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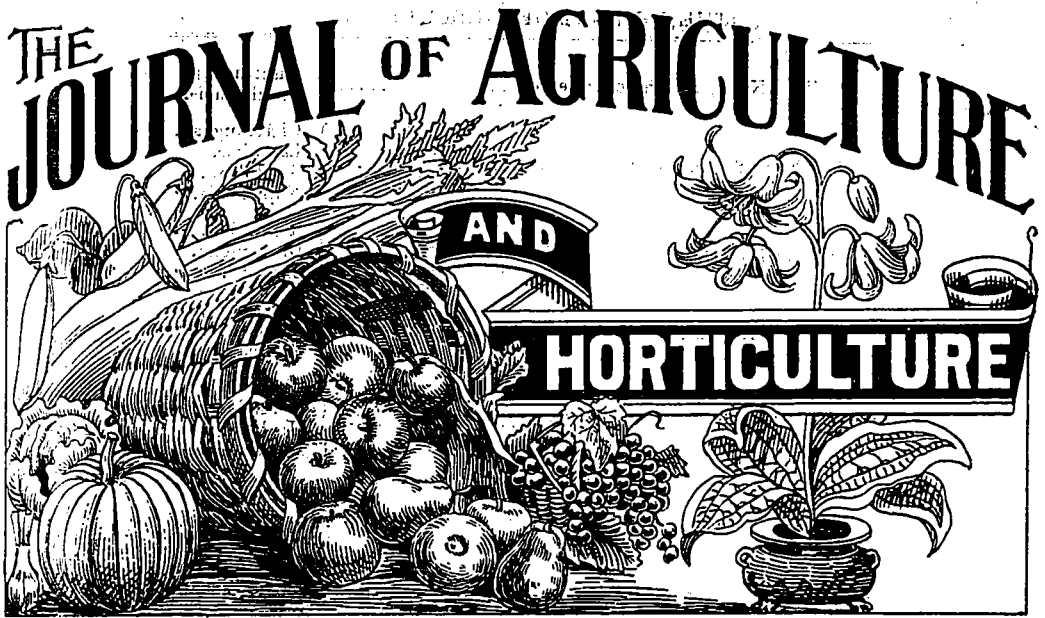
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VOL. I. No. 8.

This Journal replaces the former "Journal of Agriculture," and is delivered free to all members of Farmers' Clubs.

APRIL 15, 1898.

Council of Agriculture

SESSIONS OF THE 21st, 22nd, 23rd DECEMBER, 1897

Extracts from the deliberations approved by the Lieutenant-Governor in Council, February 14th, 1898

VII. — The committee on the By-Laws and Regulations of the Council laid on the table the result of the inquiry they had been charged to make, and suggested the appointment of a permanent committee entrusted with the duty of studying the amendments necessary to be made in the law of agriculture and in the regulations of the Council.

The Council recommended that this committee be composed of Messrs. Bourassa, McCorkill, Ness and Grignon. The Agricultural Societies are again requested to send, as soon as possible, to the Department of Agriculture any suggestions they may have to make on this subject.

VIII. — The Council filled up, as follows, the list of Directors of the Agricultural Societies to be named by the Council of Agriculture in virtue of clause 1651 of the Revised Statutes of the Province of Quebec :

Mr. DRAPER, for the counties of	}	Brome, Compton, Sherbrooke, Stanstead.
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" WALKER, for the counties of.....	} Hunting ton, Beauharnois.
" NESS, for the counties of.....	} Châteauguay, Laprairie, Saint-Jean, Napierville.
" DAVIDSON, for the counties of.....	} Richmond, Drummond, Shefford.
" McCORKILL, for the counties of.....	} Missisquoi, Iberville, Wolfe.
M. DECARIE, for the counties of.....	} Chambly, Verchères, Hochelaga, Maskinongé.

At 6 P. M., the Council adjourned to 10 A. M. the following day.

At 10 A. M., December 22nd, 1897, the same members being present as in the previous day :

X. — Two petitions were read from the existing agricultural societies of the county of Vaudreuil, praying to be allowed to dissolve themselves, and to form, in future, one society for that county. The request was granted.

At 6 P. M., the Council adjourned to 10 A. M. the following day.

At 10 A. M., the Council met again :

XVIII. — At the request of Mr. Auguste Dupuis, in the name of the Agricultural Society of the county of L'Islet, the Council recommended that every facility be granted to this Society for its re-organisation, for the greater benefit of agriculture in the said county, and that its programme, in detail, be forwarded to the Council.

XXII. — Considering the difficulty that occurred in organising ploughing-matches last fall, it is granted that Societies that had organised such matches and had forwarded their programmes to the Department of Agriculture, should renew the said matches next spring, open to all subscribers of 1897; or be permitted to organise, next fall, ploughing-matches open to all subscribers of the two years 1897, and 1898, the entries paid last fall being available for the ensuing matches.

ED. A. BARNARD,
Secretary of the Council of Agriculture.

Quebec, December 27th, 1898.

DRAINING

To the Editor of the Journal of Agriculture.

Dear Sir.

I have been a great advocate of under draining, knowing the value of it from my youth up. I beg leave to make the following observations. I could not heretofore say much for tile draining on account of the cost of tiles; I have now got information which I think will be welcome news to many that have had the matter of under draining under consideration for some time.

In conversation with Mr. Geo. H. Phillips, one of the officials of the Canada Atlantic Railway Company, he informed me that at Casselman, Ontario, there was a firm manufactured tile for drains, and that if there was a possibility of selling tiles to any extent he gave me the following low quotations for car load lots as follows, on any station of the Canada Atlantic between Valleyfield and Howick Junction the prices would be

for 2½ inch tile (diameter) \$10.80 per M
 " 3 " " " 12.90 " "

On the Grand Trunk Railway say between Huntingdon and St Isidore Junction for 2½ inch tile \$11.70 per M for 3 inch tile \$13.90 per M.

On the St. L. and A. R. R. between this Station and St Stanislas the price would be \$12.50 and \$14.90 respectively.

My idea would be to use the small size for all the ordinary drains; and the large size for the mains.

If the farmers could only be induced to give it a trial, they would soon find out it was a paying investment. I put in a two inch tile drain here 2 years ago that cost \$16.00 per M. at the steamboat landing, etill I am satisfied it will pay well and to-day it is running very freely full capacity.

It is very often the very best of land that wants under draining—many farmers advance the theory that very often their land is too dry and hard, for the very reason that it has been water soaked and almost completely spoiled, it very often means a week in sowing time, and most farmers knows what a week then means; the difference between a good crop and a poor one. If I can be the means of getting a few started, the rest will soon follow, knowing your ideas on this matter I hope you will, Mr. Editor, try and boom it a little.

The greatest trouble with the farmers is indifference, they will tell you they know all about the subject in hand but the moment you are out of sight they forget all about it. I do not mean this subject alone, but many others as well. I hope to learn the coming season of a few making a trial, and if more pipes were used the price would soon be reduced, as in Ontario the price is down to \$7 to \$9 per M. I feel satisfied if there were a great demand for tile the farmers in Ormstown who are making bricks could just as well make tile and at about the same price as brick too. Wake up gentlemen, the farmers in the district of Beauharnois are behind in this respect although otherwise good farmers.

Yours truly,

PETER MACFARLANE.

Chateauguay, 22 March 1898.

Household Matters

(CONDUCTED BY MRS. JENNER FUST.)

The hat is very suitable for a young person, and I hope will give some idea how to retrim one; the bunch of ribbon or flowers under the back part is necessary to help to keep it on the head; it is worn a little tilted on one side.

This one is bound round the edge with velvet, which must be on the cross to make it fit nicely.

In using old trimming be careful to iron all ribbons but do not damp them too much or you will make them harsh and unlike ribbon. It is better to wet a cloth, wring it well, rub with this first and then iron with a bit of muslin over, this will make it soft and easy to work into shape. In making long loops, a little bit of fine wire is wanted to keep them in shape.

Cap wire will do if you can get no other as this is made on two or three strands of very fine wire which can easily be pulled out or cut away, and I think can be got in any village shop.



The Russian Blouse, which came in with such a flourish, seems doomed to die out just as quickly.

It has been found much too difficult for any but a first class dressmaker to make and even then only fit for a very slight figure. (1) So we must turn our attention to the ordinary

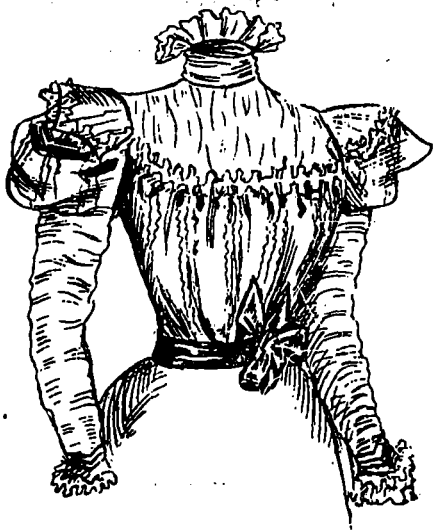
blouse which is pretty and always fashionable; also the waist which is suitable to everybody.

The sketch given this month is of a pattern that I hope will be helpful to the amateur in doing over a last years dress as it is made in a way suitable for using two kinds of material.

The upper part and sleeves could be of one sort or colour and the lower part and little shoulder wings of anything that would blend a little and not be too pronounced in colour with or against the upper part.

The lining is made in the ordinary way; two darts in the front, two side pieces, and two back pieces, or if one had an old waist lining it would come in handy and save time and work in making a new one.

The back is made over the lining and joined with it to the front under the arms.



A Waist.

The front is joined only on the right side it being fastened to the left shoulder and under the left arm by an invisible fastening of hooks and eyes.

Where the upper part of the waist joins the under, to hide the gathers a little trimming of some sort will be wanted, such as fringe, lace, or a bit of itself, quilted, would do.

The collar is made with very little stiffening in it and finished with a lace frill only at the back where it fastens, nothing but a brooch or pin in the front, to be quite fashionable. The waist is belted with a ribbon and tied on the left side.

Soup Meat

Soup, as every body knows, is made from scraps and the inferior parts of joints of meat, this after being boiled down till every particle of the goodness is extracted is strained and put by for future use, after this is done there is no nourishment left in any part but the soup.

In spite of this well known fact, I have noticed several articles written lately on the use to be made of this boiled down fibre: one can call it by no better name. Dogs have been known to refuse it and yet we are told that a small family can be fed well on fifteen cents worth of meat prepared in various ways from this same stuff after the goodness has been taken away.

Imagination will carry one a long way, but to get nourished from such stuff in spite of a little of the gravy being used in preparing the delicate dishes indicated is far fetched.

Sensible people will let the pigs, or chickens have it, and spend their time in a more profitable way.

(1) In the editor's opinion, the R. B. is the most disfiguring article of dress ever introduced.

A few hints worth remembering at this time of the year, when children are pretty sure to catch cold from the damp of early springweather:

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

A proper towel folded several times, and dipped in hot water, quickly wrung and applied over the site of toothache or neuralgia, will generally afford prompt relief.

This treatment for colic has been found to work like magic.

Nothing so promptly cuts short a congestion of the lungs, sore throat, or rheumatism as hot water, when applied early in the case and thoroughly.

Hot water taken freely half an hour before bedtime is an excellent cathartic in the case of constipation, while it has a soothing effect upon the stomach and bowels.

This treatment, continued for a few months, with the addition of a cup of hot water slowly sipped half an hour before each meal, with proper attention to diet, will cure most cases of dyspepsia.

Ordinary headaches almost always yield to the simultaneous application of hot water to the feet and back of the neck.

Orchard and Garden.

(CONDUCTED BY MR. GEO. MOORE.)

HARDY PERENNIALS

(Continued.)

April is a good month for transplanting and dividing the roots of hardy perennials, and at this season those which are not transplanted should have any dead stems or leaves removed the ground about them loosened, and all incipient weeds destroyed.

We give illustrations of two very interesting species, which are favorites of all lovers of flowers.

The *Diclytras* are especially graceful in foliage and flower, they belong to the Fumitory family of plants and are quite hardy. The variety, *multispinnata* is one of the handsomest hardy foliaged plants, and *spectabilis* has also fine foliage with beautiful heart shaped, delicate pink and white flowers, they are commonly called the Seal Flower and are propagated by dividing the roots taking care that each division has a crown. (1)



Diclytra Spectabilis.

(1) *Cœur saignant*, by the French? Ed.

DELPHINIUM (LARKSPUR)Natural order (*Ranunculaceae*)

The Larkspurs are a well known species, some of them are annuals, but the perennial are the most showy and brilliant, they will give flowers well into the autumn if the early ones are cut before going to seed, they are very hardy, and will grow in any common garden soil although the richer it is, the brighter will be the color. Variety *chinense* varies in color, from the most intense dark blue, through all the shades to white; the intensity of color in the darker shades makes it most effective either in the border or for cutting.

Var. *elatium* a native of Siberia has spikes of the brightest blue flowers. There are also some beautiful "hybrid" hardy Larkspurs, of which *Barlowii* dark blue shaded with red; *Belladonia*: sky blue, and *Bicolor grandiflora*; deep blue with white eye are the best. Delphiniums are of easy culture and no garden should be without them.

A singular fact is noticeable in the Larkspurs; it is well known that bright blue and bright yellow seldom exist in the same species but in the Chinese Larkspur we have the most intense blue, and in another Asiatic variety, with a terribly "craejaw" name: *Persewalskianum*, yellow blossoms.



Delphinium elatum.

GOOD ADVICE

Plan before planting
Consider before cutting.

FACTS.

In the beginning of the eighteenth Century there was not 1000 exotic plants known in England, before its end more than 5000 had been introduced, and now there is no known country from which exotics have not been brought.

The sexual organs of plants were discovered and classified by Linnacus in 1735, and it has proved to be the most important discovery in horticultural science, because it has rendered artificial crossing of varieties, so as to improve them, easy.

The Scotch had a Botanical Garden as early as A. D. 1680.

The Irish had a "Gardener's Club" in the reign of George 1st.

Gray said in 1763, that the Englishman's skill in Landscape gardening was the only taste he could lay claim to as original.

The Farm.

PESTS IN FARM SOIL

In discussing the losses sustained by farmers, the injury done by pests in the soil, is rarely credited to a sufficient extent, they doing far more damage than is seen at first sight. We hear much of the damage done by sparrows, flies and other creatures on the face of the earth, but there are pests under the earth, quite as injurious as, if not more so than the above, although their depredations may not be so easily noticed. Who has not frequently seen patches, and even whole fields of barley or oats, become yellow and sickly in the early summer, before the ears began to show, or just when the plant was a little above the ground? Little notice may have been taken of it by the farmer, and it would most likely be passed with the remark: "Oh it will grow out of that." Quite true, it generally does grow out of it, more or less, but does it never occur to the owner or cultivator, how much the crop is deteriorated by the check it receives at a time, when it is most desirable that the plants should all be in the most robust health, and progressing daily towards making a growth, that will be full and fruitful to the greatest extent? We know that in stock if the foal, calf, or whatever it may be, is checked in growth at an early stage of its development, a deficiency follows, which is never regained, and we may deduce that the same thing occurs in the case of crops that are checked in the soil.

The easy going term "Oh they will grow out of it," is one not acceptable to really good farmers—men ever on the look out for the welfare of their crops, and they view with uneasiness the disturbance of any grain or root crops by pests under the surface. Turnips are very subject to be eaten at the root, before they are singled, or immediately afterwards, by grubs. They may take them here and there in large or small patches, and the grower will still be regardless to a considerable extent, so long as there are enough left to furnish a crop. But, when patches are eaten over like this, those remaining, although they may seem healthy and full in the leaf, are generally nibbled more or less at the bottom. The crop in such a field, no matter if all the surface is covered, will never be so good and heavy as in another where the pests are absent. Fields where pests abound, are never so productive as where they are kept under restriction, and those who know they are there, but think not in sufficient quantity to do harm, will find out their mistake to their cost. It is impossible for these pests to exist under any crop without doing harm. They are hurtful to grass crops too, but these are generally so close grown that they do not indicate the damage so readily as the roots or the grain. When it is seen that some crops are suffering in the way described, a little nitrate of soda or some other manure is often thrown over them to make them grow more rapidly, or "grow out of it" as some say. But this is a poor remedy, and at best can only hurry growth a little, without increasing yield. The time to apply a remedy is before the seed is sown. If the grubs can be destroyed at the various stages of their development, and the young plants allowed an uninterrupted growth from the first, the fullest advantage will be derived. There are several grubs or pests destructive to farm crops, but the worst is the wire-worm, and if that can be destroyed, none of the others will live. (1)

Artificial manures are thought to help in their extinction. They do not. Salt is also useless. Lime is the only remedy, and gas lime is the best if it can be carefully used. The roots of vegetation do not like gas lime, in a fresh state, but if it is used thinly, and applied two months or more before the seed is sown, it will kill the grubs and be harmless to the plants. If any fields showed signs of containing many grubs

(1) Crosskill's clod crusher will arrest the progress of the wireworm, as we proved in 1850. E11.

the last year, and the crops suffered in consequence, they should at once have a sprinkling of gas lime thrown evenly over them, and this either ploughed or harrowed in. The former is the better, but if much needs to be done the latter may do.

Ordinary lime is also useful if applied quite fresh and harrowed in at once. Soot will not kill the pests though they dislike it. Where plenty of crows are about, they pick up many grubs after the plough, and this combined with the use of the lime should make a clearance.

W. R. GILBERT.

PRACTICAL FARMING.

(BY JAMES DIKSON.)

How to Make Cattle Kick—Stallions and Bulls—Comfort.

How to make cattle kick. It is the easiest thing in the world. The first time they are tied in the stable—or any other time—knock their shanks with the hoe; if they kick strike them with it, and you will have succeeded in doing in a couple of minutes what a better man cannot undo in a couple of weeks. What is the reason the animal kicks? In ninety nine cases out of a hundred, it is because it is afraid of being hurt, and is only acting on the defensive. Once in a while there is an animal that acts on the offensive, but it is very rare. But what are the boys to do after an animal has learned to kick? Give it to understand that it will not be hurt; let it kick the air, touch the hoe gently on the rump, scrape off the loose hairs and dirt, don't hurry, scrape gently down the hip, and by and by the shanks; take no notice of efforts to kick; proceed in the same way with another, and return to the former one; and in a few days, with a little preliminary scraping down, with a little soft talk and patience, it will forget that it had learned to kick. Speak gently, act kindly, talk to them; if they are cows, have a name for each, and don't be afraid of making a noise, if it is the right kind—a quiet noise—they seem to enjoy the society of humans, if it is enjoyable. The best man I ever had in the stable, was one who, in milking, cleaning, etc., would drone an old Irish air without a break for a half an hour at a time! The cattle seemed pleased. Naturally he was like a flash, but so long as he sang of "Ould Oireland" and his "Colleen" he was like a dove, and everything about the stables was a pleasure. In all this, however, I always except

Stallions and Bulls.—In handling these animals due consideration and allowance must be made for a natural difference in the animal. And the kindest men; those that are not afraid of them, and who are not every moment on their guard against them, are the ones that suffer from the outbursts of their hot blood; and a man might just as well expect respect or mercy from a tiger, as from a stallion or bull when it has lost that respect for him which is inculcated by the only power which at times it will respect, namely, brute force. On the slightest show of rebellion, a curl of the lip, a glare of the eye, a snort, a shake of the head, a switch of the tail, and a lowering of the head, on your approach; or the more pronounced throw of the head towards you, don't stop an instant, the rod in a handy place, grasp it, bring it down smartly lengthwise on his side, only once, but make it hurt; and when quieted pet him, perhaps he will resent this, bring it down again, your first was not sufficient. In the cases, sometimes there is mistaken sympathy. And at the exhibition when a cavorting horse of 1500 or 2000 pound is led out, and without the slightest appearance of fear by his leader; but his eye is on every movement of his charge. And you don't know what took place in the stable. I petted, and was careless with one bull, Result, I fought for my life with a grasp of his lip and nostril. I coddled a young stallion. Result, with a snort, he grabbed for my face, but being warned in the instant I lowered my head and he came near taking my scalp off with my fur cap. Do not understand that I encourage abuse or cruelty. It is humanity and kindness to compel them to a respectful obedience.

Comfort.—Certainly, farmers not only have a right, but it is their duty to be comfortable. It pays. It don't do to shrink from stepping out into the snow. But thinly clad with the fine shoddy of the day, with the wind driving up your trouser legs, and your neck full of snow, no wonder you shrink from what otherwise you would not think about. I once had a Kent man, who for want of better, did what he said the labourers there do in winter weather; in a few minutes he made an oatstraw rope, and wove it round from his feet to nearly his knees, and that idea carried out in any manner is a good one. And the best thing for a head and neck covering is to sew on the cap—say imitation lambskin—a piece of the same material, six to eight inches wide, and long enough to come round each side to cover the ears; this forms a cape, and for teaming- etc., is for comfort or convenience of work, far ahead of capuchon storm collar or any other rig. Get mother the material, and she will soon present you with a Norwester, and unless the winds blow from all the four points at once, your smile won't freeze to your face, and your hair and neck will be comfortably dry. It reminds me of the time when I thought the habitant knew best how to defend himself from the 20 to 30 below zero, and the drifting snow. He wore a tunique and a capuchon buttoned to his coat and over his head, covering his neck and face except the front, and with an étoffe coat and trousers, and moccasins to his knees, he was equal to any storm or cold. But that generation died off, and the next discarded the old fashioned dress of his fathers, for the cloth cap, the finer shoddy coat, the leather boots, the "store shoes," the greater cost and the less comfort.

The Dairy.

THE PATRONS NEED TEACHING.

In the course of an address by Prof. H. H. Dean of the Ontario Dairy School before the Western Butter and Cheese Makers' Association of Ontario, the Professor told the Association: "If there is any one thing which our association needs to day, it is to pay more attention to the man on the farm who is concerned in the production of milk. Our cheese makers and butter-makers are up in their business, you give them first class milk and they will turn out first class cheese or butter. But the trouble is in getting first class milk to our creameries and cheese factories and more attention should be given to the man on the farm who is producing the milk." The Professor remarked that instructing the makers first, is but trying to put the roof on the building before we get the foundation.

I wish to bear witness to the truth of Prof. Dean's remarks, and I think that all Dairy Associations both in this Province and elsewhere would do well to have his able address printed in booklet form, and distributed throughout the country amongst our milk producers. I have never seen the first principles of milk production presented in a clearer and more interesting manner.

Few creamery or cheese factory patrons realize the duty they owe not only to the institution but to their own interests as well. In fact a patron's duty to the factory or the butter-maker and his own interests go hand in hand and are identical one with another. It is a patron's duty to send good milk to the factory, a bad mess of milk will spoil a whole vat full. This is not only a loss to himself but a loss to all the other patrons. The butter maker should be most careful not to accept such milk, and should err rather in being too careful than in being at all careless. A patron ought to be ashamed to deliver milk in bad condition, there is no excuse whatever for it, it ought to be his pride to deliver milk in as good condition as anybody does. If he cannot, he should leave the business and go into something in which he has the ability to excel. Care and cleanliness, if the cows are healthy and have proper food, will insure good milk always.

The butter-maker who guarantees his butter is very foolish if he does not insist on a

guarantee of good milk. It is unreasonable to expect a butter-maker or cheese-maker to turn a prime article of butter or cheese out of poor milk.

It is the very evident duty of every patron to uphold the butter or cheese maker in his discrimination between good and bad milk, it is to their own interests, he is working in their interests; it is decidedly to his interests to refuse bad milk; as it is to the patrons' interests that he do so and he must be upheld. Where such is not the case it is due to nothing else but gross ignorance on the part of some patron or patrons, but ça va sans dire.

The farmers as a rule, have little or no idea of cleanliness, this virtue seems seldom to get beyond the farmer's wife, and the majority of those who do habitually make a few efforts in the right direction, are too apt to be careless when in a hurry or in the busy seasons.

Cleanliness should be part of the patron's very nature. He should be taught that the cobwebs, dust, bits of hay and straw which cover the walls, and ceilings of his cow stable, and which have accumulated since the stable was built; are injurious to the milk, which passes through air impregnated with germs from such impurities on its way from the cows teats to the milk pail, and which in nine cases out of ten stands in an open can in the same atmosphere until all the cows are milked. He should be made to realize that such conditions are most favorable to tuberculosis, and the spreading of disease. His attention should be drawn to the cheapness of white-wash, and the good results which have been obtained by a yearly application to the whole interior of successful dairymen's cow stables.

Then again, the manure which some poor cows carry on their hind quarters all the winter, is a filthy sight, and is a sure sign of a cow keeper on whom the light (and delight) of cleanliness fails to shine.

Patrons sometimes own aerators and appreciate their use and understand it fully, patrons often own aerators and make use of them three feet from the manure pile or in the stable, patrons sometimes own aerators and don't use them; the majority of patrons in this Province don't own an aerator at all, and there is plenty of scope for instruction amongst those who do and those who don't own one.

Very few patrons realize what is implied by bad milk from the butter-maker's or cheese-maker's point of view, and expect almost anything in the way of milk to be acceptable that is not in the curdled or lopped state, and therein are they mistaken. Very few makers will refuse good flavoured wholesome milk which has lopped, as long as it is not too far advanced and become rank, but can make very good use of it by turning it in with the rest of the milk or cream at the right time, so as to act as a ferment or starter.

Milk in all its various stages between turning and curdling, is most objectionable however, on account of the large majority of developed germs being of obnoxious and injurious kinds, which would be developed rapidly when subjected to the separating temperature of milk, to the detriment of the rest of the milk with which it would come in contact.

These injurious germs act mainly on the protein matter in milk, and do not necessarily affect its acidity. As a rule, I may say, that the germs producing mainly lactic acid with but traces of other products, are always to be considered as wholesome.

Milk or cream as it progresses towards ripening will first develop a slightly disagreeable smell (that is, the milk usually delivered at factories) which smell will become more pronounced as it begins to become sour, and will reach a climax shortly before it becomes curdled in the case of milk or ripe in the case of cream, at which time, the acidity will develop much faster, and the obnoxious smell eventually give way to a mild and pleasant aroma. The reason is as follows: The germs have an equal chance to start with and will commence multiplying but in a normal milk the lactic acid germs will eventually produce so much of this acid that other germs, and amongst these are the protein kind, will gradually succumb, because they cannot exist in a medium which contains much acid, and the ultimate order is a lactic acid germ, which can endure the largest amount of acid.

It might be a difficult thing to explain this matter to some patrons, especially to those who know it all and cannot be taught, but I am convinced that many misunderstandings would be cleared away if more thorough dairy education were diffused amongst our milk producing farmers. Never was missionary work among the heathen more desirable.

Compton, March 25 th 1898.

H. WESTON PARRY

THE CHURNING, WORKING AND MAKING UP OF BUTTER.

The temperature of the cream when ripe and ready for churning, should be about 60° or 62° in winter and 56° or 58° in summer. The temperature of the rooms where churning and working the butter takes place should be as low as the cream and if lower by 10° will be better.

The time taken to churn depends largely upon what the state of the cream is when put into the churn—Ripe cream should in summer take from 35 to 40 minutes and in winter should take a little longer. Sweet cream takes longer—about 1 hour—to churn, and must be churned at lower temperature.

The acidity of ripe cream should be for a maximum 0.70 36 c. c. and for a minimum 29 c. c. The test should be made just before putting the cream into the churn.

The reason for washing the butter is to wash out all traces of butter milk—The amount of washing depends upon the amount of buttermilk left in the butter. The water should run off the butter as clear as possible.

The temperature of the wash water should be about 52° F or less in summer and from 56° to 58° in winter according to the temperature of the butter just churned. It should be neither too warm nor too cold or else in the one case it will soften the butter and spoil the grain, or on the other hand it will harden the butter and make it hard to pack and print and it will take longer to work and may possibly have to be overworked.

The object of working the butter is to squeeze out the surplus water and to work in the salt. Butter should not be overworked for it will become greasy and its keeping qualities be spoiled. After the butter is worked enough the moisture should be present in small beads on the butter but not in too great abundance.

Good butter should be neither streaky nor mottled, but of uniform colour and grain. The grain should be about the size of wheat kernels. The smell should correspond exactly with the taste and that should be of a true butter flavour. Cream when churned sweet renders to butter a peculiar and some what wild flavour. This butter is in no great demand. Ripe cream gives to butter that nutty flavour which is so desirable and highly prized in nearly all markets.

The salting of the butter can be done either in the churn or the butter worker. About 5 lbs to every 100 lbs of butter is generally what is applied; but of this not more than 3 lbs to 4 lbs would be retained in the butter.

This must be left to the butter maker's discretion as different markets like saltier butter than others.

The colouring is another subject which must be treated with discretion: so as to suit the market.

Apply from $\frac{1}{2}$ oz. to 1 oz. per 1,000 lbs of milk.

The amount of colour required is calculated from the milk as the milk is a more constant quantity than the butter.

In buying butter colour care should be taken to ensure the purchase of fresh goods; for bad or stale butter colour will give to the cream a flavour so strong, even that it can frequently be discerned before churning takes place.

The packing and printing of the butter: work the butter to a certain degree more; so that this is another reason for not working it too long with the worker—A wooden packer is constructed for the purpose—The sides and corners (if any) should be carefully packed and the packer brought to bear on the butter with a systematic beat. In **printing**, Scotch hands are used; a wooden knife used to cut off the surplus of butter—The less the butter is handled the better.

The care of the packages. The packages are tubs of 70, 50, 30, 20, & 10 lbs capacity and square boxes of 56 lbs net—They should be scalded, and scrubbed with boiling water to take away any woody flavour that would be apt to taint the butter. After washing

they are filled up with cold water and salt and left to stand several hours. After the butter is packed in, a parchment paper is laid over the butter and salt is put in to fill up the space between the butter and the lid to prevent the butter from shifting. The salt helps to keep the butter cool and absorbs any moisture of the lid.

Lastly and for the third time let it not be forgotten that no separating, ripening of cream or churning of cream or any work connected with creamery or dairy work will ever succeed unless the place is kept scrupulously clean from cellar to garret; both floors, walls, and utensils large and small whatever they are.

N. B. by testing skimmilk one is able to tell exactly what the separator is doing and whether it is being run at a high enough speed and also if it skims close.

THE BABCOCK MILK TEST

Among the many uses to which the Babcock test may be applied, should be mentioned the ease with which the farmer is able to distinguish the profitable from the unprofitable cows in his herd by means of it, as well as its adaptability to the creamery and cheese factory for determining accurately the fat content of the patrons' milk.

In the first place it is imperative to procure a perfectly representative sample of whatever is to be tested. The creamery composite samples, then, should be preserved in air tight bottles so that no evaporation is possible—A preservative should be used to keep the milk in liquid state. The best for the purpose is bichromate of potash, which will preserve the milk in a liquid state for a considerable length of time without changing its keeping properties.

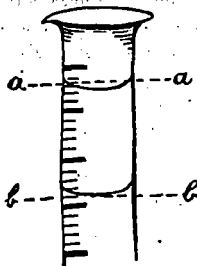
To prove its excellent qualities as a preservative, an experiment was made at the Wisconsin Dairy School where a sample was taken and tested every day for 1 year; and the sample tested the same on the 31 st. of Dec. as it did on Jan. 1 st. of the previous year.

In the manipulation of the test the following points should be observed.

1. **The mixing and temperature of the sample.** The sample must be well shaken up and should be about 75° F.
2. **Strength, temperature and quantity of the acid.** The specific gravity should be 1.83 the temperature should range from 70° to 75° F.; 17.5 c. c. is the quantity of acid required.
3. **Adding the acid.** The bottle should be held slantingly, when the acid is added so as to wash down the milk or cream left on the sides of the long neck. If the acid drops on the milk direct, the fat in the milk which is adhering the neck of the bottle will not be included in the final results.
4. **Mixing the milk and acid in the bottle.** This should be done slantingly also. It should be whirled in the hand with a rotary motion till the casein is completely broken up and the liquid is clear.
5. **First whirling in the centrifuge.** This takes at least 5 minutes to complete. The number of revolutions per minute is from 700 to 900, according to the machine.
6. **Adding the water.** The best water for this purpose is soft or rain water. It **must** be boiling. Fill the bottle half way up the neck, if filled too full some fat may fly out of the top of the bottle.
7. **Whirling 2nd. time**—This is done for fully one minute to cause all the fat to rise.

8. **Measuring the fat.** This is done with a pair of compasses. The shape of the fat will follow the bottle, thus making two curves. The measurement should be taken from the base of the lower concave to half way through the upper concave.

Thus:
From a to b.



General remarks. Keep the acid bottle well corked. Wash the test bottles thoroughly as well as sample bottles and measures. A 17.6 c. c. pipette is provided for measuring the milk. 17.5 c. c. of acid is used therefore allowing 1. c. c. adhering to the pipette. In testing butter milk and skim-milk double the quantity of milk and acid are used. See p. 8 N.B.

A. H. PLUMMER, Compton Model Farm.

20 Dec. 97.

FODDER CHEESE.

To the Editor of the *Journal of Agriculture*

Dear Sir. I have had in mind for some weeks the idea of writing to the Journal regarding fodder cheese: that is, cheese made when the cattle are still in the stable and fed on dry hay or straw. I was reminded of it last week by a series of resolutions passed by the Butter and Cheese Association of Montreal. In 1896, about the same time, an agitation was got up, asking the farmers not to make any fodder cheese if possible. It was pretty generally observed and the consequence was, very little poor cheese was made. In May, June, and July the prices were low, the consumption in England was enormous: the short make and large consumption got the market into good shape so that for one whole year we kept pouring enormous shipments at good prices into England: nearly one-fourth more than ever before in the same period. But it was overdone; we have now a stagnant market and too great a surplus; we are face to face with a grave crisis to meet. How are we to meet it? The Butter and Cheese Association resolutions will help; they are as follows:

Whereas, the price of finest cheese to-day being lower than it has been at this season for the past twenty years, and the market being in a most stagnant state, it would appear that there is an overproduction of this article; and

Whereas, the consumption of cheese does not relatively increase with the growth of population in the same ratio as butter; and

Whereas, the butter market to-day in Canada, the United States, England and other countries, is in a most healthy position at relatively very much higher prices than cheese; and

Whereas, the make of fodder cheese is at all times hurtful to the trade, its inferior quality reducing the consumption and so tending to depress the market, thus depreciating the value of the finer qualities and heavy make of full grass cheese; therefore, in view of these facts, be it

Resolved, that in the wisdom and opinion of this association, no hay or fodder cheese should be made this spring, and that farmers should consider well the advisability of increasing the make of butter and limiting the production of cheese,

Many people in the country parts would never give this association credit for trying to help to solve this difficult question, and I have no doubt I shall hear of many who will say it is from personal motives that they do so. I have a higher opinion of them than that. When business is in such a stagnant state there is no money in the business to any one; but when in a healthy state, every one is cheerful and fair profits are the results. I cannot too strongly recommend all cheese makers not to open early; those who have the apparatus for the making of butter should at least make butter until the cows are turned out to grass, and even longer, if the price of butter is as high relatively as cheese. By this means the make of fodder cheese would be very light, and by the low price now prevailing: and another thing: the strike in England is over for the present; business, that was at a standstill, is now going on again; all these will work together and help things to get to rights; but it will take time, as the stocks of old cheese are larger than they have ever been before. What makes matters worse is that there was an enormous make of fodder cheese last spring (1897) and the make of butter was comparatively small, so small, in fact, that the butter merchants of Montreal had to send to the United States all last season for a great deal of their supplies as there was not enough here to fill orders.

I hope that these counsels will be taken in the spirit in which they are given; only the good of the patrons of cheese factories is thought of. Do not let them get discouraged, as I have no doubt but what 1898 will be ahead of many of its predecessors with regard to remunerative prices.

Yours respectfully

Chateauguay
7 March 1898

PETER MACFARLANE.

The Poultry Yard.

PRESERVING EGGS.

The natural propensity of the feathered tribe is to lay their eggs and hatch their young in the spring; and although fowls, through domestication, produce eggs all the year round, still, in spite of this domestication, nature asserts itself, the spring months being those when in all fowls produce their eggs in greater abundance, the effect of this increase in the supply being responsible for the very low prices obtainable at that season of the year. To keep or preserve this surplus supply until the months when they are less plentiful and more profitable has occupied the minds of householders and poultry-breeders from very early dates, and still does, new methods appearing with unvarying regularity.

The four principal methods of preserving eggs have been given as follows:—The wet method; the dry method; the heating method; and the cool method,—the main principle being to keep the eggs from contact with the air. On 8th February, 1791, William Jaynes was granted Letters Patent for preserving eggs. The formula is in extensive use at the present time, and is called "Jaynes' Pickle." Since that time over eighty patents have been granted in the United Kingdom for preserving eggs; but it has been proved that very many of them have been interesting experiments rather than commercial methods.

Five pounds of fresh slaked lime, one pound of salt, and half a pound of cream of tartar, dissolved in about 20 gallons of water, will be found the cheapest and most effective of the wet methods; a water-tight vessel is then to be almost filled with eggs, and the pickle poured on until the eggs are thoroughly immersed. The vessel should then be hermetically covered, placed in a cool room or cellar, and allowed to stand unmolested for three or four months, when the market price will be 1s. to 1s. 6d. per dozen; consequently, for the producer or egg-merchant, the investment will make a return of over 100 per cent.

Egg-pickling is carried on to a much greater extent in Victoria than in this Colony; so much so that in the dear months the daily papers there give quotations for pickled as well as new-laid, threepence per dozen usually separating these from new-laid. They are sold openly in the Melbourne markets as pickled, and purchased as such. The pickling is usually done by dealers who purchase in the cheap months, and market in the dearest, and as 1s. 3d. to 1s. 6 l. per dozen is a frequent quotation for such, the profit is apparent. Of late, many of the Victorian farmers are preserving or pickling their own eggs, thus getting the full profit for their produce—as they should.

Pickling, or otherwise preserving, is done in a moderate way in this Colony, chiefly by confectioners, they being alive to its advantages, and thus reaping the 200 or 300 per cent profit which should legitimately belong to the producers. Dipping the eggs in melted fat, butter, oil, or liquid paraffin, is also recommended. Water, with 5 to 7 per cent. of salt, will also preserve eggs for at least three months. Of the wet methods, "Jaynes' Pickle" has stood the test so long, it possibly cannot be improved on. However, in this warm climate, its advocates usually make it stronger than the original formula.

The dry methods are more simple still, and consist in tightly packing the eggs in either dry bran, pollard, sand, lime, or other substance. The following is, perhaps, the simplest and most satisfactory of the dry methods, as the writer can testify, from one of his own exhibits, which was awarded a prize at a Dublin Dairy Show some thirteen or fourteen years ago. The class was for preserved eggs, to be delivered to the Secretary four months before the opening of the Show, and to be tested in both the raw and cooked state. There was a large number of exhibits, and all manner of packing and preserving used. Those of which I speak were simply packed in dry salt, and they opened out as fresh as the day they were laid. The dry salt system has also been tried in Australia, and to my own knowledge, eggs embedded in salt for nine months were quite good. The system is the more satisfactory from the fact that the eggs come out quite clean, and have no appearance of having undergone any process, while the same packing (salt) can be used for years; hence it is not coupled with any great outlay. Large boxes or barrels will suit; 2 inches of salt to be placed in the bottom, then a layer of eggs; the salt to completely cover these, and a repetition, till the case be filled to within 2 inches of the top; it should then be filled with salt and the lid nailed down.

The hot method is a simple one, but I cannot vouch for its efficacy. Water is heated to about 150 degrees F., and a basket of eggs is dipped in, and left there for thirty seconds which conglutates what is called the pellicle under the shell, thus excluding the air.

The cool methods are the most effective of all.—the simplest being to collect the eggs fresh, pack in any box or basket, and place in a cool cellar at any temperature below 50 degrees. In this way they can be kept fresh for three months at a time—sufficient to test the profitableness of the experiment. In or about many farm houses there are such places and, if not, a pit dug in the earth can be utilised.

However practicable any or all of the above systems may be, the freezing chamber or cool method is for all purposes the best. The only thing to do is to pack the eggs in boxes or other receptacle, and keep in the cool chambers, at a temperature slightly above freezing point—say, 32 to 36 degrees—and there is no further trouble. With this temperature the eggs can not only be kept an interminable time, but can be sold and have been, in thousands of dozens, as new-laid, and fetched in England top market price. Nor is there any deception in describing them as such, for in a temperature as noted everything in the eggs is held in suspense. There is no process of decay, consequently they retain all their original qualities, which cannot be said of those treated by many other processes. The one great handicap to this plan is, that it cannot be generally adopted, from the fact that there are at present no cold-storage chambers with a proper and continuously regulated temperature; but were there such, and a moderate charge made, I feel sure they would be well patronised; nor need there be any doubts as to the nature of the results. Possibly the most important and interesting circumstance in connection with the cold storage of eggs is the fact of a

complete suspension of the manifestations of life, and the reversal of this when placed under a hen after many months in the cold stores. Should the temperature fall below 32 degrees, and the eggs freeze, all vitality will then be destroyed; but if over 32 degrees, and under 40 degrees, eggs five months old have been known to hatch; and how long this vitality can be held in such suspense has not yet been determined.

Preserving eggs has of late been receiving much attention in some of the daily papers, stress being laid on the statement that infertile eggs are the best to preserve. This is certainly correct; but as the majority of breeders keep male birds with their flocks, the recommendations are of little effect. (1)

So far as "Jaynes' pickle," the "dry salt," and the "cool chamber" methods are concerned, eggs to be fresh is the only essential. I should also say that there are chemical compounds of various kinds patented for preserving eggs, which are effective enough in preventing decay; but consumers have an aversion to any foods known to be treated with preservatives. Before leaving this subject I should observe that the possibilities of the egg trade, through the instrumentality of cold storage, are very great; and I look forward to the time when huge quantities will be stored in this way during the cheap season, and kept until the scarce time, which would do much to restore an equilibrium in the summer and winter prices, and still further assist in making poultry-breeding as valuable an adjunct to the farm as it should be.

The Apiary.

BEE-KEEPING.

Transferring Bees.

Many people imagine it is a difficult job to transfer bees from box-hives to the improved frame hives, but it is a very simple and easy matter to do. Remove the old box-hive from its stand, placing the new hive in its place. With a good bee smoker, smoke the bees a little, invert the hive, place a box four or five inches deep and the same size as the hive at the top of it, drum gently at the sides of the old hive for a few minutes, and nearly all the bees will go up and cluster in the box. Set this one side pry off one or two sides of your box-hive, cut out the combs, saving all the straight combs and those containing brood and fit them neatly into the frames of your new hive fastening them there for a few days with strings round the frames or small sticks a trifle longer than the frames are deep, fastened at each end with a piece of wire, one on each side of the frame. Two or three pairs of the sticks may be ended to a comb, but the bees will soon round everything up nicely and the sticks may be removed in 3 or 4 days. If the combs of the old hive do not fill the new hive, the spare space may be filled with comb foundation, or the bees will themselves build comb in time and complete it.

Do not try to transfer except when the bees are gathering honey, the last of May, or the early part of June is the best time, transferring may be done at other times, but it requires more care. The advantages of transferring are many: the frames may be, handle to extract from, the condition of the colour ascertained at any time; feeding if necessary, is easily done, etc.

F. W. JONES.

BADFORD, Que.,
Feb. 5th, 1898.

(1) This is, of course, a "counsel of perfection," though of course, as Mr. A. G. Gilbert says, the flavour of an infertile egg is very fine. Ed.