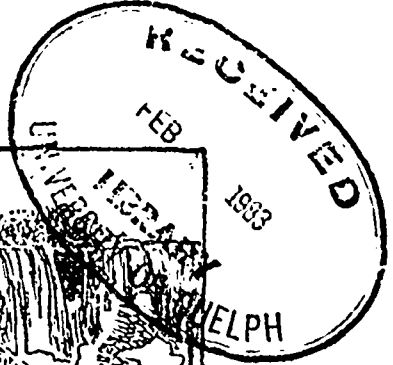


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1887



AND ORGAN OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.

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No. 43 | 303

WELLAND, ONT., WEDNESDAY, JULY 2, 1884.

TERMS: ONE DOLLAR  
For Annual  
IN ADVANCE

MARY ANNE OF ST. LAMBERT, 9770,  
A. J. O. C.

Dropped March 26, 1870. After dropping third calf was tested for butter for nearly a year. Test began May 29, 1883, and ended May 3rd, 1884, eleven months and 5 days. Total quantity of butter, 867 lbs., 14 1/2 ozs., ready for market. Total quantity of milk, 8,470 lbs., 19 1/2 ozs. She was served by Canada's John Bull immediately after her great official test, Sept. 23rd to Sept. 29th, seven days, when she made 27 lbs., 7 1/2 ozs. First half of this week she made 12 lbs., 13 ozs. when on much lighter diet, but in the last three and a half days on heavier feed she made 14 lbs., 12 1/2 ozs. She was served but once only, immediately after this test, showing she had not suffered by the feeding or she would not have held.

Her two full sisters tested as follows: Naind of St. Lambert, 22 lbs., 2 1/2 ozs.; Crocus of St. Lambert, 17 lbs., 12 ozs.; average for three full sisters, 22 lbs., 7 1/2 ozs.

DOES SALT INCREASE THE WEIGHT OF BUTTER.

We publish the following from the *Brokers' Gazette* because of its direct bearing on the question of shortage as between creameries and their patrons. Many claim that their cream overruns, and are entirely honest in their claim, whilst it has long been clear to us, that were their butter prepared for a distant market, as is that of the creameries, there would be in many cases a shortage:

"The question whether the tests should be made in salted or unsalted butter is one deserving of brief discussion. My own experience is, that unsalted butter is a very uncertain quantity, and whether it will gain or lose by salting depends largely upon how it is worked before the salt is put in. One morning last summer two or three friends met at my dairy. While there the question was raised whether butter gained or lost in salting. The cream of the herd was placed in two churns, and churned simultaneously. Butter came first in the small churn, coarse grained and yellow, and was washed in several waters, worked dry in a Reid butter worker, and weighed. It was then salted, the salt being weighed in, one ounce to the pound, was reworked and reweighed. It was a strictly gilt-edged article and was immediately packed for shipment. Here are the weights.

Unsalted, well-washed dry butter..... 17.05  
Salted and reworked..... 17.03  
Loss in ounces..... 3  
Particular attention is asked to the other

churning. The butter came too soft, but of excellent color, and was treated precisely like the other sample, except that it was too soft to be passed through the butter-worker, and the salt was worked in, and the water and brine apparently thoroughly worked out by hand.

Unsalted, well-washed soft butter ... 22.03  
Salted and reworked ..... 22.01  
Apparent gain ..... 1.01

This sample was too soft for packing or making into rolls, but to a casual observer it would seem about as dry as the other, and to need only cooling in order to be marketable. But my dairyman at once pronounced it full of moisture, and insisted that it be put aside and reworked the next day. I therefore took charge of it, and next morning it was reworked and

weighed again, making only 26.08 1/2 of strictly marketable butter.

Here we have an apparent gain in the first instance of seventeen ounces, but a final loss from original unsalted weight of 27 ounces, and from extreme salted weight, while soft, of forty-four ounces, nearly 1 ounce and 1 1/2 ounces to the pound respectively. This is rather an extreme case.

Subsequent experiments led me to the following conclusions:

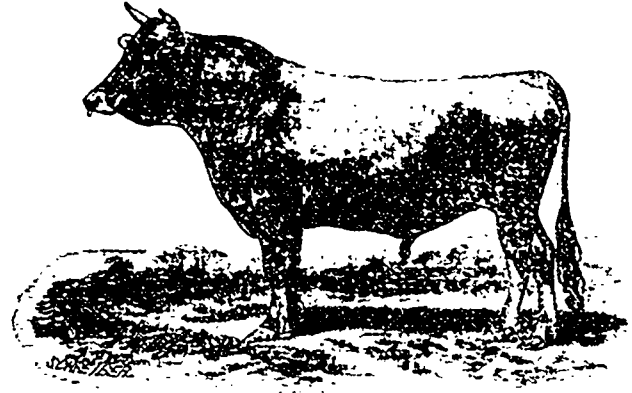
- 1st. That if the butter is unwashed or is washed in clear water, it will lose by salting, and the loss will average from one-half to one ounce to the pound.
- 2nd. That if it is washed in a brine of moderate strength it will gain by salting—seldom, however, as much as one-half ounce to the pound.
- 3rd. That if washed in a very strong brine it will gain about the weight of the added salt, but will contain quite too much salt to be a first-class table-butter.
- 4th. That if the butter is worked, washed and salted in the usual manner, then set aside for twenty-four hours and reworked, it will be fair to compare it with any other sample that has been similarly treated. On several occasions I weighed ten pounds of butter apparently ready for the market, kept it twenty-four hours, reworked and reweighed it. The loss in one instance was as much as four ounces. This was in very cold weather at midwinter. There would probably be less loss during spring and summer, as the salt would strike through the butter more rapidly.

The Guernseys are to have their herd book in England, where a hopeful future is expected for this fine dairy breed. It appears that dairying is now looked upon as the most profitable department of agriculture in Britain.

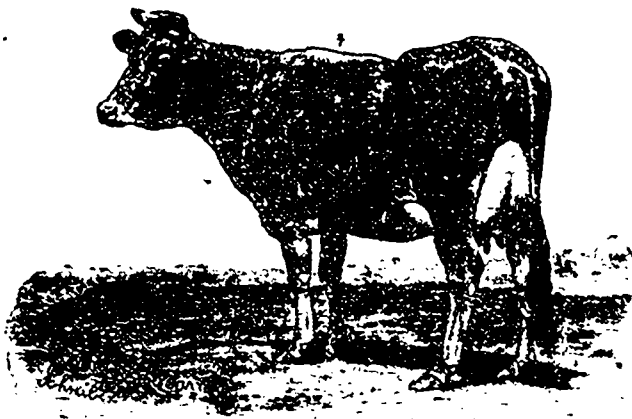
For cows that do not clean properly the following is recommended:—Take parsnips, cut up fine, a little bran sprinkled over, and give about half a bucketful at a time. It is an excellent feed at any time and makes the finest of butter.

Application has been made to the customs department at Ottawa, to allow the importation of an article called tea dust. An analysis of this article shows it to be composed of tea, a plentiful admixture of sand, and other ingredients. The inland revenue authorities decided that the article was injurious to the public health and could not be admitted into Canada.

Will Mr. Cornelius Smith, of Elm Grove Apiary, please send us his P. O. address.



THALMA, 1288.



MAID OF ST. LAMBERT, 12965.

Statement of Committee appointed by the American Jersey Cattle Club to take a test of the Jersey cow "Naind of St. Lambert" 12965. (Weight about 850 pounds).

Dates.	Weather.	Temperature.		Milk.		Churnings from June 11th to 11.	Butter.		Witnessed by.
		Air. P. M.	Cow P. M.	A.M. lbs.	P.M. lbs.		Unsalt'd lbs. oz.	Salted lbs. oz.	
June 6th.	Fair.			Stripped	Dry				M E Wold.
7th.	Fair.	86 deg.		17 1/2	21	2 1/2			Weld & H E Alvord.
8th.	Fair.	70 deg.	102.5	16 1/2	18	3 1/2			Weld & Alvord.
9th.	Fair.	86 deg.	102.2	16 1/2	19	2 1/2			Weld & Alvord.
10th.	Showers.			17 1/2			11 12	10 14 1/2	Weld & Alvord.
11th.	Cold rain.	68 deg.	100	2 1/2	17 1/2	3 1/2			Weld & Alvord.
12th.	Cold fog.	68 deg.	101	2 1/2	22	4 1/2			Weld & Alvord.
13th.	Very foggy.	63 deg.	101.2	20	29	4 1/2	10 11 1/2	11 4	Weld and H. H. Fuller.
Seven days.						27 lbs milk	11 7 1/2	22 2 1/2	

## STOCK.

For the CANADIAN FARMER:  
HORSE BREEDING.

At the request of the editor of the CANADIAN FARMER, I will give you a few ideas on horse breeding. Being a practical farmer myself and considerably interested in buying and breeding. I have had occasion to visit some of the largest breeding establishments on this continent, as well as some of the most extensive sale stables, and from coming in contact with a great many persons whose business brought them thither from every part of America. I have gained some considerable knowledge in regard to horse breeding.

Horse breeding in Canada has paid very well for a number of years back, and by the aid of favorable circumstances Canadian farmers have bred a great many good stock of their kind. In the days of our fathers many used to breed without any definite object in view, and to-day among a great many farmers the raising of a really good horse is more a matter of chance than of calculation. A draught mare is bred to a trotter and if the progeny does not turn out to be a trotter the stallion is condemned. Again, a fine bred mare is bred to a heavy draught horse and a sixteen or eighteen hundred horse is expected as the result. If they do not get it (which is a mere matter of chance) they come to the conclusion that a dunghill is just as good.

One of the great points of success in all things is to start right and in no respect is this more essential than in breeding. To raise good horses good must be bred from. It is all important that a clear, distinct and well-defined purpose must be kept in view if we wish to produce a first-class horse of any kind. The average run of farmers, I am sorry to say, if they have an old broken down mare that is unfit for labor no matter how coarse, or badly formed, or unsound she may be, she is kept on the farm to breed from. Again, the cheapest horse that travels the roads, no difference whether there is any good points about him or not, so long as he is fat and sleek, is selected and employed to breed from. The result is a good-for-nothing mongrel horse, constitutionally unsound, and although it costs just as much to raise him, he is not worth over one quarter as much as a good one, and commands a price of from twenty to one hundred dollars at maturity. Whereas a good, sound, well-bred animal could just as well have been raised with the same care and feed, with but a slight advance, on first cost, that would have commanded from two hundred to a thousand dollars at the same age. The most ignorant farmer is particular to select the finest and largest ears of corn of the best varieties for seed, because he believes it to be true economy, yet many farmers utterly disregard this law of prudence in the breeding of horses and farm stock in general. The law of like producing like is inexorable. Consequently, if we wish to raise a good draught colt we select a good, large well-bred mare (if we can find one) free from taint, blemish or other objections, and secure the service of a pure-bred horse, either Percheron, Clyde or Shire, as the case may be, and in no case breed from a grade or mongrel where a pure-bred horse is obtainable, no matter how low the fee may be for the services of the mongrel. I have adopted this plan of breeding and have never raised a colt in my life that was blemished or unsaleable from any other

cause. The same rule holds good in breeding trotters. Select only the best mares of good train of trotting blood, those of good form, size and style, and above all other qualities do not fail to have them sound; employ only pure-bred trotting stallions of the highest types of excellence and form, winning stock or still better themselves winners, and the result will be generally satisfactory, as it has been ascertained by actual experience that they have the power to transmit speed at the trotting gait. A great many breeders of horses are under the impression that crossing a trotting bred mare with a blood horse will produce a trotter. This has almost invariably proved to be a mistake, and it is now universally acknowledged, among intelligent breeders, that it is necessary to breed each class of horses distinctly if the highest standard of excellence is hoped to be reached. In some countries in Europe the breeding of horses is controlled by the the government, each one having large breeding establishments where those wishing can procure sound stallions devoid of all hereditary disease. Each stallion is furnished with a certificate from the government. No other stallions are allowed to be used for breeding under a penalty. The result is that you will scarcely find an unsound horse except by accident. Hereditary diseases such as spavin, ringbone, carb, roarer, heaves, etc., is scarcely known. If our Ontario Legislature wished to do the farmers and breeders of this province a real and lasting benefit, they would enact such laws by appointing competent inspectors to grant licenses to those free from blemish or hereditary diseases or unsoundness, and to those horses that have at least a reasonable amount of good breeding. A few years, breeding under such restrictions would materially increase the value of horses in this province and be a real blessing to owners and the country. Of course we could hardly expect such a law to emanate from such a source, as the government is composed of lawyers, doctors and other professional men, who know little of the requirements of the farmers and care still less, as there is more money in looking after the business of large corporations such as railways, &c.

J. A. R.

## THE TEXAS SLAUGHTER-HOUSE.

Let us now see what becomes of the cattle as they pass into the hands of the butcher. This term is also somewhat of a "misnomer" when applied to the present system of dressing beef, but we will let it stand, for the want of a more intelligible designation. There are two distinct departments in the large establishments of the day, viz, the "chipping" and the "canning." Into the former come the choice corn-fed animals from the great cereal districts of what can hardly now be called the "far West," as well as the best "grass" cattle which have had the run of the summer range. The latter receives most of the "through Texans," the old cows, and the "scrubs and culls" from the better lots. The process of slaughtering each is substantially the same up to a certain point, where the inferior quality passes from the killing to the canning house.

As we come within the gate we reach first the outer enclosure or pen, where may be gathered one hundred head of choice "chippers." They come in quickly and without excitement, and in a few minutes perhaps one-third of them are driven into a narrow alleyway adjoining the single

pens, where each one is in a few minutes to meet his death. This part of the yard is boarded up with heavy plank about six or seven feet high, and open at the top, along which we walk on a single plank running from end to end. As an animal is wanted, a slide door opens, and he passes into the pen nearest him. Here he stands, unconscious of the fate that awaits him, and that his executioner is at that moment loading the fatal weapon above his head and a mild-looking man with a short carbine in his hand drops the muzzle to a point in the centre of the forehead, just below the horns, and pulls the trigger. This steer falls without a struggle or a groan, and he passes on to the next, taking the life of half a dozen in a couple of minutes, more or less. The door at the other end of the pen is raised, a hooking chain passed around the neck, and the animal is drawn out upon a broad platform about fourteen feet wide, at the bottom of which runs a shallow trough to catch the blood. Suspended by the hind-feet, the sticking-knife completes the bleeding process, and then two men step forward and disconnect the head. Four follow, stripping down the hide—two others, in the meanwhile, taking off the feet. Sawing the breast and haunch bones is the next operation, and then the carcass is hoisted preparatory to taking out the inwards. This accomplished, a number are detailed to do the trimming, cleaning and turning to account every scrap and particle connected with the animal, so that nothing is wasted, down to the horns and hoofs. While these several operations are in progress the carcass has been moving along a distance of some two hundred feet, being attached to a track overhead. The men at work maintain their relative positions as one after another of the carcasses come before them, and in the brief space of fourteen minutes from the time of the fatal shot the animal is hung up, "drawn and quartered," and then left to cool in the chill room for forty-eight hours preparatory to shipping. Twenty different processes take place in the course of the fourteen minutes aforesaid, and ninety men are engaged in it. The average weight of this class of cattle, as brought into the slaughter-house, is 1250 pounds, and during the summer season five hundred head are killed daily in the nine hours allotted to the work.—*Harper's Magazine.*

## CHEWING THE CUD.

Every child living in the country has stood and watched this curious operation, and wondered what the lump was which he saw come up in the cow's throat, and then go down again after she had chewed it for a certain length of time. And perhaps he may have seen the anxiety and turmoil produced on a farm by the report that some one of the cows had "lost her cud," and as the result of this excitement he may have seen the absurd attempt to "make a new cud," in the hope that the cow would by such means be restored to good condition. There is in the minds of a large proportion of our readers so little correct understanding of the true nature of "chewing the cud," that a few words concerning it may not be amiss.

A very large tribe of animals, of which sheep and cows are only familiar examples, are called in works of natural history *Ruminantia* because they all *ruminant*, they chew the cud. They do so because their peculiar organs of digestion require

it; they can get their nourishment in no other way. They have, it is said in the books, four stomachs, but the statement is not strictly correct, for the entire digestion is done in a single one, that which is called the fourth, the other three being only places for preparatory work. Their food is swallowed without being chewed; the chewing is to come later. When this unchewed food is swallowed it passes directly into the first stomach, to use the common term; but the drink which the animal takes goes straight past the entrance of the first into the second. These two serve only to *soak* and soften the coarse food. When the first has done what it can, the food passes out of it into the second, and then the cow or sheep is ready to "chew the cud."

The second stomach, while busily at work in soaking the food, keeps it in motion, and gradually rolls it up into masses, so that in the small upper part there is formed an oblong solid lump of the size that we recognize as the "cud." This the animal throws up into the mouth, and chews with evidently as much satisfaction as the same act of mastication gives when we put the most delicate morsels between our teeth. When it is sufficiently chewed, the mass is swallowed and its place taken by another which had been rolled up in the mean time.

But the "cud" thus masticated does not return to the second stomach, from which it had come. It passes smoothly into the third, a place for additional lubrication, and then into the fourth, where the true digestion begins and ends.

This is, in brief, the whole story, and we see how naturally the chewing comes in; it is the same as in our own case, only that it is at a different stage of the food's progress. And we see also what "losing the cud" really is. The cow or sheep is suffering from indigestion; the "second stomach" has failed to roll up the little masses suitable for chewing, and there is nothing which the poor beast can bring up. Of course, therefore, the one thing required is to *restore the tone and power of the stomach*; not to burden it with an "artificial cud," which would only increase the difficulty, instead of relieving it.—*Scientific American.*

## HORSE STABLING.

Stable accommodation is very imperfect in many farms. The only rule by which the length of a stable can be regulated is, the number of stalls required, and these should never be less than from five feet six inches to six feet wide. It is desirable that the width for farm horses be at least eighteen feet, in order that ample space may be available behind them. It has for sometime been, and still ought to be, a desideratum in the construction of the stable to have the walls built high—it may be higher than any other portion of the farm steading—and the apex of the roof "open." When the building is high and "open" horses thrive much better than in stables which are small and close. Small stables are very objectionable, being generally badly ventilated and injurious to the equine constitution. The temperature in the stable should be about 53 degrees in winter and from 55 to 60 degrees in summer. Purity of atmosphere is essential to the strong, healthy and muscular development of all animals, and especially horses. The partitions between the horses should never be shorter than about nine feet, two feet of which is required for the manger.

**FAMILY CIRCLE.**

**WHERE THEY ARE AGAIN.**

Oh! the sleet, the beautiful sleet,  
Filling the air with melodious motor,  
Under our hat, and tickling our nose,  
Taking a bite through a hole in our clothes,  
In through the window, or the open door,  
Filling our chamber, singing the sweeter,  
Ever is found the untiring musketeer!

**THE YEARS TO BE.**

O grandeur of the years to be!  
O future all sublime!  
Fulfilled within thyself we see  
The promises of time!  
There bloom within thy balmy air  
The rarest flowers of speech,  
And action in thy sun shall bear  
The sweetest fruits for each!

We sow the goodly seed to-day  
Thy many hands shall reap;  
We give the golden grain away  
Thy garners soon shall heap!  
Who tills to-day the tooming field  
Slight recompense shall earn,  
Thy harvest time shall only yield  
The glorious return!

Thy nights with tower star shall blaze,  
Thy suns shall brighter glow;  
No gladder, grander yesterday  
Thy consciousness shall know,  
Thy song shall be a pean grand,  
Borne proudly on the breeze,  
Be echoed over every land,  
And wafted o'er the seas.

We plant to-day a single tree,  
Or drop a single seed,  
And millions in the year to be  
Shall praise the simple deed.  
The thing we do out echoes far  
Beyond our farthest thought;  
The tollings of the present are  
The frost blessing fraught!

With thy now thought, O years to be!  
Shall beam a brighter morn,  
And manhood with thy dawn shall see  
Its truest being, born!  
The earth will ring thy coming in  
With gladdest peal on peal,  
For thou shall gloriously begin  
Humanity's best weal!

And then shall all the echoes cheer  
Man's rapid onward march;  
For him angelic hands shall rear  
A grand triumphal arch!  
No land shall know a desert bare,  
No trackless waste a sea,  
The world shall smile a garden fair  
Within the years to be!

**FASHION FANCIES.**

For travelling gloves we see very stout kid with long wrists.

Buttoned glace kid gloves were never more fashionable than at this moment.

Opera slippers are now made with rounded toes and cut exceedingly low on the foot.

Ladies are beginning to discard the Mother Hubbard wrapper, and are adopting the Watteau with yoke back.

White satin is very durable, also plain linen lawns, and embroidery is much more used on these dresses this season than lace.

Tea-table cloths and napkins come in suits in very pretty colors. The small fruit napkins should be hemmed and of very fine damask.

Plain pongee is worn in combination this season, but the prettiest suits are the ecru pongee, hand embroidered. These dresses wear well and clean beautifully.

Ecru and flesh-tinted hose are again creeping into notice, and gray is being much sought after. Black will still hold its claim to every well-dressed lady's toilet.

Hats are large but not exaggerated in size, the forms resembling the Tyrolean derby, the director's and the broad brimmed Leghorn flat of a quarter of a century ago.

India silks are much sought after this spring, and are shown with both silk and satin finish in delicate ground colors, on which the designs are principally floral and in natural colors.

Wide lace in cascade, interspersed with

knots of ribbons, is a much favored trimming for evening dresses, around panels and the neck, when cut square, also down the front of the basque.

We had a velvet vest, collar and cuffs on the newest beaded Jerseys, though most of the ladies prefer the all-jointed ones. These are expensive but beautiful, and extremely becoming to the form.

Brocaded grenadine can be had now of all colors outlined with self-colored beads.

Valenciennes lace is a more dressy trimming on Swiss muslin dresses than the oriental.

Nothing can be prettier for midsummer wear at watering places than the new shirred white and ecru mull hat.

A new light-gray cloth dress, made with a polonaise, is heavily braided with silver on the vest and panels of skirt.

An elegant new screen has on the bough of its painted tree a real stuffed owl perched and calmly contemplating a golden moon in the right corner.

Scrim, which comes in brilliant colors fifty inches wide, and only 9 cents a yard, is in great demand for window, door and bed drapery for summer use.

**KEEPING HAMS THROUGH THE SUMMER.**

It is somewhat difficult to guard hams from flies through the summer, however well cured and smoked. The smoke-house, if well made, preserves them, and this is the more common place of deposit with those who smoke their own hams. But multitudes have on hand a season's supply of hams and shoulders. They keep much better in a dry atmosphere. If sugar-cured hams are purchased, the cloth that covers them is a sufficient protection against insects. If the hams are home-cured, they can be covered with cloth at small expense, or even with a bag of thick paper tied tight at the top, around the string by which they are suspended. If hung in a dry, cool place, they will not mould, and will always be on hand for the staple of a hearty meal, in any emergency of the family. Farmers generally make their own meat, and cure it, and, with a good recipe for curing, secure better hams than they can purchase, and at less cost. It pays to keep the larder well stocked with the best.

**BREAD MAKING—ASPHALTUM.**

A woman came along, offering a new process for yeast at 50 cents. The bread she had with her was so good that I was induced to try it, and as there was no request of secrecy, I will give it for the benefit of your many readers.

Excelsior yeast.—Pare and boil enough potatoes to make a pint when mashed. While yet very warm, mix thoroughly with it two tablespoonfuls sugar and a teaspoonful salt. Then save the starter for next time.

Bread.—Scald one tablespoonful of flour with the potato water. When lukewarm, add the gem and the remainder of the potato and sugar. Set to rise over night. Then knead twice—that is, mould up; let rise; then make out into loaves, let rise, and bake.

The "gem" she gave to start with was about the size of an egg. I use about half a teacupful for six or seven loaves baker's size; if too much yeast is used, the bread will not be so good. I have used many kinds of yeast, but never had bread rise so quick and be so tender and fine-grained as this was. I suppose it could be started at first with any kind of yeast.

**HINTS FOR THE HOME.**

**A PRETTY TABLE COVER.**

For the sitting room table a pretty cover can be made at small expense. Get a square of cardinal flannel of good quality, and that which is commonly called double width, around this put a broad band of velveteen of the same color but of a darker shade, then put flannel around this to the depth of four inches, this may be pinked around the edge. As for ornamentation it may be indulged in to any extent, but it is a pretty spread with the plain band, or with feather stitching on either side of the band.

**HOW TO PRESERVE EGGS.**

Eggs may be preserved by covering them with a little oil or butter, or with a thin coating of collodion dissolved in ether; but the most common method of preserving them, is by putting them, when quite fresh, into milk of lime, rejecting those which do not readily sink in the water, or which are cracked. The preservative action is no doubt due to the formation of carbonate of lime, within the pores of the shell, whereby the exclusion of atmospheric oxygen is secured. Some time ago when a sacristy was pulled down in Italy, eggs quite fresh were found imbedded in the mortar, which had existed for three hundred years. This proves the antiseptic power of lime.

**TIDIES.**

Checkerboard tidies are very fashionable in England. They are made by weaving two shades of inch-wide ribbon in and out to form squares. The ribbons can be pinned at the top to a stiffened linen tablecloth or to a brown paper laid on a table, and so held in place while the cross strips are woven in and pinned in place till all are in, when the pins may be replaced by stitches. Sometimes a daisy or star, in colored silk, is worked upon each intersection. The tidy may be edged with lace, or three sides may be finished by having the end of each piece of ribbon doubled up in a loop, and the lower edge ornamented with a fringe.

Another basket-woven tidy is made in the same way, of footing less than three-fourths of an inch wide. A double cross-stitch in white linen floss is worked on each square, an edge of Ereton or Oriental lace is sewed on all around, and the tidy is mounted upon a square of blue or pink satin and ornamented with a bow of ribbon of the same color.

A pretty tidy, which looks very fragile, while it is really very durable, is made of black Brussels net (not tulle), which is not, as clerks in fancy stores would have you believe, the same thing by any means. The lace is cut in the desired size and scalloped all around in a loose button-hole stitch with scarlet floss-silk. Inside the rows of scallop, four rows of darning follow its outline, and a square pattern in darning stitch ornaments the centre, or a hollow square is made in Greek or scroll pattern, and an initial or monogram, embroidered in satin stitch in the centre. A tidy can be made of white Brussels net by darning it in diagonal rows till it is covered with white split zephyr. The net for this should be very coarse, more like mosquito net than lace. Valenciennes lace will finish the edge prettily.

A rich looking tidy can be made of a square of crazy work set in a frame of dark velvet.

The most elegant tidy I have ever seen was made of real point lace and exquisitely embroidered cambric. But I confess to a desire to steal it and wear it for a sibu.

A long tidy for a sofa back is handsome when made of squares of fine antique lace and satin ribbons. An oblong piece may be bought for the centre, and the points of the edge laid over the satin and sewed in plain by invisible stitches. Outside of the ribbon may be lace inserting, with lace squares forming the corners, and a more or less wide lace edging, according to size of sofa, put around the whole.

Macreme twine, in all colors, makes handsome and serviceable tidies, especially when combined with ribbons. The tidies are rather difficult to make, and demand particular instructions. Those which are knitted of the finer quality of thread are very pleasing when made in stripes, alternating with ribbon stripes. Crocheted twine tidies are too common to need much mention, but, although common, they are desirable. The prettiest of them are worked in shell-stitch with frequent openings for wide ribbons to be run in. Each ribbon hangs below the lower edge and bears a little ornamental ball to fall over the twine fringe, which is crocheted separately or tied in. In either case the strands should be unravelled all the way, or the cord will curl and hang untidily.

**SHAWL BAGS.**

A bag is a capital thing to save a shawl from the dust of a journey, and, if of good size, can be used for holding toilet articles, etc. The best material for making shawl bags is brown waterproof. Cut two round end pieces eight inches in diameter, and a piece twenty inches wide by twenty-five inches long. Stitch these together, leaving the straight seam open nearly all the way across, and bind its edges and the edges of the end-pieces with worsted braid, sewed on with the machine. Close the opening with three buttons and button-holes. Stitch a piece of braid on a band of the waterproof two inches wide, and fasten on firmly for handles. The outside pocket can be made of any size, or left off, but is very convenient for papers. A person while travelling will never wish to be without one of the shawl bags, after finding out how useful they are.

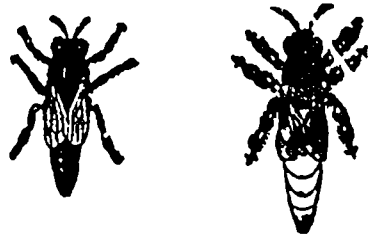
Send 50 cents and get the FARMER from now until January, 1885.

A strip of flannel or a napkin folded lengthwise and dipped in hot water and wrung out, and then hung around the neck of a child that has croup will usually bring relief in ten minutes.

Indolence is a sort of second nature to many of us, which it takes a great deal of will power to uproot and supplant. Not being compelled by stress of circumstance to do a thing becomes with us sufficient reason why we should not do it until necessity becomes the only spur that can goad us on to action.

A towel folded several times, and dipped in hot water and wrung out and applied over the seat of the pain in toothache or neuralgia will generally afford prompt relief. This treatment in colic works almost like magic. I have seen cases that have resisted other treatment for hours, yield to this in ten minutes. There is nothing that will so promptly cut short a congestion of the lung, sore throat, rheumatism, as hot water when applied promptly thoroughly.





APICULTURE.

OFFICERS OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.

President, Mr. S. Cornish, Lindsay; 1st Vice-President, J. B. Hall, Woodstock; 2nd Vice-President, Dr. Thom. Stewartville; Secretary-Treasurer, Mr. Jacob Spence, Toronto.

Executive Committee—M. Hamer, Cedar Grove; D. Chalmers, Mississauga; G. Mitchell, Listowell; B. Davidson, Uxbridge; W. E. Wells, Phillipsstown.

Communications on the business of the Association, and bee-keepers' department of the CANADIAN FARMER to be addressed to the Secretary-Treasurer, 251 Parliament St., Toronto.

NEW VARIETIES OF HONEY BEES.

Through the efforts of Messrs. D. A. Jones, Frank Benton, and others, who have spent much time and money in this direction, several varieties of bees, new to this country, have been introduced, and their comparative value to some extent tested.

The Cyprians have some marked characteristics. They have been quite thoroughly tested, but do not grow in favor with the majority. They are far to irritable to be agreeable to handle. Some consider them superior honey-gatherers. I have given them quite a thorough trial, and the only point I could find in their favor, was a tendency to breed late in the fall, which is desirable as affording a good force of young bees when going into winter quarters. I have not tested the Syrians. Mr. Benton pronounces them among the very best. The Carniolans are said to possess some very desirable qualities, and a cross between them and the Italians have a good reputation. Much has been said of the Holy Land or Palestine bee, but my own experience does not corroborate all that is claimed for them.

Mr. Julius Hoffman received an importation of Caucasian bees in 1880. He has experimented quite extensively with them and is of the opinion they are superior in many respects. In fact, I have never heard more desirable points claimed for any one variety than Mr. Hoffman claims for these. He is one of our most practical bee-keepers, and his conclusions should be received with confidence. Much credit is due those who have been so persevering in securing to us these new varieties. The ultimate results must be of great good, as the future crossing of these strains will no doubt give us one with a combination of very superior traits.—L. C. Root, Author of "New Bee-Keeping."

NORFOLK BEE-KEEPERS ASSOCIATION

The fourteenth regular meeting of the above Association was held in Simcoe on the 7th inst. First Vice-President (Mr. Moses A. Kitchen) in the chair. Minutes of the last meeting read and adopted.

Question drawer opened:

(1) Which is the better for bees, during the time of breeding, honey or pollen? After a full discussion it was decided that both are absolutely necessary.

(2) What is the cause of so many bees leaving their hive in the spring? There are various causes; but the principle one is a need of supplies.

(3) When a colony finds itself queenless and then rears a queen of its own, is it advisable to leave this queen with the

colony? No; for when the bees find that they are without a queen, they are sure to set about rearing a queen from larva already eight or nine days old, and which has previously received no special nourishment; and the result is sure to be an imperfectly developed queen.

The next question that came before the Association, was one concerning adulterated honey. Some one had said that a bee-keeper had placed adulterated honey on the market. A sample of the article being produced, was examined by experts, and pronounced to be unadulterated, but of an inferior quality; having been gathered late in the season, and not properly cured.

After discussing other matters pertaining to the Association, the meeting adjourned to meet again at 2 o'clock, on Saturday, the 6th of September, at the residence of Mr. Moses A. Kitchen, on the gravel road between Bloomsburg and Waterford. All are cordially invited to attend.

ELLAS CLOUSE, Secretary.

Simcoe, 20th June, 1884.

SUGGESTIONS FOR THIS HONEY SEASON.

The much talked of clover season is here, and bees are hovering over the fragrant bloom, and drawing up the precious nectar from the tiny wells. Every facility for depositing honey should now be given them, and no colony be allowed to cluster on the outside for want of storage room. As fast as the combs are sealed, remove them, so that their delicate whiteness may not be impaired by the bees traveling over the caps. When the surplus receptacles are filled with comb-builders, and there are more bees clustered on the outside more room should be provided, and they should be given a hint to go in and possess it.

Sometimes bees loiter on the outside because the heat of the hive is too great, and there is danger of the comb melting and breaking down. Supply all needed ventilation from below, and raise the cover or the cap above the surplus arrangement. It may be necessary at times to shade the hive. No bee-master allows his bees to remain in idleness during the season of flowing nectar.

Bees may be prevented from swarming by using the extractor freely. Some bee-keepers say that honey should not be extracted before it is fully ripened and sealed, while others equally successful, practice and recommend extracting before sealing, and evaporate afterwards. This is done in California in large tanks, in the hot sun. The thin honey rises to the top, while the thick is drawn through a gate at the bottom.

In order to produce a fine article of extracted clover honey, clean comb should be given the bees at the commencement of the flow, and extracted when sealed, or partially so, and kept entire by itself. No combs partially filled with uncapped larva should be extracted from, for fear of "grub-juice." White clover nectar is fit to set before a king.

When the honey is sealed the bees should be intimidated with a little smoke, and as the frames of colonies are removed from the hive brush the bees off with a feather or little twig, or an asparagus branch. Put into a receptacle with a corner, such as a tin comb-basket, or box, and convey it to the honey-house. The capping can be shaved off with a knife made for the purpose, or with an old case-knife with a thin; then put into an extractor, where a few swift turns will

throw out the contents. The empty frames can then be exchanged for full ones.

A swarm of bees came out this morning (June 16) and commenced clustering in the top of a cherry tree. I anticipated some tall climbing to get them down, and watched to see if I could catch the queen as she issued. In a few moments I noticed the bees returning, when I perceived the queen among the grass; she was two heavy with eggs to fly, and catching her by the wing, I put her into a hive, and returning the old one from its stand, put the one with the queen in its place, where her subjects soon gathered. The old hive was removed to a new stand, which will probably prevent after-swarming, and the partially filled honey-boxes removed to the new colony to be completed, as it will be very strong on account of occupying the old stand, as all the working force will return.—Ez.

A MOVEABLE FIELD OF LABOR.

Some time ago some one conceived the idea of a floating apiary to move around to different climates as the season and bee-food demanded. This did not pay. Lately, however, a new kind of the same movement has sprung up, and we are likely to have moveable apiaries.

Mr. M. M. Baldrige, the well-known apiarist of St. Charles, Ill., and Mr. E. T. Flannigan, of St. Clair County, in the same State, last November took to the neighborhood of New Orleans some 300 swarms of bees for wintering. The plan was to keep them there to work in early spring, say to about the second week of June, then ship them north to Kane Co. to feed upon white clover, and other superior honey-producing plants, until the first of August; then move them down to St. Clair County to gather honey from Heart's Ease, Spanish Needle, etc., until cold weather closes honey-gathering. It will thus be seen that it is expected to secure three distinct honey seasons, and if desired, three periods of natural increase. Besides the advantage of an early honey crop it is calculated that in the mild climate of Louisiana there will be little if any loss in wintering.

The first part of this programme has been carried out, and the 300 colonies, filling two cars, arrived in Chicago on Monday en route for St. Charles, their summer home. Mr. Baldrige informs us that the bees wintered without loss, but that the extreme wet weather along the lower Mississippi greatly interfered with plant bloom, and that the honey crop was exceedingly light—indeed less than for many years, so he does not consider the profit settled for the first third of the season. The test for the second third will now be entered upon in Kane County.

The freight on bees in quantity from New Orleans to Chicago is about one dollar per hive, to which expense must be added the time and services of the attendants. To take them back, stopping at St. Clair County, will add something to the cost of freight and handling. Apiarists will watch the progress of this new bee enterprise with interest. We shall report in due time as to its result.

CHEMISTRY OF HONEY.

The following able article on the above interesting subject taken from the Country Gentleman.

Naturalists have not yet decided whether honey is a secretion of the bee or whether it exists already formed in plants. It is certain that the nectaries of flowers contain a saccharine matter which is ex-

tracted by the insect, and the fact is well known that the flavor and character of honey are so much affected by the nature of the plants which predominate in the vicinity of the hive, that, when these plants are poisonous, the fluid sometimes partakes of their noxious qualities. Several cases of poisoning from eating honey from a particular source, are recorded in medical literature. Still, it probably undergoes change in the organs of the bee, as the saccharine matter of the nectaries, so far as it has been possible to examine it, wants some of the characteristic properties of honey.

Honey is apt to form a crystalline deposit, and to be ultimately converted into a soft, granular mass, being then called "candied." Its specific gravity is about 1.35. It contains crystallizable sugar, analogous to that of grapes, and according to Prof. Soubiran, two other kinds of sugar, one of which is changed by acids, and has the property of turning the plane of polarization to the right. The other, acted on by acids, is possessed of a strong left-hand rotating power. The first of these two sugars is not always present, as there is reason to believe that it is in time wholly changed by its acid into granular sugar—candied. It is especially abundant in new honey. The second variety is very similar to the uncrystallizable sugar produced by the action of acids on cane sugar, being identical with it in composition, and, like it, incapable of crystallizing, and very sensitive to the action of alkalis. But it is distinguished by the impossibility of converting it into granular sugar, and by having nearly twice the rotating power of common uncrystallizable sugar.—(Journal de Pharm., 3d series, xvi, 253.)

Honey contains, beside the saccharine principles, an aroma, an acid, wax and, according to Guibourt, a little mannite (a principle; a 40th part of pure manna). The crystalline sugar may be obtained by treating granular honey with a small quantity of alcohol, which, when expressed takes along with it the other ingredients, leaving the crystals nearly untouched. The same end may be attained by melting the candied honey, saturating its acid with carbonate of lime (chalk), filtering the liquid and setting it aside to crystallize, and washing the crystals with alcohol. Inferior honey usually contains a large proportion of uncrystallizable sugar and vegetable acid. Samples of cane sugar also differ essentially in chemical composition. According to the Chemical Gazette, brown sugar consists of cane sugar, associated with variable quantities of hygroscopic moisture, uncrystallizable sugar, gum, albumen, extractive saline matter, and insoluble organic and inorganic substances. Among the organic substance is a small proportion of lime. By keeping it, it becomes soft, gummy and less sweet—a change attributed to the lime.

Bee-culturists are aware that the great drawback in wintering bees is dysentery. The cause is yet a mooted problem not satisfactorily explained. Poor honey, such as contains acids, ferments, gum, and all the deleterious substances in excess, unavoidably produces morbidity if consumed by bees while in confinement. Different samples of honey cannot be distinguished by purity of saccharine, except by analysis. One bee culturist suspected that dysentery was caused by some deleterious substance that chanced to be collected with honey in some seasons, and he fancied it was "bacteria." His conclusions as to what the injurious substance is, has not been accepted by others; but the fact that dysentery is attributed to the quality of the honey eaten by the bees, is not doubted by intelligent and experienced apiarists. If bacteria sometimes infect samples of honey it is unsafe to eat it, because the spores might produce as fatal results as follow the eating of trichinous pork, so that honey for table use is attended with more risk of life and health than is the much derided glucose.

## FARM and GARDEN.

FOR THE CANADIAN FARMER.  
WHEN TO CUT HAY

BY M. MCQUADE, EDMONDVILLE.

The season for haying will soon be at hand, and there are a few seasonable hints and suggestions that may come in about the right time just now. There are two well founded opinions about the best stage of growth at which grass should be cut to make the best hay. Some maintain that when grass is in bloom, is the proper time, but we must bear in mind that all grasses are not in the same stage of development when the blossom first appears; that some kinds bloom but once, and others twice; some for a longer, and others for a shorter period. Red clover will keep in full bloom for from eight days to three weeks, according to the state of the land and the weather. The large or German clover will keep in bloom twice as long as the short red clover, and a difference of two or three weeks will make a great difference in the quality and quantity of the hay. Timothy blooms twice, once with a whitish blossom, and next with a blue one, which differ ten days to two weeks in their appearance. Now, the point to be determined is, at which of these stages should the grass be cut, granting ground and weather to be all right for haying.

Those that maintain that at full bloom is the best time to cut, must modify their time by a scale of two weeks, for grass cut at the first blush of the blossom will fall to pieces in drying and handling. This is especially the case with timothy and blue grass. Clover cut at that stage will contain too much water—scarcely any wood tissue, no honey in the blossom, and will shrink to less than half its bulk. In this stage clover is very hard to save, as the slightest dew will injure it very much, and a heavy dew ruin it and cause it to turn black, and lose all its leaves. Timothy cut in the first blossom, is also very easily damaged by dew or a very light shower, and not only shrinks very greatly, but falls in pieces in handling, because there is a piece of the stalk above each joint that is little else than a bundle of skeleton tubes filled with sap, which, when dried, evaporates into thin air, leaves the stalks in pieces, and even the pieces that remain are only like bundles of dried threads with very little weight or matter for food. We have seen hay cut at this early stage, which not only would not hang together to pitch off the load, but was apparently as light and void of nutriment as so much tissue paper, yet it was cut in bloom, but too early.

It will be obvious that the bloom must be well matured before the grass should be cut. Professor Arnold and some others favor cutting at a young stage, and some have tried to follow their teaching. This class of persons maintain that grass cut young will remain green, and yield more nourishment than when more fully grown. There is no doubt that grass is the best feed for cattle, and there is as little doubt that such grasses as blue grass and white clover that mature very early, make the best pasture for the production of beef and butter. Professor Mills declared that no other grass will produce so much beef and butter, and he is right, and the characteristics of this grass is, that it matures an abundance of seed, that is fitted and ripened early. The seed was beginning to harden on the 12th of June, this year, about this time, and for the next three

weeks will be the period at which cows make their best milk in gullt-edge butter, and two year old cover the sharp angles. In this period the main pasture grass is blue grass and white clover, which will both ripen their seeds in the order in which they are named.

There is an argument on the authority of the milk pail and butcher shop, in favor of mature grass for feed and to be cut for hay; there are other arguments by a host of advocates, who do not plant their standard on theory or science, but appeal to what they consider irreputable practical experience. The one class appeals to science, the other to experience, and it may sometimes happen that either may go too far, or may begin too soon; but experience has the greatest weight of authority in its favor, and is more sure to be right. But science and experience should agree, and must support each other as surely as the sill supports the posts in the hay mow, for science is only nature's law put in words. Where science and practice differ or conflict, the trouble is not between nature and her products, but between men who do not happen to get hold of the right end of the thread or miss some conditions in the circumstance. The advantages in favor of having grass pretty well matured for hay, are that it will not shrink so much, and that next, that it will cure more rapidly, a quality that is not to be despised, especially if weather should be showery, as it often is in July. The contention in favor of young grass is that it contains less woody tissue, and that woody fibre is indigestible. There is no doubt but grass gets more woody with age, and that the excrement of cattle will show more woody fibre from matured hay than dried young grass, because there is more to digest and more to "be left"; but this is no argument to prove that woody tissue is indigestible in the stomach of a cow, as it is more difficult to solve in the laboratory. Chemically considered, woody tissue is similar in composition to starch and sugar, two of the most nutritious substances of food which we have, and science cannot enter the stomach of a living animal to watch the operation, as it would in the crucible or alembic. Science must first destroy the texture of something before it can decide; experience decides by results of observation. Science has decided that the poison of the rattle snake and the white of an egg, are chemically alike, the one a deadly virus, and the other a rich nourishment. Experience of the early settlers of Ontario has proved that cattle have come through long winters plump and healthy on browse alone, on a simple fodder of woody fibre alone, with regular rations of salt.

We have given arguments for both sides of the question, but properly speaking, there should be but one opinion, and what that should be, is what is our duty to find out. Some of the most careful feeders declare that they have had the best results with timothy that had been cut when the seed was getting in the milk. That would be a few days after the last blossom had been shed. The general opinion, therefore, avoiding extremes, varies only about four to six days at the most, with regard to timothy and blue grass. And, so far as our own, and the best experience go, the time for clover is when the honey is in most abundance in the blossom, a few days before the blossom begins to fade. Of course, the state of the ground and the weather must always be consulted. An-

other point that should be observed, is, that only as much should be cut at a time as can be saved and housed or stacked without dew or rain. It will be always safer to cut a little earlier or later than run the risk of getting a shower.

## FARM AND GARDEN PESTS.

The season is at hand when farm and garden pests come down upon the crops of the farmers with a vengeance, and it is well to know how to apply a remedy at once and with little expense. The Massachusetts Agricultural Experiment Station have made full investigation upon the question and we present our readers with the result of these inquiries.

**Cabbage Flea.**—The first insect of importance that appears, is the small black flea, or jumping beetle, that attacks the cabbage, radish, turnip, etc. Dusting with Paris green mixed with one hundred times its weight of plaster has proved an effectual remedy. This must be done when the plants are wet, and after every rain.

**Cut Worm.**—The cut-worm, of which there are several species, including the army worm, works only during the night, and may be destroyed by the same friendly remedy as above. We would advise a trial of pyrethrum powder mixed with five times its bulk of plaster, as being more safe, although we have no positive proof that it will be effectual.

**Striped Squash Bug.**—The striped squash bug, which has been so abundant for the past two seasons, is best kept in check by the use of plaster and Paris green. For the family garden the safest and most satisfactory way to overcome them is to make a bottomless box twelve inches square, and six or eight inches deep, and cover it with mosquito netting. One of the boxes placed over each hill until the plants have become tough and hard is a sure protection.

**The Potato Beetle.**—The potato beetle has evidently become a permanent resident among us. Paris green extended with plaster, flour, or water, is the only cheap and easily applied remedy known at present, but great care must be exercised in its use, and especially in the place where the package is kept, that it may not get upon the food of animals. London purple is equally efficient.

**Cabbage Worm.**—The cabbage worm, the larva of the common white butterfly, may be easily destroyed in several ways. That of hand-picking, if begun before the brood has passed into its perfect state, is effectual. We have also found that pyrethrum powder, mixed with five times its bulk of plaster, and dusted into the centre of the leaves with sulphur bellows, is certain destruction to every one of them. The application of insecticides in liquids to the cabbages has not been satisfactory on account of the peculiar structure of the leaf surface which allows the water to roll off in drops and not adhere to any part of it. Paris green is unsafe to use after the leaves have become over four inches in diameter.

**Currant Worm.**—The currant worm should be destroyed while small, with the dust of hellebore or pyrethrum. The latter being perfectly harmless, is to be more highly recommended than the former.

**Plum Weevil.**—There are two certain methods of capturing the plum weevil, the first by jarring the tree early in the morning, and catching them upon sheets stretched below upon a frame or upon the ground, and the second by placing chicken coots under the trees. The former method must be attended to regularly every morning for

three weeks after the plums have set, and in the latter case, if the number of trees is large, a large flock of chickens will be required to make that remedy effectual.

**Culling Moth.**—No positive remedy against the ravages of this insect has as yet been found. It is claimed that Paris green sprayed over the tree in water is effectual, but should it prove so it is far too dangerous a remedy to apply where grass or other crops are growing under them.

**Apple and Peach Borer.**—For the destruction of these two insects no sure remedy has been found except the knife. It is probable that covering the trunk of the tree near the ground with the ink or tar used to catch the moths or the canker worm, or wrapping around the trunk bands of tarred paper, would assist in keeping them away.

## CURRANT WORMS.

Take a strong decoction of tobacco, and with a sprinkle apply the same to the bushes. Wash the currants thoroughly before using. I have tried this and I know it is effective, and does not injure the fruit.

## BONES AND WHEAT.

BY PETER C. DE LINDE.

One pound of bone contains the phosphoric acid of twenty-eight pounds of wheat. A crop of wheat of forty bushels per acre, and sixty pounds per bushel, weighs two thousand and four hundred pounds, and it requires about eighty-six pounds of bones to supply it with that essential material. Remember this, ye Dakota bonanza wheat farmers.

## FLAX CULTURE IN OUR NORTH-WEST.

There are many opportunities for new, paying industries in the now developing North-west. Why not a flax manufacturing establishment? Immense quantities of cord are used by the thousand of twine binders that are used at harvest. Why should not this cord be made at home, instead of sending abroad for it? The facilities are all here, and no where else can they raise such flax as the North-west can produce. Let the subject be agitated and let some action be taken by some of our leading farmers towards the establishment of a manufactory of articles made from flax at some convenient point in the great North-west.

The experience of the best wheat growers goes to show that wheat should be cut when in the "doughy state." That is when the kernel can be crushed readily between the thumb and finger. If left to over ripen, the starch and gluten are both diminished in quantity, and the woody fibre increased. Shocking the wheat is the most important part of harvest work. Good shocking will always pay.

It may have been a strong sense of personal interest that has prompted a churn manufacturer to give the following advice, but it is valuable none the less: "Many fill the churn half full; but the time it takes to churn is lessened nearly one-half when the churn is filled only one-third full. Many dairymen make this mistake by buying too small a churn." What is saved in the extra cost of a larger churn is lost in extra time in churning, often in a single week, always in a month. Hence the folly of this expensive kind of economy. But it is like a great many traditional economies quite too generally practiced.

## HIS SOMBRE RIVALS.

By EDWARD P. ROE

AUTHOR OF "BARRIERS BURNED AWAY,"

"OPENING A CHESTNUT BURR,"

"WITHOUT A HOME," ETC.

the discipline and coolness. As I rode here and there I could see that they were erect, eager, and that their eyes began to glow like coals from their dusty sunburnt visages. If there were occasional evidences of fear, there were more of resolution and desire and eagerness for the fray.

"The aspect of affairs on the ridge, where the enemy awaited us, did not grow encouraging. With my glass I could see reinforcements coming up rapidly during our delay. New guns were seeking position, which was scarcely taken before there was a puff of smoke and their iron message, Heavens! what a vicious sound those shells had! something between a whizz and a shriek. Even the horses would cringe and shudder when one passed over them, and the men would duck their heads, though the missile was thirty feet in the air. I suppose there was some awfully wild firing on both sides; but I saw several of our men carried to the rear. But all this detail is an old, old story to you, major."

"Yes, an old story, but one that can never lose its fierce charm. I see it all as you describe it. Go on, and omit nothing you can remember of the scene. Mrs. Mayburn looks as grim as one of your cannon; and Grace, my child, you won't flinch, will you?"

"No, papa."

"That's my brave wife's child. She often said, 'Tell me all. I wish to know just what you have passed through.'"

A brief glance assured Graham that her father's spirit was then supreme, and that she looked with woman's admiration on a scene replete with the manhood woman most admires.

"I cannot describe to you the battle, as such," continued Graham. "I can only outline faintly the picture I saw dimly through dust and smoke from my own standpoint. Being under no one's orders I could go where I pleased, and I tried to find the vital points. Of course, there was much heavy fighting that I saw nothing of, movements unknown to me or caught but imperfectly. During the preliminary conflict I remained on the right of Burnside's command near the Sudley Road, by which our army had reached the field.

"When at last his troops began to press forward, their advance was decided and courageous; but the enemy held their own stubbornly. The fighting was severe and deadly, for we were now within easy musket range. At one time I trembled for Burnside's lines, and I saw one of his aids gallop furiously to the rear for help. It came almost immediately in the form of a fine body of regulars under Major Sykes; and our wavering lines were rendered firm and more aggressive than ever. At the same time it was evident that our forces were going into action off to the right of the Sudley Road, and that another battery had opened on the enemy. I afterward learned that they were Rickett's guns. Under this increasing and relentless pressure the enemy's lines were seen to waver. Wild cheers went up from our ranks, and such is the power of the human voice—the echo direct from the heart—that these shouts rose above the roar of the cannon, the crash of musketry, and thrilled every nerve and fibre. Onward pressed our men; the Rebel lines yielded, broke, and our foes retreated down the hill, but at a dogged, stubborn pace, fighting as they went. Seeing the direction they were taking, I dashed into the Sudley Road, near which I had kept as the centre of opera-

tions. At the intersection of this road with the Warrenton Turnpike was a stone house, and behind this the enemy rallied, as if determined to retreat no farther. I had scarcely observed this fact when I saw a body of men forming in the road just above me. In a few moments they were in motion. On they came, a resistless human torrent with a roar of hoarse shouts and cries. I was carried along with them; but before we reached the stone house the enemy broke and fled, and the whole Rebel line was swept back half a mile or more.

"Thus you see that in the first severe conflict of the day, and when pitted against numbers comparatively equal, we won a decided victory."

Both the major and Hilland drew a long breath of relief; and the former said, "I have been hasty and unjust in my censure. If that raw militia could be made to fight at all, it can in time be made to fight well. Mr. Graham, you have deeply gratified an old soldier to-night by describing scenes that carry me back to the grand era of my life. I believe I was born to be a soldier; and my old companions stand in my memory like sun-lighted mountain-tops. Forgive such high-flown talk,—I know it's not like me,—but I've had to-night some of my old battle excitement. I never thought to feel it again. We'll hear the rest of your story to-morrow. I outrank you all, by age at least; and I now order 'taps.'"

Graham was not sorry, for in strong reaction a sudden sense of almost mortal weakness overcame him. Even the presence of Grace, for whose sake, after all, he had unconsciously told his story, could not sustain him any longer, and he sank back looking very white.

"You have over-exerted yourself," she said gently, coming to his side. "You should have stopped when I cautioned you; or rather, we should have been more thoughtful."

"Perhaps I have overrated my strength, —it's a fault of mine," was his smiling reply. "I shall be perfectly well after a night's rest."

He had looked up at her as he spoke; and in that moment of weakness there was a wistful, hungry look in his eyes that smote her heart.

A shallow, silly woman, or an intensely selfish one, would have exulted. Here was a man, cool, strong, and masterful among other men,—a man who had gone to the other side of the globe to escape her power,—one who within the last few days had witnessed a battle with the quiet poise that enabled him to study it as an artist or a tactician; and yet he could not keep his eyes from betraying the truth that there was something within his heart stronger than himself.

Did Grace Hilland lay this flattering unction to her soul? No. She went away inexpressibly sad. She felt that two battle scenes had been presented to her mind; and the conflict that had been waged silently, patiently, and unceasingly in a strong man's soul had to her the higher elements of heroism. It was another of those wretched problems offered by this imperfect world for which there seems no remedy.

When Hilland hastened over to see his friend and add a few hearty words to those he had already spoken, he was told that he was sleeping.

## CHAPTER XXI.

## THE LOGIC OF EVENTS.

Graham was right in his prediction that another night's rest would carry him far on the road to recovery; and he insisted, when Hilland called in the morning, that the major should remain in his accustomed chair at home, and listen to the remainder of the story. "My habit of life is so active," he said, "that a little change will do me good;" and so it was arranged. By leaning on Hilland's shoulder he was able to limp the short distance between the cottages; and found that Grace had made every arrangement for his comfort on the

piazza, where the major welcomed him with almost the eagerness of a child for whom an absorbing story is to be continued.

"You can't know how you interested us all last night," Grace began. "I never knew papa to be more gratified; and as for Warren, he could not sleep for excitement. Where did you learn to tell stories?"

"I was said to be very good at fiction when a boy, especially when I got into scrapes. But you can't expect in this garish light any such effects as I may have created last evening. It requires the mysterious power of night and other conditions to secure a glamour; and so you must look for the baldest prose to-day."

"Indeed, Graham, we scarcely know what to expect from you any more," Hilland remarked. "From being a quiet cynic philosopher, content to delve in old libraries like the typical bookworm, you become an indefatigable sportsman, horse-tamer, explorer of the remote parts of the earth, and last, and strangest, a newspaper correspondent who doesn't know that the place to see and write about battles is several miles in the rear. What will you do next?"

"My future will be redeemed from the faintest trace of eccentricity. I shall do what about a million other Americans will do eventually,—go into the army."

"Ah! now you talk sense, and I am with you. I shall be ready to go as soon as you are well enough."

"I doubt it."

"I don't."

"Grace, what do you say to all this?" turning a troubled look upon the wife.

"I foresee that, like my mother, I am to be the wife of a soldier," she replied with a smile, while tears stood in her eyes. "I did not marry Warren to destroy his sense of manhood."

"You see, Graham, how it is. You also perceive what a knight I must be to be worthy of the lady I leave in bower."

"Yes; I see it all too well. But I must misquote Shakespeare to you, and 'charge you to stand on the order of your going;' and I think the rest of my story will prove that I have good reason for the charge."

"I should have been sorry," said the major, "to have had Grace marry a man who would consult only ease and safety in times like these. It will be awfully hard to have him go. But the time may soon come when it would be harder for Grace to have him stay; that is, if she is like her mother. But what's the use of looking at the gloomy side? I've been in a dozen battles; and here I am to plague the world yet. But now for the story. You left off, Mr. Graham, at the rout of the first rebel line of battle."

"And this had not been attained," resumed Graham, "without loss to our side. Colonel Hunter, who commanded the second division, you remember, was so severely wounded by a shell that he had to leave the field early in the action. Colonel Slocum, of one of the Rhode Island regiments, was mortally wounded, and his major had his leg crushed with a cannon ball which at the same time killed his horse. Many others were wounded and must have had a hard time of it, poor fellows, that hot day. As for the dead that strewed the ground—their troubles were over."

"But not the troubles of those that loved them," said Grace, bitterly.

Graham turned hastily away. When a moment later he resumed his narrative, she noticed that his eyes were moist and his tones husky.

"Our heaviest loss was in the demoralization of some of the regiments engaged. They appeared to have so little cohesion that one feared all the time that they might crumble away into mere human atoms."

"The affair continually took on a larger aspect, as more troops became engaged. We had driven the Confederates down a gentle slope, across a small stream called Young's Branch, and up a hill beyond and to the south. This position was higher and stronger than any they had yet occupied. On the crest of the hill were two houses; and

the enemy could be seen forming a line extending from one to the other. They were evidently receiving reinforcements rapidly. I could see gray columns hastening forward and deploying; and I've no doubt that many of the fugitives were rallied beyond this line. Meanwhile, I was informed that Tylor's Division, left in the morning at Stone Bridge, had crossed the Run in obedience to McDowell's orders, and were on the field at the left of our line. Such, as far as I could judge, was the position of affairs between twelve and one, although I can give you only my impressions. It appeared to me that our men were fighting well, gradually and steadily advancing, and closing in upon the enemy. Still, I cannot help feeling that if we had followed up our success by the determined charge of one brigade that would hold together, the hill might have been swept, and victory made certain.

"I had taken my position near Rickett's and Griffin's batteries on the right of our line, and decided to follow them up, not only because they were doing splendid work, but also for the reason that they would naturally be given commanding positions at vital points. By about two o'clock we had occupied the Warrenton turnpike; and we justly felt that much had been gained. The Confederate lines between the two houses on the hill had given way, and from the sounds we heard they must have been driven back also by a charge on our extreme left. Indeed, there was scarcely anything to be seen of the foe that thus far had been not only seen but felt.

"From a height near the batteries where I stood the problem appeared somewhat clear to me. We had driven the enemy up and over a hill of considerable altitude, and across an uneven plateau, and they were undoubtedly in the woods beyond, a splendid position which commanded the entire open space over which we must advance to reach them. They were in cover; we should be in full view in all efforts to dislodge them. Their very reverses had secured for them a position worth half a dozen regiments; and I trembled as I thought of our raw militia advancing under conditions that would try the courage of veterans. You remember that if Washington, in the Revolution, could get his new recruits behind a rail-fence they thought they were safe.

"Well, there was no help for it. The hill and the plateau must be crossed under a point-blank fire, in order to reach the enemy, and that, too, by men who had been under arms since midnight, and the majority wearied by a long march under a blazing sun.

"About half past two, when the assault began, a strange and ominous quiet rested on the field. As I have said, the enemy had disappeared. The men scarcely knew what to think of it; and in some a false confidence, speedily dispelled, was begotten. Rickett's battery was moved down across the valley to the top of a hill just beyond the residence owned and occupied by a Mrs. Henry. I followed and entered the house, already shattered by shot and shell, curious to know whether it was occupied, and by whom. Pitiful to relate, I found that Mrs. Henry was a widow and a helpless invalid. The poor woman was in a mortal terror; and it was my hope to return and carry her to some place of safety, but the swift and deadly tide of war gave me no chance.

"Rickett's battery was scarcely unlimbered before death was busy among his cannoners and even his horses. The enemy had not only the cover of the woods, but a second growth of pines, which fringed them and completely concealed the Rebel sharpshooters. When a man fell nothing could be seen but a puff of smoke. These little jets and wreaths of smoke encircled us, and I think it speaks well for officers and men that they not only did their duty, but that Griffin's battery also came up, and that both batteries held their own against a terrific point-blank fire from the Rebel cannon, which certainly exceeded ours in num-



The range was exceedingly short, a more terrific artillery duel it would be hard to imagine. At the same time the more deadly little puffs of smoke continued; and men in every act of duty would suddenly throw up hands and fall. The batteries had business to be so exposed, and their efforts were of no real service.

They can give you an idea of what occurred at this point only; but, from reports I heard, there was some heavy fighting elsewhere, which I, however, was too spasmodic and excited to accomplish the required. A heavy, persistent, concentrated attack, a swift push with the bayonet through the low pines and woods, would have saved the day. Perhaps our troops were not equal to it; and yet, poor fellows they did braver things that were usually useless.

They still believe, however, all might have gone well, had it not been for a fatal mistake. I was not very far from Captain Griffin, and was watching the effective superintendence of his men when suddenly I noticed a regiment in full view on our right advancing rapidly. Griffin caught sight of it at the same moment, and seemed excited. Were they Confederates or Unionists? was the question to be determined instantly. They might be his own men. Doubtful and yet exceedingly apprehensive, he ordered his guns to be pointed with caution and trained upon the dubious force that had come into view like an apparition; but he still hesitated, restrained, doubtless, by the thought of annihilating a Union regiment.

"Captain," said Major Barry, chief of artillery, "they are your battery men."

"They are Confederates," Griffin retorted intensely excited. "As certain as God's wheels they are Confederates." "No," was the answer, "I know they are your battery support."

And ridden up within ear-shot and pointed my glass upon them. "Don't fire," cried Griffin, and he spurred forward to satisfy himself. At the same moment the regiment, within short range, by a sudden simultaneous act, levelled their muskets. I saw we were doomed, and yet my instinct tightened my reins. I dug my spurs into my horse. He reared instantly. I saw a line of fire, and poor Mayburn fell upon me, dead, and was dead. The body of a horse I rode in such a way that I was not hurt. Indeed, at the moment I was fully conscious of intense anger against Griffin. If Griffin had followed his instinct and destroyed that regiment, could have done by one discharge, the result of the whole battle might have been different. As it was, both his batteries were practically annihilated.

The major muttered an imprecation, and was pinned to the ground by the fall of my horse, but not so closely that I could look around. The carnage had been frightful. But few were left on their feet, and they in rapid motion rear. The horses left alive rushed down the hill with the caissons, and mingled dismay, confusion and disorder through the ascending line of fire. Our supporting regiment in the rear that had been lying on their arms, and to their feet and stood like men mowed with horror; meanwhile the regiment, reinforced, was advancing upon the disabled guns,—their officers lay beneath and around them, as they came. Our support fired them one ineffectual volley, then fled.

In the major relieved his mind in a characteristic way. "What do you say to you, Alfred?" cried Graco, leaning forward with clasped hands, while he came and buried her face upon my shoulder. "Are you keeping your soul to live?" she whispered. "I am not here safe and sound?" he roared cheerily.

Nothing much happened to me, when I saw the enemy was more than merely doubled myself up under

my horse, and was nothing to them but a dead Yankee. I was only somewhat trodden upon as I told you, when the Confederates tried to turn the guns against our forces.

"I fear I am doing a wrong to the ladies by going into these sanguinary details."

"No," said the major, emphatically; "Mrs. Mayburn would have been a general had she been a man; and Graco has heard about battles all her life. It's a great deal better to understand from the start what this war means."

"I especially wished Hillard to hear the details of this battle as far as I saw them, for I think they contain lessons that may be of great service to him. That he would engage in the war was a foregone conclusion from the first; and with his means and ability he may take a very important part in it. But of this later.

"As I told you, I made the rather close acquaintance of your kin, Grace, and can testify that the 'fa' of their feet' was not 'fairly-like.' Before they could accomplish their purpose of turning the guns on our lines, I heard the rushing tramp of a multitude, with defiant shouts and yells. Rebels fell around me. The living left the guns, sought to form a line, but suddenly gave way in dire confusion, and fled to the cover from which they came. A moment later a body of our men surged like an advancing wave over the spot they had occupied.

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## Contributors, &amp;c, to the "Canadian Farmer."

**HORTICULTURE.**  
T. C. Robinson, Owen Sound.  
G. L. Whitney, Lecturer Michigan State Orange, Muskegon, Mich.  
P. H. Hondershot, Bertie Vineyards, Stevensville, Ont.

**POULTRY.**  
Geo Elliott, — a taker of eight prizes at the Provincial Poultry Show—Port Robinson Ont.

**APIARY.**  
D. A. Jones, of the Beekeepers Association of Ontario, Beaton Ont.  
R. McKnight, Bee-Keepers Association, Owen Sound.

**MAPLE SYRUP, SUGAR, &C**  
Levi L. Whitman, an extensive manufacturer Knowlton, Quebec.

**GRAPE CULTURE.**  
Dr. Joy, Tilsonburg, Ont.

**VETERINARY.**  
O. Elliott, V. S., St. Catharines, member Ontario Veterinary College.

**GENERAL FARM SUBJECTS.**  
M. McQuade, Edmondville, Ont.  
S. T. Pottit, Belmont, Ont.  
E. S. Urood, Newport, N. B.  
George Creed, South Hawdon, N.S.

**LADIES' DEPARTMENT.**  
Mrs. S. H. Neiles, Grimsby, Ont

## The Canadian Farmer.

The Only Weekly Agricultural Paper in Canada.

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## ONE WORD.

We are of course weekly receiving letters from our subscribers upon various subjects, but through the whole lot there runs the one idea with regard to the CANADIAN FARMER, and that idea is that our paper is rapidly improving. We have no hesitation in saying that we publish the cheapest and best agricultural paper printed in the Dominion of Canada, and our watchword is still "onward." We give more first-class reading upon agricultural subjects weekly, than any of our contemporaries in the Dominion do monthly. Just examine the CANADIAN FARMER. Look through its numerous departments and judge for yourselves the value of our paper.

## CANADA AS A BUTTER COUNTRY.

Within the past few years the cheese industry in Canada has assumed enormous proportions. It is not very long ago that the country imported that article, but in the year past the Dominion has exported over sixty million pounds of cheese, and imported none. It is very satisfactory, too, to note that our cheese is much sought after, wherever it is sent. The English markets receive it very gladly, and the American cheese makers and cheese dealers pronounce their own product as slightly inferior to ours. It is only a very short time since our cereals and our timber constituted our chief and only exports, but last year we exported more money's worth in cheese than in any other single article by a couple of hundred thousand dollars. It seems scarcely credible that in a single year, 1883, there should have been manufactured in Canada cheese enough to supply a large demand for home consumption, and at the same time leave over six million dollars worth to be sent to other lands. Yet such is the fact, and that fact has its lessons for us, and they should not go unheeded. Our land has been too much wheated, whilst at the same time we will

shortly not be able to compete in price with some other wheat fields now opening up. In consequence of these facts dairying must very soon take a very great prominence among the occupations of the country. Cheese-making will be more extensively than now carried on, and its sister industry butter-making must also be cultivated. Last year, while we exported six million dollars worth of cheese, we exported only a million and a half worth of butter. Why is it that our butter is not called for as greedily as our cheese? The answer is not far to seek. Whilst we make a superior article in the one, we make in general a very poor article in the other, and it is this difference which makes such a difference in the demand, as well as in the price. This is the point. Canada is a good dairying country, we have lots of energy and will, but the systems of butter-making pursued are many of them erroneous, and, as a consequence, our butter is, when shipped to other countries, often a material libel on the fame of the Dominion. Our readers have many of them been in the collar of a village grocery store and taken a look at the butter table. Color, varying from the deep, rich golden yellow to the whiteness of violet face powder, and tastes from nutty sweetness to rank offensiveness, are all dumped on to that table in promiscuous confusion. Here it all remains, the good to spoil and the bad to get worse, until the merchant has more than he can handle, and then all is "mashed" and "punched" together into tubs and counted ready for sale and shipment. When cut through and brought upon the table, whether it be in trans-Atlantic or American cities, it matters not, the surface of that butter is as streaky and patchy as the variegated sky of an autumn evening, and its taste as muscular as that of the loud-smelling Limburger of the New York provision market. The moment it is discovered that it is Canadian butter, then at that moment our reputation for butter-making suffers in consequence.

There is no substantial reason why we should not make as good butter as we do cheese, except that whilst the one article is manufactured only by those who are master of their business, and have the best appliances and conveniences, the other is largely in the hands of those who are not posted in scientific butter-making, and who, if they be so posted, are lacking in the accessories for good butter producing.

There can be no doubt, of course, that the private dairies will produce better home manufactured butter, but we look upon public creameries as the salvation of the country in this respect. With numerous good creameries and thoroughly skilled and careful makers, our butter exports would far exceed our cheese exports, instead of being only one-fourth as large. It is the duty of the government to see that these creameries are established, and the Ontario Government will doubtless in the early future fulfill their promises to establish them in quite large numbers.

## MANITOBA CROPS.

Reports of the most encouraging kind reach us from Manitoba. Prospects are good there for abundant crops, and the farmers are joyous at the bright prospects for rich harvests. The frosts have there done little damage, and without something very unusual occurs the fields are safe. The agriculturists of our prairie province have been in close straits, and money with them has been very close, but an excellent harvest will put them on their feet

again. We congratulate our readers in Manitoba and the North-west upon their prospects.

## OUR NORMAL SCHOOLS.

Some weeks ago we referred to the necessity of teachers being examined in the subject of agriculture, and mentioned the fact it would be an easy matter to have each teacher to pass a satisfactory examination in the subject at the Normal School before becoming a fully fledged teacher. This is where a reform in our public school system must begin. If we want our public schools to have less of theory and more of the practical, we must have the system used in our Normal Schools thoroughly changed. Take the course through which a pupil is now compelled to pass before he or she can become a teacher: In the public schools—theory; in the high schools and Collegiate Institutes—theory; and we regret to say that even in our Normal Schools the candidate has to prepare another batch of theory. We know whereof we speak. Normal School students spend six hours over books to every one they spend in practical work. Only a couple of years ago we were visiting in a home where a couple of Toronto Normal School students boarded. Did we find them studying? Did they delve into anything practical? The nearest approach to anything of the kind, we saw was two young men, who had about as much ear for music as a mule has for manners, spending their time in learning the definitions of music; in other words learning music by rule just as they had learned vulgar fractions in the old schoolhouses at home. What nonsense! Is this the work our Normal Schools are doing? We answer, as at present conducted, they do little more. We are not unsupported in our assertion, and if the authorities of the two Normal Schools desire it we can from their work select some of the silliest and most useless labor ever done by a human being. The Normal Schools are ostensibly for the purpose of giving us practical teachers, but they fall sadly short of performing the duties for which they exist. Take the Normal Schools of Europe—Germany for instance. In these something practical is done. Every Normal School, and they are very numerous, has a farm attached to it, and the prospective teachers are taught agriculture practically as well as theoretically in the classes, and no teacher is allowed a diploma until he passes a satisfactory examination in this subject. If a little of this kind of thing were introduced into our Normal School system it would be a good deal more productive of good results, and we should have better, more industrious, and more practical teachers. There is, we suppose, no hope of getting our Normal Schools connected with farms, but we trust there is a hope of having our teachers compelled to study agriculture. Let the education department compel every teacher to pass a satisfactory examination in the subject. In fact, we should be strongly in favor of compelling every teacher, who desired to teach in a rural section, to pass a short term at our Agricultural College and to graduate in certain subjects from that institution. There is no use authorizing a text book on agriculture if the teachers know nothing of the subject. The Hon., the Minister of Education, is a good practical man and was raised on a farm and knows the wants of the agricultural community in regard to the training of

the young. To him we look for the careful consideration of these wants and a thorough reform in our educational system.

During the past year Australia had 25,000,000 bushels of exportable wheat; India 60,000,000; and the South American Argentine Republic 10,000,000. These are wheat fields indeed.

## FAIRS.

We shall be obliged if secretaries of township and county agricultural societies will send us the dates of their respective fall fairs. We desire this favor that we may publish them in our columns. Address all communications to THE FARMER, Wolland, Ontario.

## AGENTS.

We want agents for the FARMER in every county in Canada. A liberal commission will be paid to good live reliable parties. THE FARMER is increasing its circulation every day, and we intend to double its already large circulation in the coming six months.

Your assistance is solicited. For terms, etc., write to the CANADIAN FARMER, Wolland, Ont., Drawer A.

## CORRESPONDENCE.

This page will be devoted to the exclusive use of correspondents. All of our readers are invited to write upon subjects of interest to agriculturists.

## A PLEA FOR THE HORSES.

## LETTER NUMBER ONE.

ED. CANADIAN FARMER.—I agree altogether with numbers of your correspondents, who urge the needed improvement in the stock of Canada, and I hope the plan of forming joint stock associations will have the effect of greatly increasing the horse stock throughout all parts of the country. I am of the opinion, however, that the English coach horse should be paid more attention than some of the heavier classes, which are now being imported. Quality with average size is what the farmers want as general purpose animals. But, sir, I do not write to deal lengthily with improvement in breeds, but rather to call attention to the care of horses in the hot weather of this and coming months. I regret to say that many farmers of my acquaintance are wilfully careless, if not cruel, to their best friends, the horses. I do not know how others feel, but I must say I would not feel myself safe if at the mercy of a man who will abuse his dumb animals. A man's treatment of his horses is a pretty good index of his dealings with his fellow men, and if that treatment is inconsiderate and unmerciful, it is just as well for other men to shun his companionship.

There are three classes of horse abusers. First, the man who drives his horse beyond a considerable speed, and yet this animal attends him well; second, the man who drives rapidly, or works too hard, and gives poor attendance; and third, a man who is careless only on a matter of feeding and care. Of the first class the membership is exceedingly large. In cool weather it does not damage a horse to drive him at a good rate of speed, but in the hot days, beneath the scorching sun, it is cruelty of the worst kind. We have all seen the spectacle: A lazy-looking, sleepy-headed, sanctimonious looking fellow, reclining in an easy cushioned vehicle; a long whip plied with an energy hardly expected from the driver; a poor horse with weary



limbs, driven at the rate of ten or twelve miles an hour, drenched with sweat, and perhaps rubbed by defective pulling harness, seeming almost ready to drop from exhaustion, yet urged on by tongue and blow of the human brute behind. Nothing, sir, makes my blood boil quicker than an occurrence of that kind, and I have many a time suppressed a strong desire to put the whip in another and more deserved quarter.

Frequently I meet men who are ministers of the gospel beating their horses in such a manner. Invariably I conclude that they are heartless hypocrites, for godliness would never permit any such abuse of such a noble animal. A man who can pray elegantly for three-fourths of an hour, and then drive four miles in the balance of an hour, and that through the scorching meridian of a summer day, is telling his character more plainly in the fifteen minutes than in the forty-five.

But driving is not all. Farm working also offers very many opportunities of horse abuse. Too often the faithful farm animals are overworked. At it in the early morning until the noon mark is crossed; then a half hour's rest in a hot stable; and then at it again until the light of day has gone. Here is a great mistake. It will do no harm to work horses, if well-fed reasonably hard for reasonably long hours; but by all means give them a good rest at noon, and frequent breathing spells beneath some shade tree during the day. It is best to begin early in the morning, as early as the dew will permit. In cutting hay, of course you can begin very early, and if you begin thus, you can afford to rest a long while at noon. A team which begins to cut grass at five o'clock in the morning, ought to be allowed to rest from ten o'clock to three, in a cool place, after which later hour they will be able to go on without injury and with some kind of good spirit. Nothing will be lost by such an arrangement of labor, but much will be gained.

You will hear from me again next week.—MARTIN J. B.—, Ancaster, Ont.

#### BREAKING COLTS.

ED. CANADIAN FARMER.—I have a few words to say about breaking colts. I like to begin to break a colt when it is about two weeks old. Put a halter on it and teach it to stand tied in the stable or wherever you wish to tie it. By commencing when the colt is young you can easily put something on it that it won't break. By being careful at this time the colt rarely ever acquires the habit of breaking loose afterwards. Then if you wish the colt to go along when working the team, tie it to the side of its mother. Be careful at first, and in less than half a day you have it learned to lead. When the colt is old enough to work, put the harness on carefully, also harness a good, quiet work horse, get on the work horse and ride him around a while, leading the colt alongside until it gets used to the other horse and harness; then hitch the work horse to the wagon or sled, as the case may be, hitch the colt in carefully, get on the work horse, take the colt's hitching or coupling strap in your right hand, fasten a line or rope to the colt's bridle bit, let some one take hold of the line and walk alongside the colt; then you are prepared for any emergency. After drilling the colt this way for some time, put on the check lines, and after working a while thus, unhitch and put the colt on the near side. If your colt has a good disposition you will soon

have it ready to work almost any place. Some think it not necessary to go to so much trouble, but I like to get a colt started. If it does take a little more time and trouble. I helped a neighbor to break a colt this spring on this plan. He said it was the first colt he ever had broke to please him.

I prefer to break a colt to the lead or single line, when plowing, in the spring of the year; then there are no flies to bother. I prefer a left-hand plow. First, put the check lines on until the colt gets used to following the furrow and turning at the corners of the land; then put the lead line on. Have some one hold the plow a few rounds, and walk along-side the colt. When you wish him to turn to the left, call out "haw," pulling the line; if to the right, call out "gee," jacking the line. In a short time you can manage the colt and plow yourself. The reason for walking alongside the colt is this: When a colt once gets started to turn it is apt to go too far; then you can catch it by the bridle.

W. M. MUSTARD.

#### CULTIVATION OF CURRANTS.

ED. CANADIAN FARMER.—I for one am very much pleased with the fact that Mr. Lilius Wolverton, who is, I understand, one of the most intelligent fruit growers of this province, is contributing to your columns. In his paper published in your last week's issue, he very ably discusses the question of currants and their cultivation, and I am sure his letter will be read with great interest. I have had some experience with currants, and hence your readers will pardon me for inflicting upon them another notice of the currant question.

The currant has always been a universal favorite, not so much, perhaps, because of the real nature of the fruit as because of the extreme hardness of the bush, which hitherto has withstood a good deal of neglect, with little or no attention. After once planting them in some remote corner of the garden, or under the fence, they are left severely alone. But with the currant, as with other things, as soon as they become scarce, the demand for them will increase, and better prices rule. My plan of cultivation—which I do not claim as the best, but which has always succeeded with me—is simply this: As soon as the leaves are off the bushes in the fall, I go through them with a sharp knife and trim out the old branches, and any of the new that show signs of borer, and cut back all new shoots one-third. I then rake up all the wood that has been cut out, and burn it to make sure of destroying all insects that might cling thereto. This done, I work in deep—usually with the spade—three or four shovelfuls of good, well-rotted barn manure around each bush, to the space of about three feet; the ground between the rows is now either plowed or spaded, and the whole given a liberal top dressing of light manure, and the work is done for the winter.

As soon as the first worms appear in the spring—which is early—I take a heaping tablespoonful of powdered white hellebore, and thoroughly wet it with boiling water—a quart or so. I now turn this to a pail of clean cold water, stirring constantly all the while, till every particle of the powder is well mixed. It is ready now for application to the bushes, which is done with a large watering pot, taking great care to thoroughly sprinkle every bush; repeat this as often as the worms reappear. Usually two applications, one early in the spring, and the other just before the fruit

ripens, are sufficient to keep down the worms. Keep the ground around them mellow and free from weeds, and if at any time through the summer a branch is seen to wilt, it is immediately cut away and burned, as such is the "sign of the borer."

Following this method of cultivation, I have never lost a bush or had a poor crop of fruit. And I bespeak the same success to any who will take the same trouble for the sake of this delicious fruit. It will pay.

D. B. C.

#### FARMER'S MISTAKES.

ED. CANADIAN FARMER.—The most of your contributors tell what we should do, and I think I might be permitted to say a few words about what we should not do. In the first place we Ontario farmers should not grab for too much land. "A small farm well tilled," the old adage says, and there never was a truer one. Our Province, if put under thorough cultivation, would produce just four times as much value as it does at present. Hence I say, don't let us work alone for big farms, but let us work well what we have. Ten acres well tilled will produce more than 100 acres neglected. Let us be wise and have "small farms well tilled."

Another thing we should not do, and that is to depend on a single crop for our returns. I agree with you Mr. Editor, about mixed farming, and I am glad you are advocating more fruit, more stock, and less wheat. A third thing not to do: to keep poor stock. Good stock is cheaper in the end. The Durham's I now have give me more return and greater satisfaction than twice the number of scrub cattle, therefore, I say, keep more good cattle.

To allow weeds to get the upper hand of us, is another thing that ought not to be done, they are tyrannical masters. You can't keep ice and red hot iron together. Neither can you grow weeds and grain together. One must disappear. Let it be the weeds. Again don't depend on hired help. If you are not able to engage in the work yourselves, at least have it done under your own directions.

Numbers of farmers make mistakes about their homes, too. Don't let things be unattractive there, or the boys will get tired of the farm, and your wife and daughters will pine for a life anywhere but on a farm.

But, Mr. Editor, I might go on don'ting until I should fill up a lot of your space, so I will just conclude by telling you: "Don't forget to change the date on my paper, since I herewith send you a dollar to pay up till next year."

I am, Sir,

R. H. B.

Simcoe, Ont.

#### POULTRY.

FOR THE CANADIAN FARMER.

#### HIGH CLASS POULTRY.

The mind and heart of mankind seems to be so formed that it drags out a miserable existence without something to love and cherish, and the mortal is deprived, indeed, that has not some tender sympathetic spot left in his nature. Even the miserable unhappy being, who lives a life of celibacy in want of human companionship, has his dog or cat, or perhaps both upon which to bestow his sympathy. The ragged unkempt urchin, whose hand seems to be like that of the descendants of Ishmael, against every man's hand, and every man's hand against his, is almost sure to have his dog, very often the same nature as his master, with whom he is on the best

of terms. The maiden lady of uncertain age has in most cases a cat or a bird to love and cherish. Now it is this love of animated nature that induces us to improve our stock of all kinds; visit the breeder of Short Horns, go with him through his stables and note the barn of pleasure as he points out his favorites, and dwells on their special merits, or rather their points of special merit. This man takes a pleasure in his stock unknown to the breeder of scrub cattle; the same with the horseman. He has a good horse, because it gives him pleasure to own and drive such a horse. He might get through his work with an ungainly, slab-sided creature that would not be worth half the money his elegant steed represents, but the pleasure and pride he takes in a good horse enables him to make money out of horses, for whoever saw a man make money out of horses, who kept only cheap raw-boned nags. And on the contrary, very few men who keep good horses lose money on them.

Now this is the case with fowls to as great an extent as horses and cattle. Show me a man or a woman either (for there are many of the latter as well as the former engaged in poultry breeding) who takes pleasure in caring for fowls, who prefers feeding the birds themselves to allowing some one else to do it, and who takes pleasure in their spare moments in watching the movements of their fowls. I will show you a successful poulterer, or if engaged in business, fancy or thoroughbred stock, they are the ones that monopolize the red tickets at the fairs, and if they have surplus stock, can generally find a ready sale for it at fair prices. Of course we assume that they are reasonably intelligent, and keep up to the times by reading and other means. But whoever saw a successful breeder of any kind of stock who commenced with the idea that because his neighbor made money at it, that it was full of money waiting to roll in his pocket as well. We have seen many start poultry breeding with this idea and no other qualification, and we have seen just that many fail. So now are you really a lover of really fine fowls, not for their pecuniary value, but would you like to have a few about you for the pleasure of it, provided they just paid expenses and no more. If your answer is no, then we advise you to read no further in this column, but turn over to the serial story and read it. If you mentally answer yes, then we say follow us carefully through this series of papers, and we will endeavor to assist you to the best of our ability. Of course you will bear in mind we do not presume to be infallible; we only give you the benefit (if such it is) of our study and experience in breeding thoroughbred poultry. We will next week take up the prerequisites, and how to begin in the meantime.

AU REVOIR,

Breeder.

New York city consumes over \$20,000,000 worth of eggs, and 100,000 tons of poultry annually. Over \$200,000,000 worth of eggs are consumed annually in the United States and more is wanted.

Give the young chicks a fair share of your time and you will be well repaid. Keep them pushing ahead from the first if you wish them to become first-class birds. Stagnation at any period of their growth can never be fully amended by after care however sedulously bestowed.



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THE GRANGE.
Brother Patrons are requested to contribute for this column, and to send the contributions direct to the office of publication, Welland, Ont.

OFFICIAL CIRCULAR.
DOMINION GRANGE, Secretary's Office, MANILLA, JUNE 30th, 1884.

The Executive Committee of the Dominion Grange met at St. Thomas on June the 11th inst. Considerable routine business was transacted.

Since the last meeting of Dominion Grange there has been fourteen new Granges organized, and with a little activity on the part of the Deputies a large number of new Granges could be formed during the present year.

It is the intention of the Executive Committee to send a Lecturer to Manitoba and the North-West Territories during the present year, if sufficient encouragement is met with.

Copies of the proceedings of the last Dominion Grange and official lists have been sent to all Subordinate and Division Granges who have sent in their list of officers for the present year.

The Executive request that all the members of Subordinate and Division Granges will give the proceedings of the last Dominion Grange a careful perusal, as all the suggestions for the amendment of the Constitution published therein should be discussed, and your delegates instructed in the matter, and special attention is called to the 4th clause in the report on Officers' Reports, page 34, as the various reports and suggestions bearing upon the Constitution (introduced at last meeting of Dominion Grange) is not now law but simply stand as notices of motion, to be acted upon at next meeting of Dominion Grange.

Members of the Order can be supplied with solid gold emblem pins for \$1.10 each by applying to the Secretary, the same being adopted at last meeting of Dominion Grange as the emblem pin of the Order.

Arrangements are also being made to supply Division and Subordinate Granges with the badge adopted at last meeting of Dominion Grange. Those requiring them will please communicate with the Secretary. The Executive request that the names of all Masters of Subordinate Granges be sent, under seal, to the Secretary, when matters of material interest will be forwarded them.

The report on the Good of the Order recommended that the Executive Committee act a number of subjects for discussion in the Subordinate Granges, therefore the following subjects have been selected:

1st. Is an organization amongst the farmers necessary?
2nd. Has any organization already established been of benefit to the farmers?

3rd. Should the science of agriculture be taught in our public schools?
4th. Is it necessary that farmers' sons be educated equally with other classes?

5th. What is Grange education, and how attainable?
6th. Would Farmers' sons be recompensed in time and money for a term of years spent at an agricultural college?

7th. How much does the planting of trees and flowers enhance the value of our homes?
8th. Would money invested in a library of standard works pay good interest on the investment?

9th. Is it in the interests of agriculture that horse racing and theatrical performances be allowed at our annual Fall Exhibitions?
By order of the Executive Committee. Yours Fraternaly, H. GLENNING, Secretary.

CO-OPERATION AMONG FARMERS.
The small farmer is strongly tempted to buy machinery quite disproportioned to his number of acres. The profit of machinery consists in its use, and however great the saving labor in the use of the machine, it saves nothing, but is an expense when idle. The small farmer, therefore, cannot afford to buy expensive machines, because he cannot use them enough to pay the loss in value and interest. But if

small farmers will associate themselves together, they may co-operate, and purchase a full set of all the expensive machines, each one contributing according to his proportion of land. These machines can do the work for a certain number of acres—say 600 to 800 acres. For example, the self-binder, one of the most expensive machines used upon the farm; this can cut 200 to 300 acres of grain in a season, and would be able to cut all in due season, beginning with the earliest sown and ending with the latest. This is as much grain as would generally be raised on that amount of land.

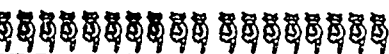
These farms should, of course, join each other in as compact a body as practicable, so that the machines would be as convenient for use as if they were all one farm. This association might consist of the owners of four farms, or even eight farms. The fifty-acre farmer could enter the association upon equal or proportionate terms. There would seem to be no difficulty in making it equitable to all, and each one would have all the advantages of machinery of the most favored large farmers. The excuse of selling small farms often is that it costs more to work them, because they must be worked without the advantages of the most approved machinery. This co-operation would cure all this.

Another important advantage which would result is, the important social events which would result from such an association of farmers. Farmers are not in the habit of associating together as intimately as would be well for them. If farmers associated more intimately, they would soon find out the political power placed in their hands, but which they do not know how to use for their own protection. Instead of representing themselves in our legislative bodies, and thus protecting their own interests, they commission the lawyers to represent them, and many of these sharp representatives look after their own interests instead. The lawyer elected by the farmers is very often found under the influence of large corporations, although these corporations are working quite against the interests of the farmer. The legal class make all the laws, and these must be expected to be in their own interests; they execute the laws and decide all questions as to their application. They must be more than human not to first take care of themselves.

First, it is quite absurd that lawyers should be chosen to represent the agricultural interest, because they do not understand its wants, and they do not sympathize with it. Their sympathies are much more active for corporations, that oppress the farmers by laying heavy toll upon all their productions. Second, farmers should represent their own class, because they alone understand their needs. And if farmers were in the habit of co-operating with each other in their ordinary operations, they would soon see more clearly the political situation and see that their rights were respected. We should be glad to see farmers more closely studying their own interests—Live Stock Journal.

Faith in a sublime truth, loyalty to a great purpose will make the faces of men shine like the sun, and their raiment white as the light. These true souls are the normal examples of our humanity; and we are but shapes and forms, and not men if we do not aspire to a life like theirs.

HOT WEATHER NOTES
Fight weeds.
Clear out mustard.
Take long rests at noon.
Keep the garden clean.
Look after the manure piles.
Send us some new subscribers.
Don't drink too much ice water.
Cultivate the fallows thoroughly.
Look out for the destructive insects.
Raise a second crop wherever possible.
Keep a record of the cost of your crops.
Harvest the wheat in the doughy state.
Water newly planted trees well and frequently.
Take a holiday with your wife and family.
Turn a clover sod under; it makes good manure.
Read the CANADIAN FARMER in your spare moments.
Top dress newly mown meadows with fine, well rotted manure.
Keep a wet cloth in the crown of your hat; it may prevent sunstroke.
Cut your grass when it contains the most nutriment—neither too early or too late.
Make it interesting for the boys by giving them explanations as to why and wherefore.



THE FARMER

FROM NOW TILL THE

End of the Year

FOR 50 CTS.

Send in your friend's half dollars and secure them the "Farmer" until January, 1885.

## HORTICULTURE.

## CURRANT CULTURE FOR PROFIT.

(Continued from last week.)

VINUS WOLVERTON, M.A., GRIMSBY.

**Leaf Enemies.**—In our last article we advised currant growers to be most vigilant this season of the year against the imported Goosberry Saw-fly, which was introduced from Europe about twenty years ago, and has now spread over Canada and the United States until it has become the worst enemy of the currant grower.

There is another worm very active upon currant bushes in the month of June, the *Currant Geometer* or measuring worm (*Pieris Ribesaria*) the larva of a pale yellow moth with dusky spots. It may easily be identified by its peculiar mode of crawling as if measuring distances. Its length is about an inch long and its feet are black spots, and a long yellow stripe runs down its back. It does not feed in groups like the Saw fly but scattered over the leaves. Jarring will cause these worms to hang down by the silken threads which they spin, when they may be easily gathered and killed. Or, if very numerous, hellebore should be sprinkled over the foliage as described in our last article.

The other of the insect enemies of the currant should be noticed here, viz: *The Currant Borer* (*Aegeria Tipuli Formosa*).

Just about this season of the year a moth somewhat resembling a wasp may be noticed, having a bluish black body with several gold stripes and transparent wings. This is the parent of the currant borer, a grub which bores up and down through the centre of the stem. Its presence may be detected by the unthrifty look of the foliage and small size of the fruit. Thus affected should be cut off, and burned up at once with their inhabitants. Vigorous growth of the bushes will tend to lessen the ravages of the insects, and to note this it is wise to cut out each stem but five or six stems, and to keep them well cut back.

**Marketing Currants.**—Few, except professional horticulturists and market gardeners, sufficiently value the advantages derived by the use of tidy packages in the marketing of fruit. In our city and town markets may still be seen currants and other small fruits exposed for sale in weather-beaten boxes, tin pails, or rough, dirty baskets. No wonder people who do this for their small, badly handled currants of various varieties should declare them a profitless fruit.

After trying many packages for currants I find nothing so satisfactory as the common square strawberry basket, twenty-four which are packed for shipment in a wooden crate of the same material, with a lid and cover. These are all sold with the fruit and never returned, fortunately making it necessary for the grower always to use new and clean packages. At Grimsby this basket crate has almost wholly displaced the wooden crate, which had to be returned and which so soon became shabby and dilapidated. Economy as well as convenience has forced the change. For shipping purposes, for the weight of the old wooden crate added to the express charges a sum nearly equalling the price of the basket crate.

We are of the opinion that any farmer giving the attention we have described to the selection and cultivation of his currants will reap great satisfaction in an abundance of beautiful fruit for his table, and if

he choose to grow it for market, he will receive a sure reward of his labor.

## STRAWBERRY CULTURE.

Mr. Page wrote some very sensible things in the *CANADIAN FARMER* of June 11th, on this subject. The hint about the selection of soil is important. It has been proved by the sad experience of many, that a dry soil will result in failure. And the cultivation and manuring needs emphasizing. Our gardener said the other day, "the old way of growing berries is played out," and he was about right, as any one seeing the magnificent results he has brought about by high culture would acknowledge. He gathered this season in one picking four hundred quarts of magnificent berries from half an acre of ground, and that repeated every other day several times. Nor is that all the story, for on account of their fine size they sold in the market at from two to five cents in advance of ordinary berries, thus amply rewarding all expenditure. Evidently the old process is not out of date yet, "Whatever is worth doing at all is worth doing well," and we might add "very well" in strawberry culture. Every additional stroke of the hoe, and every round with the cultivator, more than seems absolutely necessary, before or after picking season is additional money in the pocket.

A most important point in Mr. Page's letter was perhaps on the selection of varieties. With some varieties no amount of culture will pay. We had half an acre of Harvey's Seedling once which was the admiration of every visitor—such beautiful plants—and we hoped great things. But they had one very serious fault—they bore no fruit! Perhaps it was the soil; perhaps because there were not enough hermaphrodites planted near, but any way, they never paid for the planting.

The Wilson never disappoints anyone who gets it unmixed with other kinds, and it still stands out beyond comparison for main crop with any other variety, unless perhaps it may be the Crescent Seedling.

In the last report of the Fruit Grower's Association of Ontario there is an account of an interesting discussion on the subject of varieties of strawberries. The selection of kinds for profit was narrowed down still closer than Mr. Page has done. The sense of the meeting was in favor of only two kinds for profit, viz: the Wilson and Crescent seedling.

The James Vick has come out with wonderful commendations, as surpassing the Wilson in productiveness. We have it just now fruiting, and so far it appears appears inferior to the Wilson in size and flavor, and not more productive.

But surely the quantity of fruit is not always to be our criterion for judging of the merits of strawberries, or of any other fruit. As our cities advance in wealth and luxury, there will be an increased demand for excellence in flavor and beauty of appearance at any price. The old *Triomphe de Gards* may yet come to the front as the choicest and most popular table berry, and be grown with great profit on rich, heavy soil. The Sharpless brings a high price on account of its size and beauty of appearance. With us it is yielding very well this season and we would not be without it.

**Picking.**—We fear growers as a rule will never learn to gather strawberries with care. Canadians are generally in too much of a hurry to do it with care. In farming and

fruit growing the same rule prevails, viz: "get as much as possible off as much ground as possible, with as little work as possible," and it proves in the end a most unfortunate rule.

How hard it is for a careful grower to get careful pickers! "Oh yes," says one, "I can see it is best to pick them as you wish, but then I can't make enough doing it that way," and so they grab the beautiful berries by handfuls and toss them into the baskets. Sadly bruised and stemless they come into the packing house, where to make them at all presentable they are topped to deceive the buyer.

Strawberries should be picked with short stems about half an inch long, nipping them off with the thumb nail. They should be handled by these stems only and carefully laid in the basket so as not to need turning out and handling over again to the dusting of their shiny gloss. Berries so gathered and put in good hands for sale will bring two or three cents in advance of those picked in a careless way.

The best package is the one recommended for currants; no other is so acceptable in the market. We believe the time will come when it will pay to stencil each package with the kind of berry, and when such delicious dessert berries as the *Triomphe* will from name, command remunerative prices in our best markets.

## THE PEACH.

The peach is one of the most delicious fruits grown in a temperate climate, and whenever it succeeds its cultivation yields a larger net return than perhaps any other fruit—every succeeding year affords evidence that it may be successfully grown in many localities where heretofore it was supposed such an undertaking would result in failure.

Being a native of a warmer climate than ours, it is often injured by the intense cold of winter. It is therefore advisable to fortify the tree in every possible way against the rigors of our northern climate. This precaution is the first step toward success, and in many localities is imperative.

Several factors will enter into the account in securing this result. First—the site for the orchard should be elevated above the lands adjacent, and the surface should incline considerably in order to secure perfect drainage for excess of water and cold air. The cold air being heavier than warm air will run off, if the surface is descending, and will occupy the lowest level the same as water; for this reason, among others, peaches will not succeed on low ground, nor even on high land if the surface is a dead level for some distance around.

For the same reasons, all depressions having no outlet should be avoided. Neither will a peach orchard succeed on heavy clay soil when the subsoil retains an excess of water, unless very thoroughly underdrained and the subsoil broken up. If it becomes again apparently compact, the roots will be enabled to penetrate such soil far more readily than they could before it was broken up.

It is known that the roots of the peach tree have less power to penetrate the hard earth than those of many other fruit trees, and require a loose, friable soil and subsoil. Such a condition of the soil allows the water to pass off readily and admits light and heat, both important agents in vegetable growth.

The best soil for the peach is a deep, strong, gravelly loam or a heavy loam with

a porous subsoil. Sandy land is preferable to heavy clays, and with the use of fertilizers will produce fruit of excellent quality and in reasonable abundance.

As an incentive to a thorough preparation of the earth before planting out the orchard and of the most prompt and thorough cultivation afterward, we may say that an acre of land adapted to and thoroughly prepared for growing peaches, will produce a net income equal to three or four acres devoted to farm crops, and on sandy land the peach orchard will show a still larger balance in its favor.

Farmers too often seem satisfied with shallow cultivation, and their crops usually correspond with the labor and skill used in conducting their farm operations. Now, while the ordinary returns from farming may not warrant the expense of fertilizing, underdraining, and subsoiling, to the extent I have indicated, the case is far different in laying a sure foundation for a profitable peach orchard.

The usual depth of plowing is six inches—the subsoil below that distance is of little benefit to growing crops unless the roots can penetrate through it. If the bed of mellow earth can be made one foot deep instead of six inches, the productive capacity of the orchard will be increased in the same ratio.

The benefits secured by a thorough breaking up of the soil to a proper depth may be stated as follows: Air, light and heat, indispensable agents in growing fruit and all farm crops, are more freely admitted to the whole depth of soil to work out these wonderful changes which produce such abundant and beautiful crops of fruit and grain. The air brings with it elements of fertility, heat from the sun's rays and is laden with moisture. It yields up a portion of its heat as it penetrates the cool earth; this cooling process lessens its capacity to hold moisture and a portion of this is also given up to the earth. This will explain why a deep, mellow soil will carry a crop of fruit through a severe drought so much better than a shallow one. A deep, mellow bed of earth will also retain a greater amount of rain water without displacing other agencies required to carry on vegetable growth.

During very dry weather the fruits growing on the shallow soils are pinched and shriveled and often become entirely worthless, while a deep soil yields up the moisture it has held in store to the multitude of roots which fill the ground. The fruit swells, and grows in size and beauty, and gladdens the heart of the owner in the prospect of an abundant harvest. While the one must offer a small measure of lean, inferior fruit, the other is blessed with an abundant yield of beautiful fruit which is in demand at the highest prices.

It is very true that in many sections the growing of peaches has proved a very profitable business, where the orchards have been set out on land prepared as for ordinary farm crops, and the orchard has received only the most primitive cultivation; but there is no doubt that these same orchards would have nearly doubled their yield of fruit had they received generous care and cultivation.

In selecting a location for an orchard it is well to keep in mind that the nearer the soil meets these requirements in its natural state the less expense will be required in its preparation.

Peaches being perishable and delicate fruit, it is important that they be handled with the greatest care and reach a market in the least possible time, in order to bring the best price.



DAIRY.

THOSE TESTS.

ED CANADIAN FARMER—I see in your columns occasionally notes of the wonderful butter making capacities of the Holstein and Jerseys, when under the best test. I am anxious to know how much the keep of the cows under these tests cost, and whether, all things considered, high pressure butter production is any more profitable. I am afraid that our breeders are reaching too much after fancy facts and figures, rather than useful and practical information.

When one of our breeder wants to make a reputation for his cow, he puts her on the highest stimulating course of diet, and as a result, she produces from twenty to twenty seven or so pounds of butter during a week. Now, such a test is of little value to the dairying interest generally, because in its production the butter costs a great deal more than it comes to.

Let a breeder take a cow of any breed, feed her good, ordinary, generous food, give her proper attention and attend to the milk and cream and butter-making properly, and keep an exact record of her products, and that test would be of value, because every dairyman could calculate the value of the cow on a practical basis. I am not inclined, like some of your correspondents are, to go well over Mr. Fall's Jerseys, or somebody else's Holsteins. The tests published are a great deal over drawn in one way, viz: the amount of expense in feeding is always hidden largely. I believe that Ontario will see many more days yet before any class of cattle will be introduced that will prove any more valuable than the Short Horn. Jerseys are too much after the fancy order for me, and I am inclined to think that Holsteins are much the same.

Yours, Sir, very truly,  
A COUNTRY DAIRYMAN.

[Our correspondent no doubt strikes a question of importance. His ideas of the high pressure feeding are not wild. As an instance we may inform the gentleman that one test, of which we have the figures before us, bear out his statements, as to the cost of butter thus produced. When Princess II was being tested she produced in the seven days, 27 pounds of butter, but she ate \$11.48 worth of food, or in other words each pound of butter produced, cost in expense of food alone, 42 cents. This we think a striking illustration of what our correspondent is charging against high pressure tests.—Ed.]

MULTUM IN PARVO.

The Wisconsin Dairymen's Association offered a prize of \$15 for the best written essay on cheese making in compass of 249 words, or less. Mr. F. D. Curtis, of Syracuse, N. Y., took the prize with the essay which follows. By counting it our readers will see that it is just 249 words, no more, no less:

"Pare, whole milk from healthy cows, in luxuriant pastures or fed daily balanced rations in stall, is requisite. The more directly it goes to the vat, the better. If kept over night, reduce the milk to sixty-five degrees Fahr. An agitator, to keep the cream from rising, is desirable. Mix night's and morning's milk when ready to work. If cream is mixed in, warm it and pass it through a wire strainer. Heat the milk slowly to eighty-four or eighty six degrees. Add your coloring matter and rennet enough to begin coagulation in ten or twenty minutes, as desired. Cut the

curd as soon as it can be done without waste, as fine as bechnuts. Slowly raise the temperature, gently stirring all the while, to ninety-eight degrees. Hold it there to the end. Draw the whey as soon as there is the least sign of acid, or a little before. Get sufficient rennet action to expel the whey before the acid develops. This prevents the phosphates from washing out and insures a digestible cheese, when properly cured. If you cheddar and grind or not, thoroughly stir and air the curd, to get rid of bad odors and develop flavor. Put to press not above eighty degrees, and place in an even tempered curing room at sixty-five to seventy degrees. Avoid direct draughts of air, and carefully turn and rub the cheese, which will be prime."

DANISH BUTTER AND SALT.

That salt does not keep butter is well illustrated by the Danish export butter, which is only salted at the rate of two per cent. of salt, while in America, where we salt butter to keep it, we use a full ounce to the pound, four pounds of salt to the hundred pounds of butter; and yet the Danish butter is warranted to keep two years, while if our butter keeps two months it is counted something wonderful. It is to be apprehended that the long-keeping qualities of the butter are due to removing, by some process other than working, the nitrogenous matter. This perfect cleanliness is the main thing, and if the milk is perfect, and kept so, the butter, if worked or washed free from casein, sugar and the like, and well packed, must have keeping qualities. To be sure, it takes all kinds of people to make a world, but in some way all kinds of people do not take kindly to all kinds of butter that is offered to the public. Now that butter by over-production is only worth about a shilling per pound, it would be worth millions to the butter-makers of this country if they could make a long-keeping butter and hold it until next winter.

The Farmer's Review clips approvingly our correspondent's letters upon the subject of Winter Dairying.

The Holstein cow, Echo, owned by F. C. Stevens, of Allen, N. Y., has just finished her milk record for the year. She has produced 23,775 1/2 pounds of milk during the twelve months, thus surpassing her former record by over four thousand pounds. One pound of butter was made from 30 per cent. of milk. The weekly yield was 17 per cent.

A Sudden Attack.

All people, and especially travellers, are liable to a sudden attack of cholera morbus, diarrhoea and dysentery. Dr. Fowler's Wild Strawberry is the most prompt and reliable remedy known.

It is no Wonder

that so many people sink into untimely graves when we consider how they neglect their health. They have a disordered liver, deranged bowels, constipation, piles or diseased kidneys, but they let it go and think they "will get over it." It grows worse, other and more serious complications follow and soon it is too late to save them. If such people would take Kidney-Wort it would preserve their lives. It acts upon the most important organs purifying the blood and cleansing the system, removes and prevents these disorders and promotes health.

A Good Time.

When is the best time to take a blood purifier? Whenever the blood is foul and humours appear, or when the system is debilitated take Burdock Blood Bitters,

Lydia E. Pinkham's Vegetable Compound is to be had at the nearest drug store for a dollar. It is not claimed that this remedy will cure every disease under the sun, but that it does all that it claims to do, thousands of good women know and declare.

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Wells, Richardson & Co's. Improved Butter Color will be found to be the only color that will not become rancid. Test it and you will prove it. It will not color the butter milk; it gives the brightest color of any made and is the strongest and therefore the cheapest.

Quick transit from a state of feebleness, bodily languor, and nervous irritability—induced by dyspepsia—to a condition of vigor and physical comfort, follows the use of the standard regulating tonic and stomachic, Northrop & Lyman's Vegetable Discovery and Dyspeptic Cure, which speedily conquers indigestion, constipation, bilious complaints, and female complaints, purifies the blood, and reinforces the vital energy.

To Match that Bonnet? Feathers, ribbons, velvet can all be colored to match that new hat by using the Diamond Dyes. See for any color at the druggists, Wells, Richardson & Co., Burlington, Vt.

Great Fatality.

The ravages of cholera infantum and summer complaints among children is truly alarming. The most reliable cure is Dr. Fowler's Wild Strawberry. Every bottle guaranteed to give satisfaction.

Mr. George Tolen, Druggist, Gravenhurst, Ont., writes: "My customers who have used Northrop & Lyman's Vegetable Discovery and Dyspeptic Cure, say that it has done them more good than anything they have ever used." It has indeed a wonderful influence in purifying the blood and curing diseases of the digestive organs, the liver, kidneys, and all disorders of the system.

A. Maybee, Merchant, Warkworth, writes: "I have sold some hundreds of bottles of Dr. Thomas Electric Oil, and it is pronounced by the public 'one of the best medicines they have ever used.' It has done wonders in healing and relieving pain, sore throats, &c., and is worthy of the greatest confidence.

Mrs. E. H. Perkins, Creek Centre, Warren Co. N. Y., writes: "She has been troubled with asthma for four years, had to sit up night after night with it. She has taken two bottles of Dr. Thomas Electric Oil, and is perfectly cured. She strongly recommends it, and wishes to act as agent among her neighbors.

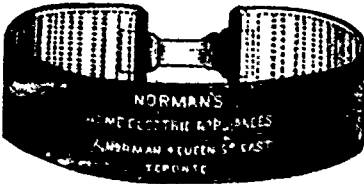
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J. W. BARTLETT Lambeth, - - - On DANK BRAHMAS

Having bred this useful and beautiful variety, exclusively, for six years, I am situated in a position to offer eggs from birds of great merit. My breeding hens for this year are composed as follows: YARD No. 1.—Cocker of ten pounds weight, perfect pea comb, solid black breast, and excellent leg feathering, mated with four grand hens, which last season as pullets produced many prize winners. Eggs, \$2.00 per setting of 13. YARD No. 2.—Cock from the yards of the justly celebrated breeder, Philander Williams of Taunton, Mass., U.S., perfectly straight leg comb, low and heavily built, with good leg feathering; mated with four superb pullets, three of which have won red tickets, the other blue; all are low, heavily built birds, with profusion of leg feathering and nicely pencilled. Eggs, \$2.00 per 13. My stock took first prizes at all the leading shows last Fall, and at the show of the Poultry Association of Ontario, at Toronto this year, and in no instance has a bird from my yards entered the show pen without winning a prize. Last year 50 per cent. of the eggs from my birds hatched, and 25 per cent. of these won prizes.



NORMAN'S ELECTRIC BELTS (ESTABLISHED 1874.) 4 Queen Street East, Toronto.

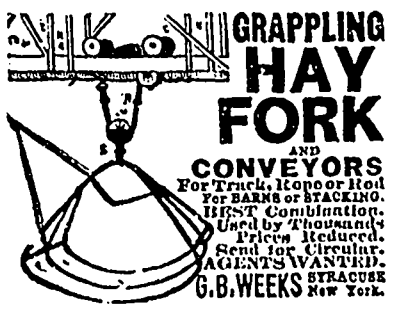
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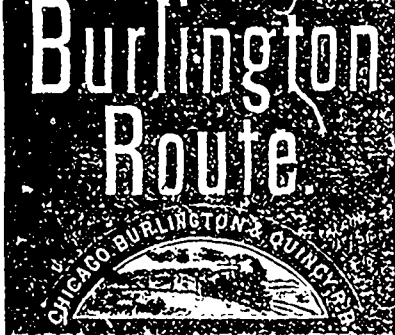
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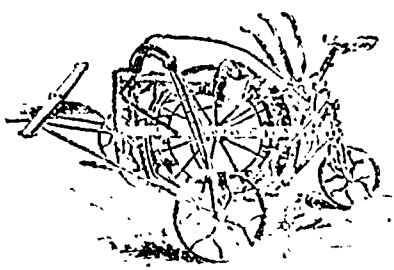
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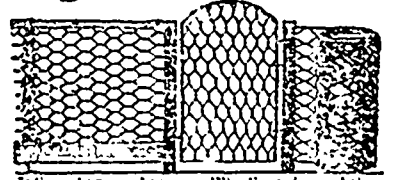
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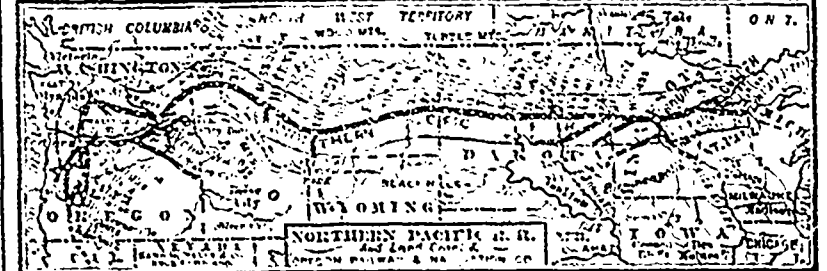
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Grey County—Proton Township.

2191—160 acres, of which 75 are cleared, balance hemlock, cedar, elm, etc.; 2 springs and a creek; fences rail. The dwelling is rough, containing 6 rooms; also an old log dwelling; barn is log, with frame granary 18x12; taxes \$14; orchard 1/2 acre; school 1/2 mile, the nearest P. O. is at Cedarville, 2 miles, and the Railroad is at Mt. Forest. Price, \$2,800, \$1 cash, balance to suit at 8 per cent.

Halton County—Nelson Township.

2379—A useful farm of 83 acres, 70 acres cleared, 50 free from stumps; good hardwood bush; soil clay and loam. There is a spring and creek, and well at the dwelling; fences principally rail; dwelling is frame, on stone foundation, 20x30, 1 1/2 storeys, and contains 5 rooms, with kitchen 20x24, and an extra wing 16x30; also a small dwelling on the north corner of the lot; barn is frame, on stone foundation, 30x25, driving house and stable. Taxes \$13, with 3 days' road work. Orchard 2 acres, containing apples, pear and cherry trees, all bearing. School and Methodist church 2 1/2 miles distant; English and Presbyterian churches 4 miles, Zimmerman post office, 1/2 mile; Zimmerman railroad and telegraph offices on the N. & N. W. R. R., 2 miles; Milton 8 miles. Price \$3,000. \$1,000 cash, balance in 6 years, with interest at 7 per cent.

Muskoka District—Humphrey Township.

2147—A cheap farm of 100 acres, 30 cleared, 70 in bush, hardwood and pine; soil clay loam, rolling and easily worked. There is a spring and creek, well at house; well ditched, and fenced with rails. Frame dwelling on stone foundation 30x20, 1 1/2 storeys, 5 rooms; new frame barn 50x60, stone foundation. Taxes \$2, and 2 days' road work; on gravel road, convenient to churches, school and P. O. at Ashdown, telegraph office at Rosseau, 1 1/2 miles; buildings alone worth the money. Price, \$650; \$300 cash, balance in three years with interest at 7 per cent.

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2149—Good farm, 141 acres, 70 cleared and free from stumps, 30 in good hardwood bush; soil partly clay loam and partly sandy loam; spring and wells at the house; fences are principally rail; frame house on stone foundation, 16x20, 2 storeys, 20 rooms, collar containing brick wall 10x20, outside kitchen 14x20; wing 12x10, all in good repair; frame barn 50x60, collar underneath on stone foundation with oak sills. Barn No. 2, 30x10 near which is a living stream. Taxes \$39 and 8 days' road work; 2 orchards of 4 acres, containing 500 apple, 200 pear and cherry trees all bearing; gravel road 1/2 miles, school 2 1/2 miles. English and Baptist churches 3 miles, Presbyterian 18 miles, Methodist 5, Rowan Mill post office 2 miles; telegraph office and market town at Port Rowan, 9 miles. Price \$7,000; half cash, balance in from 8 to 10 years at 7 per cent.

Oxford County—North Norwich Township.

2210—Fine stock, dairying, or grain farm of 215 acres; 180 cleared and free from stumps, 35 in bush, consisting of beech, maple, oak, elm, ash, etc. Soil is clay loam, gently rolling and easily worked; it is watered by a creek, 2 wells and cistern; well ditched, and fenced with rails, pickets and boards; dwelling is frame, on stone foundation, roofed with shingles, 20x30, 1 1/2 storeys, with 7 rooms kitchen 20x14, and cellar 18x24—in good repair; 2 frame barns, each 30x50, on stone foundations; drive barn, frame, on stone foundation, 60x30, with basement stable, also cheese house, with apparatus. The orchard covers 5 acres, containing about 600 trees, embracing apples, pears, cherries, plums, peaches, also grape and berries. There is a wine mill on the place which supplies the house and barns with water. It is on a gravel road, 2 miles from school and within easy distance of churches, etc.; Springford 4 miles, Norwich (on G. T. R.) 8 miles. Price \$12,000; \$6,000 cash and balance to suit with interest at 7 per cent.

Simcoe County—Innisfil Township.

2329—The "Big Bay Point Farm" contains 17 1/2 acres, 90 cleared, 25 free from stumps. There is a fine pine grove, the rest of the timber being beech, maple, butternut; the soil varies from clay loam to heavy clay; the farm has lake frontage, there is a well at the house, and 1/2 a mile of ditching done. The dwelling is of frame on stone foundation, 2 wings, 20x28 and 22x22; 2 storeys and cellar, 10x30, and a kitchen 12x12. There is also a frame cottage on the place, 18x30; frame barn, 50x18, on stone foundation. There is also a log stable, 43x21; cow shed, 12x17; wagon shed, 12x30; hay shed, 60x18; stone root house, 16x14. Taxes, \$27, and nine days road work. Orchard of 1 1/2 acres, containing 100 trees of all varieties; the farm is 2 miles from gravel road and 4 miles from school. The English church is 7 1/2 miles; Methodist, 4 miles; Paterick P. O., Craig Vale R. R., and telegraph office 6 miles on the N. E. R., and Barrie 12 miles. Price, \$3,000; \$4,500 cash, balance in 4 years with interest at 6 1/2 per cent.

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2604—This very valuable property, known as the "Indigoville Fruit Farm," containing 35 acres, all of which are cleared and 5 seeded down; fences are rail and picket; dwelling house is of frame, on stone foundation, roofed with shingles, 45x45, 2 storeys and 10 rooms, collars underneath whole of house 45x45, kitchen outside main building, 3 x 30—all in capital repair; barn is frame, 40x50, on stone foundation, with root cellar and cow stable underneath also-fowl house, 30x5, ice house, 15x16, coach house and stables, 32x40, shed containing barn and stables, 45x20—all in good repair; taxes amount to \$23 and 9 days road work. Orchard contains 20 acres with the following fruit, viz: about 1,500 grape vines, 1,200 peach trees, 200 apples 60 pears, 25 plums, and about a half-acre of strawberries and raspberries—all bearing; the farm is situated on the gravel road, school 1 1/2 miles away; churches of all denominations about 1 1/2 miles; post office, 20 feet, to gravel 1 1/2 miles, Welland, the railroad station and market, 6 miles, is situated on the Welland Railway. Price, \$8,800; \$5,000 cash, balance in 10 years, with interest at 8 per cent.

Wellington County—Luther Township.

625—A good farm of 292 acres, 45 cleared, under cultivation and well fenced; balance, 125 acres, is excellent hardwood land, heavily timbered with maple, beech, elm, hemlock and basswood, and 50 acres of first-class cedar and valuable mixed timber; this is a particularly good lot; it is a corner one and can easily be divided into two farms of 100 acres each; good rail fences; 1 1/2 miles from Egerton post office, and one mile from school house, there is a splendid new frame house, 30x22, containing 7 rooms, well finished, new frame barn, about 50x17; log stables on the premises, rice, \$3,500.

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