the newly-settled districts. It is often found where cattle and horses are feeding—sometimes in the shadow or among the feet of these animals. Its object there is probably to procure the flies that are disabled by the whisking tails of the quadrupeds, or to feed on grubs that are found in their excrements. The affectionate care which is exhibited by most birds for their nest and eggs is not evinced by the cow bird. It neither makes a nest, hatches its eggs, nor feeds its young. These obligations it imposes on other species, by depositing its eggs in their nests. The nests generally chosen as the cradle of its progeny are those of the sparrows and warblers, notably the chipping bird and the weaver; but the same bird deposits only one egg in the same nest. This is of a grey colour, spotted with brown. The young paupers do not, like the young cackoos of Europe, try to evict their fellow-nestlings, but their superior size and voracity is a heavy tax on the industry of their foster-parents, and often causes their own young to starve to death. When impelled by the only maternal impulse with which nature has endowed her, the female leaves her companions, and goes in search of a nest of some other bird, her mate usually follows, and while she is seated he perches on some neighbouring branch, and by a peculiar note gives her warning if danger approaches. Should she find a nest the eggs of which have been for some time incubated, which she either knows by instinct, or discovers by breaking one, she does not deposit an egg therein, but goes to seek another where incubation has not yet commenced.

After the harvest, these birds collect in large flocks and make southward, and they are seen no more until the return of summer recalls them again to the budding woods and emerald fields of Canada.

##### THE BOBOLINK.

This much-admired and beautiful bird arrives in Canada in the early part of June, and in the meadows where it takes up its summer residence, forms one of the chief objects of attraction; for its many-noted jingling song, which it warbles with much animation, and over the performance of which it seems to pride itself, is generally heard "from early dawn till dusk of eve" for about six weeks, or from the time of its arrival until the young are fledged. It often sings standing on the fence, a stump, or a tall stalk of weed or grass, but frequently sings while hovering over the clover tops, or circling round the field; its wings meanwhile keeping time to the mellow music of its notes. The length of this bird is between seven and eight inches; the general colour of the male is black, the back and wings being ornamented with patches of white and yellow; that of the female is dusty brown, with darker mottlings. The male only is gifted with the power of song, and his conduct towards the female seems cruel, as he will pursue her with great ferocity whenever she makes her appearance above the grass; hence her time, until the young are able to fly, is mostly passed in concealment. After this the males suddenly disappear, and the females and their young assemble in large flocks, and feed upon the fields of grain until they take their early departure for more southern latitudes.

The bobolink is not found in the backwoods, nor until the country is pretty well cleared up does it make its appearance in the rural districts. Its nest is made upon the ground, among the grass and clover; the eggs are four to six in number, and of a light blue colour, spotted with brown. It feeds upon insects and various kinds of seeds and grain. In the Southern States it is called the rice bird. It is found there in vast flocks, and commits great havoc in the rice fields.

THE *Sarnia Observer* of the 7th instant says:—

"The current number of the RURAL CANADIAN, the now agricultural paper, of which Rev. W. F. Clarke is editor, may be taken as a fair specimen of what that journal aims to be. The selections and original articles are of the practical sort that will commend themselves to Canadian agriculturists, as they are specially adapted to the conditions of agriculture in this country. This is an advantage which few, if any, of our agricultural journals possess, as their theories and advice are based generally upon results achieved under conditions of soil and climate foreign to this part of the continent. Mr. Clarke's experience and practical knowledge enable him to select what is suitable, and criticize from a Canadian standpoint the new theories and processes recommended by contemporary publications. The RURAL CANADIAN should have an extended circulation among Canadian farmers."

Mailed free to any address, for one year, on receipt of \$1.

THE honey crop of the United States for the year 1881 is estimated at 207,000,000 pounds; and it was not a good year for honey, either.

MR. H. BRANTON, of Talbotville, has disposed of his farm of 100 acres to G. Farnley of London township. The price paid was \$8,000.

FRESH strawberries and cabbage from Florida were sold in the Bonsecours market, Montreal, a fortnight ago, the strawberries being sold at \$1 per quart.

**SHEEP AND SWINE.****HAMPSHIRE DOWN SHEEP.**

A late issue of the *London Field* had an article on the autumn sheep sales, showing the present tendency in breeding sheep in England, in which some facts were stated about Hampshire Down sheep that will hardly be without interest in this country, especially so far as they relate to raising mutton sheep. After giving reports of sundry sales, showing prices, it says:

On these good prices may be penned a few words of comment. Now that long wool, even when it is of a lustrous character, is worth no more or less than 1s. per pound, and dark-faced mutton keeps at a high price, Lincolnshire and Midland counties flockmasters are turning their attention to the cultivation of a better class of mutton than it is known white-faced and long-wooled sheep produce. The demand for Hants-Downs ram lambs has therefore increased during the last few years. Thousands have been sold annually in Lincolnshire, Northamptonshire, Huntingdonshire, and Yorkshire. The numbers this year will, no doubt, be increased, of which the above prices are an indication. A point about the Hampshire sheep is exceptional. They are so large and vigorous, that ram lambs are preferred for use to yearling or older sheep. In fact, unless in the case of an exceptionally good ram, which proves himself capable of leaving a strong stamp of his own good qualities on his issue, a yearling or two-sheer sheep is never used, even by the flockmasters of

Hants and Wilts. These ram lambs are now in great demand on account of the great proportion of lean to fat they produce. This is why they are so suitable for crossing purposes with the large Lincoln ewes, which possess a large portion of fat to lean. By the way, too, brown, black mottled legs are thus produced; butchers can leave a bit of skin on the legs and shanks of their sheep in the carcass, and thus charge the price of the best cross-breeds or downs. Whether or not there will be a turn in the English wool trade we have at present no means of judging. But the increase in the produce of the foreign wool-growing countries has been so great within a few years, that it seems to be a better prospect for English flockmasters to improve the quality and price of mutton, rather than to look forward to an increased profit by the growth of wool. This will be sufficiently evident if the fact be recalled that the wool imported from Australia, New Zealand, South America, and some other minor foreign countries last year amounted to the sum of upwards of twenty-five million pounds sterling. At other sales of less noted flocks of this breed, ram lambs have made good prices.

Stock that will not pay to keep in good condition at all seasons is not worth keeping at all.

**NOT LESS FAT, BUT MORE LEAN WANTED.**

EXTRACT FROM AN ADDRESS BY F. D. COBURN, ON "THE HOG WITH A STREAK OF LEAN AND A STREAK OF FAT."

While in recent years patient care and skill in breeding have produced an animal that can in a short time be converted into an animated, walking lard-tub—and, in that respect, a stupendous improvement on any hogs of their size the world has ever seen before—the "artist" is yet to appear who can produce at will, such as have in happy unison those layers of fatty and muscular tissue known to connoisseurs as marble meat, and to our plain-spoken farmers as a streak of lean with a streak of fat, or, "streaky bacon."

At the present time the breed of hogs a person has is pretty sure to be claimed by him as of those having the greatest percentage of

of it solid in the porcine family, like the victims of it liquified in the human family, are each year numbered by tens of thousands, among whom are always the finest specimens—the brightest and best. Corn sustains something of the same relation to hogs that beans do to men; notwithstanding the fact that beans are considered as one of the most wholesome single rations known for soldiers, more men, I dare say, fell in the late war victims to beans than to bullets. That our western farmers, especially in Kansas and Nebraska, have in many instances apparently lost sight of the fact that the hog is a grass-eating animal, I account for largely by the scarcity of timber for cheap and ready fencing material for pastures, and the lack, as yet, of tame grasses, of which there would, even now, be much more were not fencing so expensive. Besides, growing tame grasses has as yet been largely an experiment on our western prairies, and the seed is seldom sold for aught but ready cash, which, alas! too many of us do not always possess.

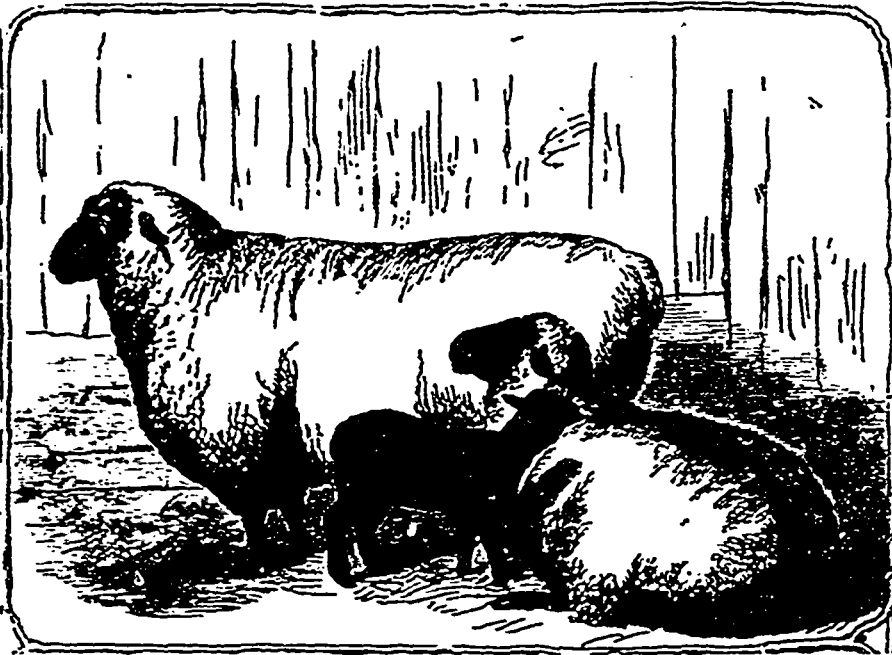
While most of us are too poor to fence extensive pastures, most of us can enclose ground for a goodly plot of artichokes, oats, rye, or alfalfa (and Prof. Shelton says one acre of alfalfa will yield as much pig feed as five acres of artichokes), or, at all events, can plant sweet corn to cut up and feed green as a part of the summer ration, insuring better growth and better health for the porker, and a fatter pocket-book, better health, a better coat, and a cleaner conscience to the owner.

The time is past when lard is to be considered the sole end of a hog; it has ceased to

have exceptional value, and the desideratum is, and will continue to be in our generation, the production of flesh rather than fat; or, rather, a carcass in which both are blended in palatable proportions. I would surrender no jot or tittle of any of the vast improvement we have already made, and only plead for others still, that we can and should and will attain.

**EXTRA FOOD FOR HOGS.**

Coal ashes and clay are beneficial for hogs when shut up to fatten. Hogs are fond of cinders, coal ashes and clay, and improve in condition in eating a certain portion of them every day. Some persons are unable to account for this singular propensity in swine. Poultry are very fond of egg shells, lime, sand, and it is well known these substances are necessary in order to form the shells, and to furnish materials for bones for fowls. Now, it is reasonable to suppose that swine eat ashes for the purpose of supplying the material for their bones, and this singular instinct in animals so low in the scale of intelligence is truly wonderful, for ashes contain ingredients necessary to form these, viz., clay, soft coal, lime, rotten wood, etc., but when they are penned up, they endeavour to supply the material necessary for keeping up their frames by devouring ashes and cinders.



HAMPSHIRE DOWN SHEEP.

lean meat, whether that breed be the Chester, Essex, Suffolk, Poland-China, Jersey Red, or Berkshire; while I doubt if any man on the face of the earth has definite, reliable data that would enable him to decide satisfactorily even as between any two breeds which excel in that direction. As lean meat is muscle, and activity tends more to the development of muscle than fat, and the Berkshires are claimed by their friends as being reasonably active, and by their opponents as entirely too much so, I am of the opinion a thorough test would show their meat as well or better marbled than that of any other of our improved swine, though I do not know that it is, nor do I believe any one else does.

The hog that otherwise fills the bill, and is properly lean and fat at the same time, is yet to be invented; this vale of tears has not yet been illumined by his jocund presence, or the throats of its pilgrims lubricated by rashes from his unctuous carcass. Whenever that happy day arrives, and his brief tale of life concluded, with his body offered as a sacrifice to the insatiate desire for more lean meat and "red sop," it will be found the product of much besides Indian corn "straight."

While Indian corn is the most easily produced and convenient single article of hog feed we have, all things considered, the vic-

## THE DAIRY.

### RAISING COWS FOR THE DAIRY.

In the best dairy regions of the country but very few calves are raised. Farmers who make a business of producing milk for supplying the city market or for the manufacture of butter and cheese generally state that it is more economical to keep up the size of their herds by purchasing cows than by raising them. They want to sell all the milk they can, and if they are obliged to feed calves, a large proportion of that produced is consumed at home. Land in regions long devoted to dairying is too costly to devote to raising stock, and the majority of dairy farmers desire to sell their cows when they begin to fail in their yield of milk, and to purchase those that are young and promising. The demand for good milk cows is increasing rapidly, and the prices paid for them are higher from year to year. As a rule, a cow three or four years old, in ordinary flesh, but heavy with calf, or with a calf by her side, will sell for more than a steer of the same age that will weigh several hundred pounds more, and is in a condition of fatness to furnish mess beef. The expense of raising the latter is much less than that of the former. In a part of the country where many animals are raised for beef, female calves sell for less than males, and are in smaller demand. It will take less food to support them till a given age, owing to their smaller size. The steers must be well fed on corn in order to fit them for the market. The cows, however, if designed for the dairy, will require no more expensive food than grass and hay. Again, the market for dairy cows is nearer the homes of Western farmers than that for beef cattle. By selecting bulls of a family of Shorthorns or Ayrshires noted for their milking qualities, there is no more expense involved in breeding cattle for the dairy than for the slaughter-pen. The male can be raised for beef, and the females for producing milk. If it is the case, as it is not likely to be, that cattle bring more for slaughtering than for dairy purposes, the cows can be fattened.

### SMALL PASTURES.

Major Alvord, at a recent meeting of the Orange County Farmers' Club, said: "I believe it is damaging to keep changing breed. Build up your own herd. . . . Small pastures and few cows in them are better than large ranges with a large number of cows. Next to the grasses in the pasture I believe in shade and water in as many places as possible. Mr. Lewis, of Herkimer county, acquired a large reputation for milk production, and when asked for its causes said he always endeavoured to keep his cows, when in the pasture, as comfortable as possible. He advocated small pastures, plenty of shade and water, and arranged a running stream through the pasture in such a manner as to preclude the cows from wallowing, and thus compelling them to drink muddy water. These suggestions are made, that you will see the necessity of giving your milch cows as little labour as possible. You have noticed how much more fodder your horses and cattle eat when working than when idle. Food, when given while the animal is working, is expended in supply-

ing the waste of tissue; but when at rest, in the case of the cow, this waste of tissue is not so great, and the food is tended toward the production of milk. Small pastures, ease of getting water and shade, are things which should receive your careful attention. A cow eats from 100 to 120 lbs. of green grass per day. Think how many steps she has to take in getting that supply, and the water she needs. If the water is not handy, and the range is large, something must supply them in their efforts to secure both. Exercise reduces the quality and diminishes the quantity of the milk."—*Farmer's Review.*

### CHURN SLOWLY.

A little maid in the morning sun  
Stood merrily singing and churning—  
"Oh, how I wish this butter was done,  
Then off to the fields I'd be turning!"  
So she hurried the dasher up and down  
Till the farmer called, with a half-made frown,  
Churn slowly!

"Don't ply the dasher so fast, my dear,  
It's not so good for the butter,  
And will make your arms ache, too, I fear,  
And put you all in a flutter—  
For this is a rule, wherever we turn,  
Don't be in haste whenever you churn—  
Churn slowly!"

"If you'd see your butter come nice and sweet,  
Don't churn with a nervous jerking,  
But ply the dasher slowly and neat—  
You'll hardly know that you're working;  
And when the butter has come you'll say,  
'Yes, this is surely the very best way'—  
Churn slowly!"

Now, little folks, do you think that you  
A lesson can find in butter?  
Don't be in a haste, whatever you do,  
Or get yourself in a flutter;  
And while you stand at life's great churn,  
Let the farmer's words to you return—  
"Churn slowly!"

### SCIENCE IN THE DAIRY.

In the course of a paper on this subject read before the recent meeting of the American Agricultural Association at New York, Mr. X. A. Willard said in substance as follows:

There are several important questions concerning the behaviour of milk which have not been solved to the satisfaction of dairymen and scientists until quite recently. He spoke of the recent investigations of M. Fjord, of Copenhagen, Denmark, who experimented with the German centrifuge of Lafelt and an improved Danish centrifuge and the common shallow pan system of setting milk for raising cream. The milk was taken from a dairy of 200 cows, and after being thoroughly mixed, 600 pounds were weighed for each experiment. This quantity was divided into three parts of 200 pounds each, one part being treated with the centrifuge, one part with the Swartz plan of setting in ice water, and the third part with the shallow pan system. M. Fjord found, he said, that during the months of October, November and December the centrifuge gave the best results, while during parts of July and August the ice method proved superior to the centrifuge.

The average for the year was that the skimmed milk, on analysis, yielded an amount of fat as follows: By centrifuge, 0.35 pound; ice method, 0.62 pound, and by shallow pans, 0.68 pound. The superiority of the ice over the pan system is not alone in yielding the greatest quantity of butter, but consists in its easier operation and more certain results in giving a first-class product. Another elaborate series of experiments was made by M. Fjord to

determine the question concerning travelled milk. As a result of these experiments, it was found that the principal cause why milk transported to butter factories gives a less quantity of butter, is due to the cooling of the milk rather than the shaking or agitation during the drive; and further, that this resistance to throwing up the cream in travelled milk can be almost wholly overcome by heating such milk to 104° Fahr.

Another point brought out by Mr. Willard was in regard to the condition and treatment of cream for churning. It was found by experiment that cream, during hot weather, raised on the pan system, is benefited by being cooled with ice to about 47° Fahr., and then raised to the churning temperature. Mr. Willard estimated the saving to butter-makers by a knowledge of these facts at \$30,000,000 annually.

### SELECTING DAIRY COWS.

The *National Live Stock Journal* gives the following advice on this subject: Look first to the great characteristics of a dairy cow—a large stomach indicated by broad hips, broad and deep loin and sides, a broad or double chine—these indicate a large digestive apparatus, which is the first essential requisite to the manufacture of milk. Secondly, a good constitution, depending largely upon the lungs and heart, which should be well developed, and this is easily determined by examination; but the vigour and tone of the constitution is indicated by the lustre of the hair and brightness of the eye, and the whole make-up. Thirdly, having determined her capacity for digesting surplus food for making milk, look carefully to the receptacle for the milk—the udder—and the veins leading to it. The cow may assimilate a large amount of food which goes mostly to lay on flesh and fat; but if she has a large, broad and deep udder, with large milk veins, it is safe to conclude that her large capacity for digestion and assimilation are active in filling this receptacle. In fact, the udder is the first point to look at in a cursory examination of a cow, for nature is not apt to create in vain. If it reaches to the back line of the thighs, well up behind; reaches well forward, is broad and moderately deep, with teats well apart, and skin soft and elastic, it may be inferred that nature has provided means for filling it. If the udder be a small round cylinder, hanging down in front of the thighs, like a six-quart pail, the cow cannot be a profitable milker, whatever digestive apparatus she may have. A yellow ear (inside) is almost universally regarded as present in a cow that gives rich, yellow milk.

In order to conduct a dairy after the most approved plan, and to produce gilt-edged butter, ice is indispensable, which, with proper implements and suitable house, can be secured with small cost compared with its value on the farm, and sawdust, where it can be easily obtained, is without doubt the best material to pack it with.

Cows purchased from rich lands and carried to poor soils seldom do well. It is far better to buy a good cow from a poor farm, in which case improvement is almost certain. There is no good reason, however, why a poor animal should be kept on a poor farm. Keep better stock if you have to keep less of it.

**BEES AND POULTRY.****STARTING AN APIARY.**

Spring is undoubtedly the best time to start an apiary. The danger of loss in wintering is past, and bees have little brood and honey, so that they can be moved easily and safely. A person unacquainted with bees should beware of purchasing "a pig in a poke," as every hive containing comb and bees may not be a perfect colony. We may infer that a colony is all right if during the early spring months the hive is full of bees, as such a colony must contain a young, vigorous queen. It is a poor policy for a beginner to purchase black bees in boxes and gums, intending to transfer and Italianize. Such work as this barely pays in the skilful hands of veterans, and had better not be undertaken by novices. A better plan would be to select the hive of a desired pattern for the whole apiary, as the profit and pleasure derived from it consists, in a large degree, in having every part of each hive exactly alike. The life of many a colony of bees is saved by giving it a frame of brood or honey from a more prosperous one, and this could not be done if the frames and hives were not alike. If a person is not able to secure a strong colony in the hive preferred, then a new hive of the desired pattern might be taken to a bee-keeper, and a first swarm put into it.

Bee-keeping is a science, and not acquired in one day, by talking with a person "who knows all about bees." Therefore, to insure success, commence slowly with not more than two swarms, and let your knowledge increase with like ratio as your bees. If you can make money with these, it will be safe for you to invest in more. It is absurd to suppose that a person who knows nothing about bees except that they sting and make honey, could manage a large apiary successfully.

We once knew a man who embarked in the bee business with a brass band and colours flying. He had "struck it rich;" he was going to glut the market with honey. He started an apiary by buying a large number of bees of an apiarist who was emigrating west. Fortunately it was in the spring, and the bees went bravely to work for their new master, and stored a large amount of surplus. In the fall he bragged that he had got all his money back, and had his bees and hives to boot. It was lucky for him that he got it back the first season, for the next one found every corner in his yard piled full of deserted hives. Like the ex-organ-grinder, "The monkey had died, and so he gave up the business."—*Prairie Farmer.*

**SITTING HENS.**

When broody—that is, wishing to set—hens go about clucking for several days, sit longer and longer on the nest after laying, cease laying finally, and do not leave the nest. If a sitting hen is not required, remove her at once to a fresh run and new companions. Shut her out for a few days where no nests may tempt her. If, on the other hand, she is required to incubate, encourage her by false eggs in the nest, and partially protect the entrance to the nest from other prying hens. All Asiatics are much given to sitting, and

Dorkings and Silkies are good mothers. No hen even crossed with Spanish, Leghorn, Hamburg, or Polish blood will incubate satisfactorily. The broody hen should be fed once daily on sound grain, some grass or lettuce, and a treat of scraps; soft food now and again keeps her in better condition than an exclusively grain diet. On no account deprive the broody hen of her dust bath; and if your brood is valuable, take the trouble to dredge her under wings, legs, etc., with powdered sulphur.

**LAW REGARDING SWARMS OF BEES.**

A dispute as to the ownership of a swarm came recently before Mr. F. W. Woodthorpe, the judge of the Belper County Court, and it was contended that, being *feræ naturæ*, there could be no property in them, and that, therefore, the plaintiff, from whose land they had strayed to that of the defendant, could not demand their return or damages for their loss. It was proved, however, that the plaintiff followed the swarm on their departure from his own land, and had not lost sight of them until he saw them alight in the defendant's garden. On the strength of the following passage from Blackstone (vol. ii., p. 392)—"Bees are *feræ naturæ*, but when hived and reclaimed, a man may have a qualified property in them by the law of nature as well as by the civil law. Occupation—that is, hiving or including them—gives the property in bees; for, though a swarm lights upon my tree, I have no more property in them till I have hived them, than I have in birds which make their nests thereon; and therefore, if another hives them, he shall be their proprietor; but a swarm which flies from and out of my hive is mine as long as I can keep it in sight, and have power to pursue it, and in these circumstances no one else is entitled to take them—judgment was entered in favour of the plaintiff for the amount claimed as the value of his truant bees.—*Law Times.*

**FOWL FEEDING.**

Drive four stakes into the ground so as to leave them two feet above surface and six inches apart, and upon these nail two boards, so as to make a table large enough to permit the fowls a footing around a nail-keg in the centre, covered by a wide board, and weighed by a large flat stone. The keg may be filled with corn or cracked corn, and having three or four auger-holes near the bottom, it is self-feeding. What runs out is lodged upon the table; it is kept clean and dry, and secure from rats and other vermin. Given an accessible roosting-house and a running stream of water, what more can a well-ordered fowl or the largest poultry-keeper require?

**SEX IN EGGS.**

A correspondent of the *Journal of Horticulture* says in reference to this question:—"Last winter an old poultry-keeper told me he could distinguish sex in eggs. I laughed at him, and was none the less sceptical when he told me the following secret: Eggs with the air-bladder in the centre of the crown of the egg will produce cockerels; those with the bladder on one side will produce pullets. The old man was certain of this dogma, and

his poultry-yard so confirmed it, that I determined to make experiments upon it this year. I have done so, carefully registering the egg bladder vertical, or bladder on one side, rejecting every one which was not decidedly the one or the other, as in some it is very slightly out of the centre. The following is the result. The number of fifty-eight chickens were hatched; three are dead, and eleven are yet too young to decide upon their sex; of the remaining forty-four, every one has turned out true to the old man's theory. This, of course, may be an accidental coincidence, but I shall certainly try the experiment again."

**CHARCOAL FOR FOWLS.**

I find charcoal one of the best remedial agents for most intestinal diseases among both poultry and pigeons, and know that, by the use of this alone, many birds could be saved that are otherwise lost. To be able to give the sick birds a full benefit, I take a coop of convenient size, and having a floor, so as to be dry, cover the floor with small pieces of charcoal, and then, after having dosed the bird by forcing several small pieces down the throat, I shut it in this coop, and if there is any reason of a hope for a cure, I know of no better place to look for it. The charcoal is such a powerful disinfectant that there is no fear of a contagion, and gives the bird a better and purer atmosphere to breathe, and thus escapes one of their worst enemies—bad air.—*Poultry Monthly.*

THE BEE'S A MODEL CITIZEN—case, food,  
Life, all is yielded to the public good;  
No individual interests weigh a grain,  
Where there are public interests to maintain;  
As in old Rome, when all were for the State,  
Rich helped the poor, and poor men loved the great.

**STRAIGHT BREAST-BONES.**

To avoid all possibility of trouble from curvature of the breast-bones, quite a number of Brahma and Cochin breeders now do away with the roosts altogether for their immature and growing young stock, and bed the birds down with straw, the same as is done with cattle, etc., and in some cases with ducks and geese. The young chicks soon get to understand how to use their low "roosts," and gather in on the straw every night as regularly and as orderly as do cattle or sheep. While this bedding-down is a good thing when properly managed, it must be removed and well aired each morning, and the house swept out. Just before roosting-time the straw is nicely spread in place as in for the accommodation of the birds, and the same thing is repeated daily while the birds use this method of sleeping, which they are generally compelled to do until they have become fully matured, and the breast-bones thoroughly hardened by age and maturity.

**OVER-FEEDING FOWLS.**

To maintain fowls in a really healthy state, appetite must be kept up, and it is good management to have the poultry in such a state that they will fly up to meet the poultryman and scramble for their food. Loss of appetite comes from unwise feeding or over-spiced feeding.

## HOME CIRCLE.

## THE MYSTERIES OF SHOES AND STOCKINGS.

Throwing the shoe after the wedded pair was also, no doubt intended as an augury of long life to the bride. In Yorkshire the ceremony of shoe throwing is termed "thrashing," and the older the shoe the greater the luck; and in some parts of Kent the mode of procedure is somewhat peculiar. After the departure of the bride and bridegroom the single ladies are drawn up in one row, and the bachelors in another. When thus arranged, an old shoe is thrown as far back as possible, which the fair sex run for: the winner being considered to have the best chance of marriage. She then throws the shoe at the gentlemen, when the first who gets it is believed to have the same chance of matrimony. A somewhat similar custom prevails in Germany, where the bride's shoe is thrown among the guests at the wedding, the person who succeeds in catching it being supposed to have every prospect of a speedy marriage.

Many auguries are still gathered from the shoe. Thus young girls on going to bed at night place their shoes at right angles to one another, in the form of the letter T, repeating the rhyme:

"Hoping this night my true love to see,  
I place my shoe in the form of a T."

As in the case of the stocking, great importance is attached by many superstitious persons as to which shoe they put on first, in allusion to which Butler, in his "Hudibras," says:

"Augustus, having b' oversight  
Put on his left shoe 'fore his right,  
Had like to have been slain that day  
By soldiers mat'ning for pay."

An old writer, speaking of Jewish customs, tells us that "some of them observe, in dressing themselves in the morning, to put on the right stocking and right shoe first, without tying it. Then afterwards to put on the left shoe, and so return to the right; that so they may begin and end with the right one, which they account to be the most fortunate." A Suffolk doggerel respecting the "wear of shoes" teaches us the following:

"Tip at the toe: live to woe;  
Wear at the side: live to be a bride;  
Wear at the ball: live to spend all;  
Wear at the heel: live to save a deal."

Among some of the many charms in which the shoe has been found efficacious, may be mentioned one practised in the north of England, where the peasantry, to cure cramp, are in the habit of laying their shoes across to avert it.—*Domestic Folk-Lore.*

## HUMOUR AT HOME.

A good thing to have in the house is a sense of humour, or the capacity to see a little fun lurking under the humdrum cares and work of life. We all know how it brightens up things generally to have a lively, witty companion, who sees the ridiculous points of things and who can turn an annoyance into an occasion for laughter. It is a great deal better to laugh over some domestic mishaps than to cry or scold over them. Many homes are dull because they are allowed to become too deeply impressed with the cares and responsibilities of life to recognize its bright side and especially its mirthful side. Into such a household, good but dull, the advent of a witty, humorous friend is like sunshine on a cloudy day. While it is always oppressive to hear persons constantly trying to say witty and funny things, it is comfortable to see what a brightener a little fun is—to make an effort to have some at home. It is well to turn off an impatient question sometimes, and to regard it from a humorous point of view, instead of becoming irritated about it. "Wife, what is the reason I can never find a clean shirt?" exclaimed a good but rather impatient husband, after rummaging all through the wrong drawers. His wife looked at him steadily for a moment, half inclined to be provoked, then with a comical look she said, "I never could guess, conundrums. I give it up." Then he laughed, and they both laughed, and she went and got his shirt, and he felt ashamed of himself and kissed her, and then they both felt happy; so what might have been an occasion for hard words and unkind feelings became just the contrary, all through the little vein of humour that had cropped out to the surface. Some children have a peculiar faculty for a humorous turn to things when they are reproved. It does just as well to laugh things off as to scold them off. Laughter is better than tears. Let us have a little more of it at home.

## THE PATHOS OF LIFE.

The pathos of life lies but little below the surface; the loving heart feels it all.

While I was in college I was impressed very deeply by an incident illustrating the pathos of these facts, which needs only to be known to be felt. I had observed a large Newfoundland dog about the dormitories for nearly a week. One cloudy afternoon an old man came wearily into the yard and enquired for the dog. The wild ones saw a chance for a little diversion, and so the dog was allowed to look benignly down from the attic windows upon his master. The old man trudged up the long flights of steps, but when he reached the room he saw the dog playing leap-frog with the boys on the campus. Again he patiently descended, and the chase was kept up until the old man saw it was of no use. It afforded great sport for the thoughtless, but there were some among the scores looking on whose hearts and tongues protested.

"Boys," said the old man, "this looks like sport to you, but if you only understood the circumstances, you'd feel more like crying than like laughing. My wife and I had a little granddaughter a week ago, but we haven't now. She died last Saturday. The dog was a great favourite with her. He stayed in her room all through her sickness, and she

would stroke him with great tenderness when she was almost too feeble to raise her hand. While she was dying, she said: 'Grandma, you'll keep Rover to remember me by—won't you, grandma? Be good to Rover, and we'll all meet in heaven; and now grandma is very lonesome without her little girl, and she wants the dog. He ran away as soon as the little girl died, and I have been searching for him ever since. Please, boys, let me take him home, for we have nobody to care for but the dog.' His voice choked, while tears started in many eyes. Quickly the dog was given up; a hat was passed, and substantial tokens of the boys' repentance were presented the old man; and while he trudged away followed closely by his dog, the sun broke through the clouds, for it was about to set, and flung a flood of golden rays upon the college campus and its buildings, lighted up the old man's face as he made an adieu, and seemed to be the benediction of heaven on the scene. I shall never forget it.—*Rev. G. L. Whit.*

## TENNYSON'S NEW SONG, FOR THE QUEEN'S BIRTHDAY.

First pledge our Queen, this solemn night,  
Then drink to England, every guest;  
That man's the best cosmopolite,  
Who loves his native country best;  
May Freedom's oak forever live,  
With larger life from day to day;  
That man's the true conservative  
Who lope the mouldered branch away.  
Hands all round! God the traitor's hope confound!  
To the great cause of Freedom drink, my friends,  
And the great name of England round and round.

To all the loyal hearts who long  
To keep our English Empire whole!  
To all our noble sons—the strong  
New England of the Southern Pole!  
To England under Indian skies,  
To those dark millions of her realm!  
To Canada, whom we love and prize,  
Whatever statesman hold the helm.  
Hands all round! God the traitor's hope confound!  
To the great name of England drink, my friends,  
And all her glorious colonies round and round.

To all our statesmen, so they be  
True leaders of the land's desire!  
To both our Houses, may they see  
Beyond the borough and the shire!  
We sailed wherever ship could sail,  
We founded many a mighty State,  
Pray God our greatness may not fail  
Through craven fears of being great.  
Hands all round! God the traitor's hope confound!  
To the great cause of Freedom drink, my friends,  
And the great name of England round and round.

## LAW OF BRANCHES OVERHANGING NEIGHBOURS.

Two persons own land separated by a line fence, which is common property between the two parties. One has an apple tree on his side of the fence, whose limbs overhang the fence on the side of the other. Apples fall on either side. The question often asked is, Do the apples that fall on one's land belong to one or the other, or to both? This subject has been several times discussed, with some contradictory decisions and judgments, but the rules are now pretty well established. If the stem or trunk of the tree grows so close to the line that parts of its actual body extend into each, neither owner can cut it down without the consent of the other, and the fruit is to be equitably divided. If the stem of the tree stands wholly within the boundary line of one owner, he owns the whole tree with its products, although the roots and branches extend into the property of the other. There was an old rule of law that the latter might claim from the yield of the tree as much as would be an offset for the nourishment it derived from his estate, but this is now obsolete. The law gives the landowner on whose soil the tree stands the right to cut it down at his pleasure, and to pick all the fruit from it while it stands.

In New York State the courts have decided that trespass for assault would lie by the owner of the tree against the owner of the land over which its branches extended if he prevented the owner of the tree, by personal violence, from reaching over and picking the fruit growing upon these branches while standing on the fence dividing the lands. The land of the owner over which the branches extend may lop the branches close to his line. He may also dig down and cut the roots square with his line, if he so elects. In plain terms, if no portion of the trunk is within his line he may refuse all trespass of the tree on his premises, either above the ground or below it. But if he gives the tree license either to extend its roots under his soil or to hang its branches over his premises he does not thereby gain any right to its fruit. He cannot pick it for himself nor interfere with the picking by the owner, as long as the latter remains in the tree or on the fence which divides the property. This right to the fruit does not, however, permit the other owner to come upon the soil on the other side of the line to gather the fruit, and all the fruit which falls without violence to the ground on that side may thus become the property of its owner.—*Philadelphia Ledger.*

## MORNING BRAIN WORK.

It seems strange that the habit of lying in bed hours after the sun is up should ever have obtained a hold on the multitude of brain-workers, as undoubtedly it had in times past. Hour for hour, the intellectual work done in the early morning, when the atmosphere is as yet unpoisoned by the breath of myriads of actively moving creatures, must be, and, as a matter of experience, is incom-

parably better than that done at night. The habit of writing and reading late into the day and far into the night, "for the sake of quiet," is one of the most mischievous to which a man of mind can addict himself. When the body is jaded the spirit may seem to be at rest, and not so easily distracted by the surroundings which we think less obtrusive than in the day; but this seeming is a snare. When the body is weary, the brain, which is an integral part of the body, and the mind, which is simply brain function, are weary too. If we persist in working one part of the system because some other part is too tired to trouble us, that cannot be wise management of self. The feeling of tranquillity which comes over the busy and active man about 10.30 or 11 o'clock ought not to be regarded as an incentive to work. It is, in fact, the effect of a lowering of vitality consequent on the exhaustion of the physical sense. Nature wants and calls for physiological rest. Instead of complying with her reasonable demand, the night-worker hails the "feeling" of mental quiescence, mistakes it for clearness and acuteness, and whips the jaded organism with the will until it goes on working. What is the result? Immediately, the accomplishment of a task fairly well, but not half so well as if it had been performed with the vigour of a refreshed brain working in health from proper sleep. Remotely, or later on, comes the penalty to be paid for unnatural exertion—that is, energy wrung from exhausted or weary nerve centres under pressure. This penalty takes the form of "nervousness," perhaps sleeplessness, almost certainly some loss or depreciation of function in one or more of the great organs concerned in nutrition. To relieve these maladies—springing from this unsuspected cause—the brain worker very likely has recourse to the use of stimulants, possibly alcoholic, or it may be simply tea or coffee. The sequel need not be followed. Nightwork during student life and in after years is the fruitful cause of much unexplained, though by no means inexplicable suffering, for which it is difficult, if not impossible, to find a remedy. Surely morning is the time for work, when the whole body is rested, the brain relieved from its tension, and mind-power at its best.—*London Lancet.*

THE Herzegovinian insurgents have been successful in some recent skirmishes with the Austrians.

VESSELS that arrived last week from Nova Scotia report having passed through miles of dead fish. Prof. Baird, of the Smithsonian Institute, pronounces them the tile fish, a new species found at great depths, which he thinks were killed by the recent storm.

THE Empress of Russia has gone to the summer palace of Iliusk, near Moscow, on account of her ill-health. It is said to be a magnificent residence, that can be rendered unapproachable, being entirely surrounded by mountains, at the foot of which flows the Moskwa.

ATTEMPTS to blow up houses occupied by persons objectionable to the Land League, an affray between soldiers and people, and the barbarous mutilation of a man who canvassed for an unimportant office in opposition to the Land League candidate, are reported from Ireland.

A SECOND attempt was made to destroy the André monument, near Tappan, N.Y., on the 31st ult. An explosion shook the village near midnight, and, upon investigation, it was shown that a nitro-glycerine cartridge had been placed on the monument and discharged. The pedestal of the monument was completely destroyed.

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## YOUNG CANADA.

## THE CHIPMUNK.

The chipmunk likes to dig his hole in the dry banks, and you may often hear a rustling in the thick beds of dry leaves loud enough to attract your attention from a distance of fifteen or twenty rods. A cautious approach to the spot will show you a couple of chipmunks chasing each other round and round through the leaves. They will cease from their sports as you come near, but, if you sit down quietly, they will soon conclude that you are not dangerous and commence again. They often include the trunk of a fallen tree in their circuit, running along its whole length; then, plunging like divers into the leaves, they rush headlong through them, seeming greatly to enjoy the noise and stir which they make. They play in this way for hours; if one stops, the other turns back to look for him, and away they go again. The chipmunk can climb as well as any squirrel, and frequently does so, when the coast is clear, but if danger threatens he makes haste to descend. He never can realize that a tree affords him the least security. If you get so near before he sees you that he dares not come down, he plainly considers the situation to be very serious. Sometimes he will make a desperate rush for the ground within reach of your hand, and as soon as you withdraw he comes down and scampers away, evidently feeling that he has got well out of a bad scrape. Let his larger cousin, red, black or gray, depend on trees for safety if they choose; his trust is stone walls and brush heaps, not to mention his burrow. Within reach of these, his easy impudence is in striking contrast with his panic-stricken condition when treed.

## ANIMAL FRIENDSHIP.

Cats and dogs, when on friendly terms, will occasionally combine against a common foe. The Rev. L. Jenyns was informed by a lady correspondent that a little Blenheim spaniel of hers once accompanied her to the house of a relation, and when being taken into the kitchen to be fed two large cats flew at it and scratched it severely. During the lady's stay at this house the spaniel gradually contrived to form a friendship with the gardener's cat, and one day persuaded it to follow him into the kitchen, where, finding one of his enemies alone, he set at it, and assisted by his feline ally, gave it a sound drubbing. The two victors then remained in possession of the field until the other foe appeared, when they both fell upon it, and drove it too from the kitchen. During the remainder of the visit the spaniel and the gardener's cat continued their friendship for each other, eating off the same plate in undisturbed amity.

## WHO WINS?

Boys, this is a question of great importance. Who will succeed in life? The boy or man who spends his evenings away from home—attending music-hall, theatre, or billiard-room; playing dice, billiards, or cards; smoking tobacco, or gambling? or the one who is entirely free from all that we have named—whose inclinations are in the direction

of home, industry, sobriety self-culture, of right, the truth, and of God? We have in mind a most worthy gentleman who stands high in business circles, because when but a boy on the streets he chose the right and maintained it. At eleven his father died, leaving a wife and four children. From that time for seven years that boy sold papers and blacked boots, all the while supporting the family out of his daily profits. At eighteen he commenced business for himself as a merchant, and to-day is highly respected by his many friends and acquaintances, and is doing a flourishing business.

Who wins? The boy or man of bad habits? No! The boy or man who can swear, cheat, lie, or steal, without being found out? No! But he wins who is not ashamed to pray to God in the hour of temptation for help—for strength more than human when adversity overwhelms. He who reads God's Word and trusts it; who is not governed by the motive, Is it expedient? but is it right?—he wins.

## BOYS' RIGHTS.

I wonder now if anyone  
In this broad land has heard,  
In favour of down-trodden boys,  
One solitary word?  
We hear enough of "woman's rights,"  
And "rights of working-men,"  
Of "equal rights" and "nation's rights,"  
But pray just tell us when  
Boys' rights were ever spoken of?  
Why, we've become so used  
To being snubbed by every one,  
And slighted and abused;  
That when one is polite to us,  
We open wide our eyes,  
And stretch them in astonishment  
To nearly twice their size!

Boys seldom dare to ask their friends  
To venture in the house;  
It don't come natural at all  
To creep round like a mouse.  
And if we should forget ourselves,  
And make a little noise,  
Then ma or auntie sure would say,  
"Oh, my! those dreadful boys!"  
The girls bang on the piano  
In peace, but if the boys  
Attempt a tune with fife or drum,  
It's "Stop that horrid noise!"  
"That horrid noise!" just think of it!  
When sister never fails,  
To make a noise three times as bad  
With everlasting "scales."

Insulted thus, we lose no time  
In beating a retreat;  
So off we go to romp and tear,  
And scamper in the street.  
No wonder that so many boys  
Such wicked men become;  
'Twere better far to let them have  
Their games and plays at home.  
Perhaps that text the teacher quotes  
Sometimes—"Train up a child"—  
Means only train the little girls,  
And let the boys run wild.  
But patience, and the time shall come  
When we will all be men;  
And when it does, I rather think,  
Wrongs will be righted then.

—Exchange.

## BAMBOOS.

There is no tree known on earth which subserves so many purposes as the bamboo. The Indian obtains from it a part of his food, many of his household utensils, and a wood at once lighter and capable of bearing greater strains than heavier timber of the same size. Besides, in expeditions in the tropics, under the rays of a vertical sun, bamboo trunks have more than once been used as barrels, in which a water, much purer than could be preserved in vessels of any other kind, is kept fresh for the crew. Upon the west coast of South America, and in the large islands of Asia, bamboos furnish all the materials for the construction of houses at once pleasant, substan-

tial, and preferable to those of stone, which the frequently recurring earthquakes bring down upon the heads of the lodgers.

The softest of the bamboos is the *Sammot*. In the tracts where it grows in the greatest perfection it sometimes rises to the height of one hundred feet, with a stem only eighteen inches in diameter at the base. The wood itself is not more than an inch in thickness. The fact that the bamboo is hollow has made it eminently useful for a variety of purposes; it serves as a measure for liquids, and if fitted with a lid and bottom, trunks and barrels are made of it. Small boats even are made of the largest trunks by strengthening them with strips of other wood where needed.

In one day they attain the height of several feet, and with the microscope their development can be easily watched. But the most remarkable feature about the bamboo is their blossoming. With all this marvellous rapidity of growth they bloom only twice in a century, the flower appearing at the end of fifty years. Like other grasses, they die after having borne seed.

## THE CHANGES IN THE FROG.

Nowhere in the animal kingdom is there so favourable an opportunity for peeping into Nature's workshop as in the metamorphoses of the frog. This animal is a worm when it comes from the egg, and remains so the first four days of its life, having neither eyes nor ears, nostrils nor respiratory organs. It crawls, and breathes through its skin. After a while a neck is grooved into the flesh, and its soft lips are hardened into a horny beak. The different organs, one after another, bud out; then a pair of branching gills; and last, a long and limber tail. The worm has become a fish. Three or four days more elapse, and the gills sink back into the body, while in their place others come much more complex, arranged in vascular tufts, 112 in each; yet they, too, have their day, and are absorbed, together with their framework of bone and cartilage, to be succeeded by an entirely different breathing apparatus, the initial of a second correlated group of radical changes. Lungs are developed, the mouth widened, the horny beak converted into rows of teeth, the stomach and the intestines prepared for the reception of animal food instead of vegetable. Four limbs, fully equipped with hip and shoulder bones, with nerves and blood-vessels, push out through the skin, while the tail, being now supplanted by them as a means of locomotion, is carried away piecemeal by the absorbents, and the animal passes the rest of its life as an air-breathing and a flesh-feeding batrachian.

HE who lives only to benefit himself, confers on the world a benefit when he dies.

HERE is a story of a little girl, three years old, who was charged with breaking a flower from its stem. She said: "No, I didn't break it." Still, the older person argued that she must have done it, for no one else had been in the room; but she said: "'Deed, 'deed I didn't." Thinking to make her confess, the older said: "Now, Ada, I see a story in your eye." Her reply was, "Well, that's one I told the other day, for I didn't break the flower." And it was found that she didn't.

Scientific and Useful.

MANITOBA COOKIES.—One cup of sour milk, one cup of powdered sugar, a little salt, one teaspoon of soda; mix as soft as possible, roll thin, sprinkle with sugar, slightly roll out, and bake in a quick oven.

APPLE CHARLOTTE.—Cut pieces of bread into diamonds and squares, and fry to a light brown in butter. Stew good cooking apples, season highly and let cool. Pour one spoonful on every piece of bread, and send to table while the bread is hot.

APPLE PUDDING.—Pare and core good eating apples; cut them in halves or quarters, and lay them in the bottom of a pudding dish; make a batter of six eggs, six table-spoonfuls of flour, one cup of milk; bake until it is brown; eat with sweetened cream or sauce.

DISH FOR LUNCHEON.—Take pieces of cold meats of any kind, chop fine, season with pepper and salt, just a little onion; break over the meat two or three eggs, add a small piece of butter, stir all together; pour it upon nicely buttered toast, serve hot, garnish with parsley.

BAKED BEETS.—These excellent vegetables are quite as good baked as boiled, and the sugar is better developed by the baking process. The oven should not be too hot, and the beets must be frequently turned. Do not peel them until they are cooked; then serve with butter, pepper and salt.

PAN DODDLING.—This is a New England dish, and is nice at the places where appetites are expansive. Take three cups of rye meal, three cups Indian meal, one egg and three table-spoonfuls of molasses; add a little sauce and allspice and enough rich sweet milk to make a batter stiff enough to drop from a spoon. Fry to a good brown in hot lard.

BARLEY SOUP.—Two or three pounds of beef from the skin, two pounds of cracked bones, an onion, four stalks of celery, four potatoes, a gallon of water, pepper, and salt. Put all into the soup-pot, and boil very gently three hours. Wash a cup of barley and boil in a very little clear water twenty minutes. Strain the soup, pressing hard, boil up, skim, add the barley, and simmer thirty minutes.

CHOCOLATE CANDY.—Two cups of granulated sugar, half a cup of milk; boil just five minutes; then take it from the stove and stir till it is stiff; then drop on buttered plates, and leave till cold; while it is cooling, break a square of Baker's chocolate in small pieces in a bowl, and set it over a tea kettle in which the water is boiling; after it is melted, then take the drops and with a fork roll them into the melted chocolate; then lay on the plates till cold.

GREEN CORN FRITTERS.—Grate the corn and allow an egg for every cupful, with a table-spoonful of milk or cream. Beat the eggs well, add the corn by degrees, beating hard; salt to taste; put a table-spoonful of melted butter to every pint of corn; stir in the milk with just enough flour to hold them together. Fry in hot lard, as you would fritters. Test a little first to see that it is of the right consistency. Some have named them oyster fritters as they have the flavour of oysters.

WORTH KNOWING.—It is said that a small piece of rosin dipped in the water which is placed in a vessel on a stove (not an open fireplace) will add a peculiar property to the atmosphere of the room, which will give great relief to persons troubled with a cough. The heat of the stove is sufficient to throw off the rosin, and gives the same relief that is afforded by the combustion of the rosin. This is preferable to combustion, because the evaporation is more durable. The same rosin may be used for week

IRISH STEW.—About two pounds of the neck of mutton, four onions, six large potatoes, salt, pepper, three pints of water, and two table-spoonfuls of flour. Cut the mutton in handsome pieces. Put about half the fat in the stew-pan, with the onions, and stir eight or ten minutes over a hot fire, then put in the meat, which sprinkle with the flour, salt, and pepper. Stir ten minutes, and add the water, boiling. Set for one hour where it will simmer; then add the potatoes, peeled and cut in quarters. Simmer an hour longer, and serve. You can cook dumplings with this dish, if you choose. They are a great addition to all kinds of stews and ragouts.

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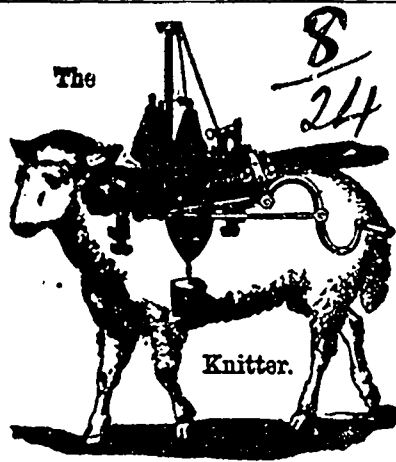
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TORONTO WHOLESALE MARKETS.

OFFICE RURAL CANADIAN, Toronto, April 14th, 1882.

CATTLE.—Prices are higher in consequence of limited offerings. The demand from butchers has been good, but receipts were insufficient to go round. Keally choice butchers' cattle are worth 5 1/2 to 6 1/2c per pound, and a low head for export sold on Tuesday at 5 3/4 and 6c. Ordinary butchers' cattle range from 4c to 5c per lb. Sheep are wanted, the receipts lately being very small, sales were made at 6c to 6 1/2c per lb. Lambs are also in demand, and as high as 7c per lb. was paid for a lot. Good spring lambs bring \$4 to \$7 a head. Calves are in fair offer and steady, and prices range from \$4 per head up, according to age and quality. Hogs are firm at 6 1/2c to 6 3/4c per pound.

WHEAT AND MEAL.—Flour.—Stocks in store, 7,209 barrels against 7,649 barrels last week, and 9,686 barrels at a like time in 1881. Quite an active trade has been transacted during the week, and prices are higher. The sales have been principally at outside points. Superior extra sold on Saturday and Monday at equal to \$6 and \$6.05 here; these were choice brands of the old standard. Yesterday a sale was made at \$6. A choice extra sold the latter part of last week at \$5.90. Sprung extra does not appear to be wanted, and prices are nominal at quotations. Bran is extremely scarce and higher, with sales at \$19 and \$20.50 on track. Oatmeal is firmer at \$4.50 to \$4.55, with more enquiry. Cornmeal is quiet and nominal at \$3.80 to \$3.90.

GRAIN.—Total stocks in store, 515,594 bushels, against 564,885 bushels last week, and 538,092 bushels at a like time last year. There has been a moderate trade during the week, and with the exception of a slight decline in barley, prices are higher than last reported. Fall Wheat.—Stocks in store, 250,793 bushels, against 254,616 bushels last week, and 183,410 at a like time last year. The demand has been fair from millers, and sales of car lots are reported. Exporters complain of prices being too high. No. 2 has sold at \$1.30, and No. 3 at \$1.26. Spring Wheat.—Stock in store, 105,824 bushels, against 105,934 bushels last week, and 113,075 bushels at a like time last year. No. 1 has not offered, but No. 2 has been selling at \$1.32 and \$1.33, and the latter price was bid yesterday for 10,000 bushels, May delivery. Oats.—Stocks in store, 6,693 bushels, against 7,288 bushels last week, and 700 bushels at a like time last year. On account of scarcity, prices are much higher than they were last week. Sales of western were made on Tuesday at 45c. to arrive, and of eastern at 44c. to arrive; yesterday two cars offered at 47c. on track, and 45c. was bid for 10,000 bushels, May delivery. Barley.—Stocks in store 103,681 bushels, as compared with 152,602 bushels last week, and 183,401 bushels at a like time in 1881. The demand was fair at the beginning of the week, but it has since fallen off, and prices are easier. On Monday No. 1 sold at 96c., and on Tuesday at 93 1/2c. The latter part of last week No. 1 choices sold at 94c. and No. 2 at 92c. to 93c., but prices are now somewhat easier. Peas.—Stocks in store 29,109 bushels, as compared with 25,441 bushels last week, and 94,873 bushels at a like time in 1881. Offerings are small and prices firm, with the sale of a round lot of No. 2 lying outside at equal to 82c.

PROVISIONS.—Trade has been quiet this week, and the tone of the market firmer, especially for cured meats. Butter continues very scarce for choice qualities, which are worth 20c. to 22c. in tub lots; inferior to medium in good supply, and easy at 13c. to 14c. Cheese in fair demand and firm, with the finest making selling at 13 1/2c. Hybrid Apples steady, with little movement. Eggs are not in such demand, and with fair receipts prices are easier, at 14c. to 15c. in case lots. Bacon is in moderate demand and firm, with cars of long clear worth 11c., and jobbing lots at 11 1/2c. to 11 3/4c. Cumberland cut unchanged at 10 1/2c. to 10 3/4c. Ham quiet and unchanged at 13c. to 13 1/2c. for smoked, and 11 1/2c. for pickled. Mess Pork firmer; held at \$21.50 to \$22; little demand. Lard is in fair demand and firm; car lots of tubs and pails held at 14c., and jobbing lots at 14 1/2c. to 14 3/4c.; American refined, 15c. to 15 1/2c. per firm at \$3.25 to \$3.75, the demand being confined to butchers.

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