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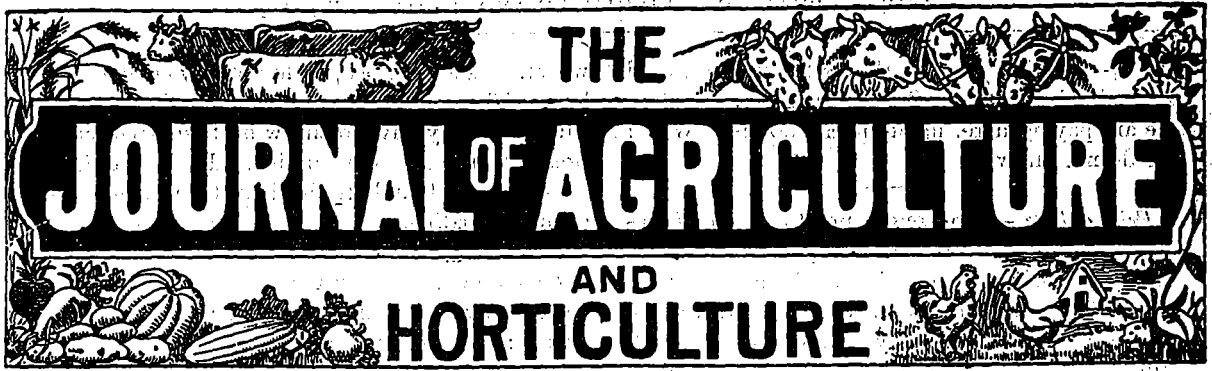
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JUNE 15th, 1899

THE  
Journal of Agriculture and Horticulture

Notes by the Way.

THE JOURNAL OF AGRICULTURE AND HORTICULTURE is the official organ of the Council of Agriculture of the Province of Quebec. It is issued Bi-monthly and is designed to include not only in name, but in fact, anything concerned with Agriculture and Stock-Raising, Horticulture &c. All matters relating to the reading columns of the Journal must be addressed to Arthur R. Jenner Fust, Editor of the JOURNAL OF AGRICULTURE AND HORTICULTURE, 4 Lincoln Avenue, Montreal. For RATES of advertisements, etc., address the Publishers

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*Permanent pasture.*—A great deal of nonsense is talked about the non-necessity of manuring pasture-land. To be sure, there is not much permanent pasture in this country, and what there is is mostly rough, outlying bits, only left down in grass—principally rubbish—on account of its being too strong to break-up. People “imagine a vain thing” when they think that, because grass is not mown for hay but grazed by cattle, it can stand for ever without deterioration. They say: Oh! if land is fed, every thing goes back on to it, and therefore it needs no manure. Now, cows or young cattle, grazing on grass land, carry off milk and increased weight of flesh from it, and if that is not replaced by manure, the land must inevitably grow poorer, more especially where the whole of the milk is sold off the farm, or where cheese is made.

*Butter-colour.*—We have lately observed, in the Montreal market, a lot of samples of butter, the colour of which was very much too deep. The best families in England prefer a palish straw colour for their butter, and if butter-making is carried on in the winter, when artificial colouring matter must per force be used, we strongly recommend the makers for export to use but little, be it annato, or the new colour “yellow aniline.” The butter we consume in our household is from the Dairy at the Model-farm at Compton, and has exactly the right tinge. (1)

(1) The last tub, May 30th, was a tinge too deep in colour. Ed.

*Coal-oil.*—The price of the best petroleum used in England; the Bear Creek; is 12 cts. a gallon. We are paying here, in Montreal, 30 cts. Why? We do not know.

*Price of lime.*—Lime ought not to be so dear as it seems to be from the complaints we hear. Plenty of coal-slack or coke can be had near our large towns, and not very dear either, though probably in the country parts, rough wood, stumps, etc., would be cheaper still. In England, we always used to calculate that 5 tons of limestone would make 3 tons of lime-shells.

*Cider*—In our younger days, there was hardly any cider made, in England, outside the counties of Devon, Somerset, Hereford, Worcester, and Gloucester, though, here and there, in a very plentiful crop-year, a few barrels might be made in Kent, Surrey, etc., but this was only poor, thin stuff, and quite unsaleable, being consumed by the laborers at haying and harvest.

But, now, things have greatly changed. Norfolk and Kent have sent buyers into the regular cider-counties, and bought up the fruit, paying as high as £4 a ton for it, equal to about 40 cents a bushel, averaging 45 lbs. in weight. Of course, every one knows that cider-apples of the best kinds are too harsh for the table. Could not we send some samples of cider over to England?

*A great yield of oats.*—*Farming* prints the following in a late issue:

#### A BIG YIELD OF OATS.

Mr. John Kenward, of Oxford county, writes as follows, and his statement is vouched for by Messrs. John S. Pearce & Co., of London, Ont.:

"I sowed 20 bushels of Danish Island oats by weight on 12 acres on April 20th, 1898, and cut them July 25th and 26th, and threshed 900 bushels, or 75 bushels per acre, or 75 bushels for every 56½ lbs. of seed sown. The land was not very rich, as it has been cropped for over fifty years, and there was no fertilizer of any kind used on the land."

When our dear old farm tutor, Wm. Rigden, of Hove, near Brighton, England, grew his celebrated crop of 140 bushels of white-tartars to the acre, he sowed 3½ bushels of seed to the acre. Mr. Kenward's seeding was only at the rate of 6½ pecks to the acre, which would be thin sowing for fall-

wheat. As a rule, people do not sow enough seed here. There is hardly any time for the plants to tiller, but they have to throw up their seed-culms pretty nearly all of a sudden. In Scotland, the oat-country, 4 and 4½ bushels to the acre are common seeding.

*Canadian cheese.*—Dealers say that there are a good many complaints about the quality of our cheese: not so good as it was. On the other hand, Mr. Derbyshire, President of the Eastern Ontario Butter and Cheese Association, who ought to know, writes to *Farming* as follows:

"I think that quite a lot of things have been said about Canadian cheese, in order to scare our people into making a point that we must have better curing rooms, better factories, better makers, everything must be improved. But I am perfectly satisfied that our cheese last year was finer than ever before, and the only trouble has been, that there have been a few English cheeses made, this last year, a little better than formerly, so that this showed a little difference in quality. Another thing, some of our cheese became heated on the way, this last year, a few in July and August. This we must remedy this coming season, but you can depend upon the Canadian maker waking right up and putting his factory in better condition, and taking more care in the manufacturing of his goods, and we are going to walk right up to the front, with all our competitors in 1899 without any doubt."

Hardly a discreet tone to take, since at the date the above was written, the following were the quotations of English and Canadian Cheddars in London: "Cheddar has been placed at 68s. to 72s.; finest and fine at 60s. to 66s., and useful at 46s. to 52s. Canadian steady at 49s. to 50s. (London, February 17th, 1899)."

*Bacon and hams.*—There seems to be, in the English market, an unaccountable difference between the price of Canadian and Irish bacon, and the price of Canadian and Irish hams. Best Irish bacon, in January, was selling for 54s. a cwt.; best Canadian, for 44s. At the same date, best Canadian hams were fetching 56s. a cwt., while best, small Irish hams were worth for 94s. to 104s. Logically, if Irish hams can be made to be worth nearly twice as much as Irish bacon, it is clear that a little more care in the preparation would make Canadian hams worth more than one-

fifth of their cost more than Canadian bacon. By the bye, talking of Canadian pig-meat, we saw, last spring, a genuine London porker hanging up in the shop at the corner of Ste. Catherine and Guy streets, Montreal. The pig weighed about 12 lbs. a quarter, and looked all right, neither too fat nor too lean, so we bought a fore-quarter, salted it—salt alone—for 9 days, and, when boiled, it was as delicate, tender a piece of meat as ever left Leadenhall market, London. It is a pity more farmers do not take to growing and feeding small porkers. There would always be a market in Montreal for them in the West-end butchers' shops, and, by degrees, the better class of the East-end dealers would take to them too. All that is needed to turn out good porkers is to breed nice, compact white pigs, keep them going from birth to the age of say, 18 weeks, on skim-milk and barley-meal, scald and dress them very carefully, and consign them to the leading butchers in Montreal, such as the Browns, the Winches, the Richards, the Russells, and others of the same stamp. The season for such pork may be said to commence on, or about, the 15th of October, and to end on, say, the 15th of May. One thing is certain; the butchers, at present, cannot get supplied with nearly enough of these small porkers; at least so they tell our house-keeper.

As to the difficulty in keeping the market supplied in winter, we may say that the happy porker, that forms the text of this article, was killed on the 10th of February, so he must have been born about the beginning of October, and doubtless his owner kept the litter warm; but so must the cow-house be kept warm, if winter dairying is to be kept up. The fact is, all things must alter here, as well as elsewhere, if we are to keep on a par with our neighbours; and, among other changes, must be one in particular; the winter habitations of our stock must be kept warm.

*A most sensible remark* is the following:

“The time devoted to study at agricultural colleges is too short to admit of complete practical training. Such training can best be acquired at a farm conducted on business principles.” (Prof. W. N. Jordan).

*Tobacco*, it is probable, will be grown on an extended scale, in this country, to fill up the short supply from Cuba and Manila. The manufacturers

tell us, that the farmer had better leave the sweating of the crop to them, as they understand the process, which the farmers do not.

*Science in tobacco sweating.*—There is probably a no more inviting field for scientific research, for honor and for clear profit in dollars and cents, than in a study of bacteriology as applied to the sweating of tobacco. Experts who have studied the problem practically agree there is every reason to believe the ferment in sweating is caused by the growth of a minute fungus or bacterium within the leaf. There are undoubtedly many varieties of these bacteria, just as there are in bread yeast, in cream starters or in beer yeast. Whoever can separate the most desirable of these tobacco ferment starters, exclude the undesirable species and sell them as a commercial quantity, just as beer yeast. Cohn's bacillus for butter ripening, etc., are sold, will reap a rich harvest.

For work of this character, Secretary of Agriculture Wilson is becoming enthused and has asked congress for an appropriation of \$12,000 for investigations of this kind. The Ct exp sta, through Dr. Jenkins, has taken up the work. The U. S. dept of agri is doing preliminary work along this line at Quincy, Fla., at the present time. One of the most extensive tobacco growers in New England, who raised 35 acres of leaf last year, has fitted up a sweating room in his barns, with regulators for heat, ventilation, etc., and is voluntarily operating on several hundred cases of tobacco. We are not informed that any of the above experimenters are working directly along the line of the separation of one species of tobacco bacteria, but all recognize they have got to come to work of that kind before they solve the problem of the best sweated leaf. They are experimenting as to the various degrees of heat to be used in the sweat.

This work has been gotten down to a fine point. Thermometers have been in use for some time, which register permanently a minimum and maximum heat for any period. There are now quite common. But a telephone thermometer is the latest accession to assist scientific investigation and it is by the use of a telephone-registering thermometer that a special line of work as to the sweat is being investigated by Dr. Jenkins at New Haven. Tobacco is packed in the case and the thermometer packed right along with the tobacco. By means of telephone signals at certain times,

the actual temperature of the top, bottom, center or sides of the case may be registered.

When the bug has been separated that does the business most satisfactorily to consumers of the weed ; when he has been bred until a "thorough bred" and developed in sufficient quantity to supply the demands of a world's commercial trade ; when the best temperature for sweating tobacco by the aid of this particular "best bug" has been ascertained, then the art of tobacco growing, curing and fermenting or sweating will indeed have reached a high art and from the business of tobacco growing no ordinary farmer can expect an easy living. The world do move, and the development of the sciences as related to agriculture is fully and squarely in the front rank of the procession.—*New Eng. Homestead.*

*Bees.*—Our old friend and correspondent, M. Pélouquin, of St. Hyacinthe, has harvested, from 72 hives, 8,000 lbs. of extracted honey, besides adding 20 colonies to his stock ; and all this in one year. His opinion is that nothing pays better than a well managed apiary, and he hopes that, thanks to the daily gratuitous lessons in apiculture that he is giving to the neighbours, that art will make rapid progress in the district. M. Pélouquin has almost made up his mind to give up farming and restrict himself to the special management of his apiary. We saw M. Pélouquin's establishment some dozen years ago ; it then consisted of 122 hives, and was evidently under the hands of a practical bee-master. We had a strong reason to remember our visit, for a bee stung us on the under lip ; the only time we were ever stung by a bee during the forty years we have been in Canada.

*Yield of cream in butter.*—The butter-yield of cows varies greatly, as everybody knows ; but I do not think the following from the *Farmer's Gazette* proves much.

One hundred pounds of cream from Jersey cows' milk gave 52 lbs. of butter ; the same quantity of cream from Shorthorns, gave only 47 lbs. ; from Ayrshires, only 43 lbs., and from Dutch cows, called, erroneously, in the States, Holsteins, a little over 30 lbs.

We only speak of what we know : we have seen plenty of Dairy Shorthorns giving 25 quarts (62½ lbs.) of milk a day, out of which 2½ lbs. of butter were made ; and we knew an Ayrshire cow, belonging to Mr. James Drummond, that made 18

lbs. of butter a week ; and that is of much greater importance than the special richness of any particular sample of cream.

For the *manuring of grass*, whether pasture or meadow, if any ditch-scrappings, or pond-emptyings are handy, mix them up with a lot of lime, and when the lime is in a thoroughly mild state, turn up a few loads of dung with the earth, etc. ; in a fortnight, or so, spread this mixture over the grass. The quantity of lime may be calculated at the rate of, say, ten bushels to the acre. This dressing will promote the growth of both the grasses and the clovers or other leguminous plants.

*Flax.*—A newly established manufactory, entitled.

THE DOMINION OIL-CLOTH Co.,

promises to buy 1,000,000 bushels of linseed a year from our farmers, if the price asked is suited to its objects. Flax for textiles, as we stated in this periodical some 18 years ago, requires to be sown thick ; for seed, thin. The fine laces of Valenciennes, Malines (or Mechlin), Brussels, etc., is made from flax sown at the rate of 3 bushels to the imperial acre. For seed alone, half a bushel to the arpent is plenty. The land should be heavily rolled after sowing, and the seed be deposited at an equal depth.

A full account of the cultivation of flax, as practised in England by the Editor of the *JOURNAL*, will be found at page 89, vol. for 1895. One thing must not be forgotten : the sale of the seed off the land, on farms where the milk goes to the cheese-factory, renders the purchase of manure absolutely necessary, otherwise the soil will, sooner or later, be improverished.

*M. Barthe*, in the French edition of the *JOURNAL*, states that the Judges of the Agricultural Merit Competition show the following rates of improvement in the various departments of farm-work for the year :

Accounts, 16% ; drainage, 8% ; green-manure crops, 37% ; artificial manures, 63% ; yield of wheat, 14% ; grass-seeds, 38% ; flax, 17% ; green-fodder crops, 20% ; orchards, 52%.

But the report is not all so bright ; siloes have diminished in number by 16% in the region under inspection, while in the Townships, and in the S. E. part of the province, they are on the increase.

## CANADIAN TOBACCO.

*Exhibition of Canadian tobacco*—On the 11th of February, the Commissioner of Agriculture, the Hon. F. M. Dechène, paid a visit to an exhibition of Canadian tobacco that was being held at St. Jacques l'Achigan. More than a thousand spectators were present. The samples, which were both numerous and varied, excited a good deal of admiration among the visitors and the members of the jury, Messrs. Rivard, Goldstein and Ferguson, all three of whom are engaged in the manufacture of Canadian tobacco.

The sort that attracted the greatest admiration was the "Blue-Prior," to which the first prize was awarded.

An address was presented, in the great tobacco factory, by the President of the Agricultural Society, to the Hon. Sir Henri Joly de Lotbinière. M. Dechène then gave an excellent practical address, in which he gave a sketch of the history of the tobacco-trade, recounting the changes through which it has passed.

This exhibition will not fail, we trust, to have a beneficial effect upon the cultivation of tobacco in the neighbourhood.

*The best sorts of tobacco to grow.*—The market for such sorts of tobacco as the Little Havana, the Great Havana, the Connecticut, etc., is very limited, it is a local, a purely local market; while the Blue-Prior, the White-Burley, and other kinds possessing great absorbent qualities, with porous, spongy leaves, are well suited to the manufacturer of plug-tobacco, and, even this year, are selling for good prices.

Now, in 1898, we grew about 12 millions of pounds, for which no demand exists.

Whose is the fault?

Had the advice of the JOURNAL D'AGRICULTURE, given last year, been taken, and the right sorts of tobacco been grown, the manufacturers would gladly have bought the crop at remunerative prices. But the manufacturers, naturally, declare that they are not going to expend their funds in the instruction of the farmer; consequently, all the latter has to do is to supply the manufacturer with the goods he requires for his trade, and to do that to a nicety.

This and other happenings of the same sort, should serve as a lesson to our people and open their eyes to the need that exists of studying

acutely the demands of the market, and even its caprices; they must become better acquainted with the more recondite principles of cultivation, and appreciate the necessity of lectures on agriculture, read agricultural papers, etc.

(*Trans. from the French by the Editor.*)

## Household Matters.

(CONDUCTED BY MRS. JENNER FUST).

### HOW TO DYE STRAW HATS BLACK

This spring, quite a number of my friends have been very successful in dyeing old hats black, and very well they have turned out.

The work is most interesting, and if done with the least possible care nobody need even soil their fingers. It does not matter how old or dirty the hat is, all will be covered up in the process of dyeing.

The first thing to do, is to pick off trimming and threads about it, leaving the straw quite bare, mend carefully any little tears that may be in it, also, should the brim be a little battered, iron it out, with a damp cloth under the iron, going over it with a firm pressure till the battered part is gone.

Secure a bottle of good boot polish, "Gilt Edge" is good and reliable.

Put a newspaper on a table to catch any stray drop of the polish, put the hat on it, crown downwards so that the inside of the brim can be done first. By the time one coat is given, the next can be started, as the polish dries very quickly; but it is well to give it five minutes for drying before turning over.

Now put it down, flat on its brim on the table and start by polishing the crown first then the side of it, and last the brim. By the time this is done, the second coating can be started, and then, after very part is gone over, the hat is finished and ought to be a good black. Take care not to put the polish on too thick, always keep bear in mind that two thin coats of any kind of polish, or paint, are better than one thick one.

### THE SMALL CAPE

The little elbow cape still holds its own in the fashions of the day.

Its great usefulness makes it a favourite at this time of the year, when cotton waists are so much worn.

It has the great advantage over the jacket of giving just the little bit of warmth necessary in the cool of the morning and evening without crushing a newly laundried waist.

Any person owning one of these capes of last year's fashion, can very easily turn it into one of the present fashionable ones by cutting the corners round, and adding a frill all round the whole cape, with a ruffle at the neck.

Still another way is, to measure the depth of it and cut out three cross pieces as frills, letting them fall one over the other, but put on just easy, not too full, ending by the ruffles round the neck.

A very pretty light cape could be made like this summer cash more foundation, with frills of the same; its weight would not crush the most delicate musline.

#### COD ROYALE.

Just at present there is generally a good supply of fish in the market from which we can select the sort we must prefer. Many people have an idea that fish can only be worked two ways—either fried or boiled. Nowadays we have improved on these two methods, and many dainty fish dishes are prepared in various ways, quite unknown to our grandmothers. Fried fish is very nice, it is true, but it is somewhat indigestible when properly fried, and decidedly so when served, as is often the case at many tables, soft and sodden with fat, instead of delicately brown and crisp. Here is a method which is as easy as boiling, and twice as tasty. Procure a small cod, or the tail end of a larger one. After cleaning, slit it down the back on either side of the bone, so as to make a hole for the stuffing, which should be the ordinary veal stuffing, to which has been added a little essence of anchovy, before the egg which binds the forcement. Stuff the fish, and, if you possess one, put it into a fireproof dish that can be sent to table; otherwise you must use a tin—which is not so good, because the fish breaks while dishing it up, unless carefully done. Make a little very thin melted butter, season with pepper, salt, lemon juice, and a little anchovy sauce, pour over the fish, and bake in a moderate oven for an hour, basting it with the sauce. If the sauce is too thick when done, thin with a little hot water and a little butter just before serving. I forgot to say well butter the dish before putting in the fish, or it will stick and the fish be broken.

#### A COOKED VEGETABLE SALAD.

Take equal quantities of carrots, turnips, French beans, green peas, cucumber, onions, cauliflower, and Brussels sprouts, and after cooking the various items in the usual way, cut the carrots, turnips, cucumber, French beans, and onions into small, neat dice, divide the cauliflower into tiny sprigs, cut the Brussels sprouts—if large—into halves or quarters, and of course keep the peas whole. Then, when quite cold, put the vegetables into a bowl, season them according to taste with salt, pepper, mixed vinegars, and fine salad oil, and toss the whole lightly until thoroughly blended, after which pile up the salad in the salad bowl, garnish round about the alternate slices of cooked beetroot and boiled potatoes stamped out in fanciful shapes and pleasantly seasoned, and serve.

Lemon Custard: Boil 1 quart milk with  $\frac{1}{2}$  cup sugar, and while boiling stir in  $2\frac{1}{2}$  tablespoons cornstarch, previously wet with a little cold milk. Stir constantly and boil a few minutes; then remove it from the fire and add 2 teaspoons lemon essence and the wellbeaten yolks of 4 eggs; turn the custard into a glass dish; beat the whites to a stiff froth; spread it over the top, sprinkle over a little sugar and serve when cold.

Fruit Custard with Cake: Cut some sponge cakes several days old into square pieces. Drain the liquor from a can of peaches and dip each piece of cake into the liquor and lay them in a glass dish. Place the peaches between and pour over them a cold custard. Then spread over the top the whites of 3 or 4 eggs, beaten to a stiff froth, and sprinkle over a little sugar and serve. Any kind of stale cake may be used up in this way.

Many a cook has complained to her butcher of the tough piece of corned beef he sent up, while in reality the fault was all her own. She was in a hurry and let it boil to hard. Place it near the back of the stove where it will scarcely boil, and when tender take from the stove and let stand in the water in which it is cooked until the whole is thoroughly cold.

#### PEACH PRESERVES

Preserved Peaches: Pare the peaches or remove the skins by plunging the fruit into boiling lye

(2 gallons of water and 1 pint wood washes). When the skins will slip easily take the peaches out with a skimmer and plunge them into cold water; rinse in several waters and there will be no taste of the lye. Weigh and add  $\frac{1}{4}$  of a pound of sugar to every pound of fruit. Halve them and use some of the pits or leave them whole as you please, but the stones improve the flavor. Make a syrup by adding as little water as possible to the sugar, about 1 cut to each pound of sugar. When it boils, skim until clear, then add the peaches and cook until transparent.

There are many ways of cleaning light colored leather belts, card cases, pocketbooks, and the like, but perhaps none more satisfactory than using naphtha soap. Many a valuable purse has been ruined by experimenting with benzine, gasoline, etc. You can't tell until you've tried it whether it will clean or ruin.

#### BELLING THE TURKEYS

I have found it a good plan to the small bells on the necks of the turkey hens and the gobbler. They scared away the foxes and helped one to find the straying turkeys.—

To clean suede gloves, place them on the hands, then rub thoroughly with fine oatmeal, renewing the meal several times. Finally brush the meal from the gloves with a soft brush.

In buying white canvas shoes be careful to select only those of the very best quality. Cheap black shoes are poor enough economy, but to buy a cheap white shoe is a waste of money.

To fit corks tight in the bottles soak in boiling water until they are soft, then pound them in.

Never enter the water with a headache; never do so with a full stomach.

## The Poultry-Yard.

### WHY CHICKS DIE IN THE SHELL.

Some people will not understand the directions sent them by the maker of the incubator and would not follow them if they did. They have their own ideas in regard to artificial incubation.

After the hatch is over and the chicks fail to be excluded, the machine is blamed for not fulfilling expectations, and artificial incubation, in their minds, is a failure. Many chicks die in the shell from improper ventilation. Air cannot be seen and measured by the operator before the proper amount can be given. With insufficient air the chicks may die in all stages of growth, but the greatest number during the last three days of the hatch. Too much moisture is nearly always given under the mistaken notion that moisture is what makes the downy balls pop out. Mistaken kindness! Eggs pip but are wedged fast in the shell and cannot move. In very bad cases chicks get out of the shell, but fail to absorb all the yolk, and this sticks to them. Then the poor chick, in moving around, pulls out its bowels. After several are excluded in this manner, the tray presents a very unpleasant and ugly appearance. Shells present a sticky appearance, with white and green deposits after birds hatch. When insufficient air is given for ventilation, the chicks blow and pant with out stretched necks and open mouths. Chicks should never pants after exclusion. If they do, insufficient air has been given.

When chicks are very much shriveled and small, and air-space very large, not enough moisture has been given. Chicks or ducks will die in the shell from overheat; running the machine at too low a temperature; bad air in incubator; bad air in the room; too much dampness in the cellar or room; dryness in the incubator when hatching; small air-cells; extremely large air-cells; (eggs do not have to be frozen to chill them); overfed breeding stock; unbred stock; diseased stock; ill fed stock; in fact anything that will lower the vitality of the breeding stock or the egg before or after incubation. The pipping stage is the judgement day or summing up of all the evils that went before. In a large number of cases, poor eggs are caused by poorly fertilized eggs, and the incubator gets all the blame. Eggs laid in cold weather, in the winter months, are seldom properly fertilized. Eggs from birds in poor condition, or in confinement, may start to hatch, but not having sufficient vitality, they will die in an incubator or under a hen. Another cause of poor success arises from the anxiety of the operator. He is constantly fussing, turning the heat up and again turning it down, sliding the ventilators one way, then another, watches the machine day and night, gives the eggs an ocean of water one day and dries



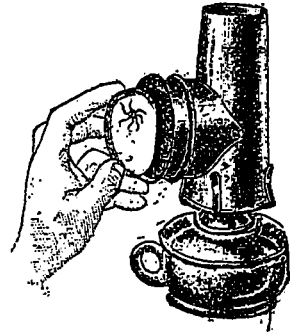
them the next. The last great day of the hatch comes off—no chicks. Operator is angry and declare he has followed the directions (?)

A thorough knowledge of the development of the germ and the growth of the embryo chick is very important and should be carefully study by any one who expects to succeed in artificial incubation. This development is wonderful, and cannot but prove an interesting and fascinating study. We make the following remarks for the benefit of the amateur, while they will not be amiss to even the expert and will do no harm. First it will be remembered that only fertile eggs under any circumstances can hatch. If 75 per cent of average eggs prove fertile your breeders are in good condition. By a fertile egg I mean one that, under favorable circumstances, contains a germ vigorous enough to produce a chick. Some eggs are only partially fertilized and will die in a few days under any circumstances. Such eggs are what produce the foul odor in the machine or under a hen when dead—simply rotten eggs. Some of these die at from five to seven days, while some may live until to or even 15 days, but for lack of sufficient vigor will not hatch. An egg that has no fertility whatever, will not rot or have a bad odor, though left in the machine for 21 days. By the means of the egg tester, infertile eggs can easily be distinguished.

This is a point which is not usually considered so important as it really is. Testing the egg is so intimately connected with the proper temperature, that it comes only second to the temperature itself.

By means of the egg tester infertile eggs can easily distinguished. At the fourth day, these will appear perfectly clear, like fresh eggs. Those which have a germ will be seen to have a small dark spot near the centre, with dark lines, running out on all sides, forming a spider like appearance. This should be, at the fifth day, quite plain and distinguishable at a glance even in dark shelled eggs. If any germ should have died, it will be apparent by a distinct red line in the form of a circle about the size of a silver quarter dollar on the side of the eggs.

The principal object of testing is to watch the development of the air cell, and to remove bad or dead eggs. By keeping out dead or infertile eggs, the operator runs no risk of getting the thermometer on a cold egg and overheating the lives ones. The removal also aids in keeping the air pure.



EGG TESTER.

Showing a good fertile egg after five days of incubation.

No tester is required for duck eggs. The germ can be seen in 36 hours by shading the egg with the hand when held up to the light. (I have tested hen's eggs repeatedly in the same way with a candle in a dark room, but I prefer the tester). Duck eggs should be teated frequently as they decay very rapidly and create a bad odor in the machine. Testing will not injure eggs. Use it in dark room on an ordinary hand lamp in place of the glass chimney.

S. J. ANDRES.

## The Farm.

### RAPE (1) GROWING.

This plant, which but a few years ago was practically unknown, in our province has, since its value has been brought to light, chiefly through the Experiment-stations, been steadily growing in favor among our farmers. To-day, whether pastured or cut, it stands preeminent among all fodder crops. As Prof. Henry of Wisconsin says in his book on "Feeds and Feeding" "the rape is recommended to all farmers and stockmen as well worthy of a trial, since it is produced at a small expense for seed and culture, and yields an immense amount of nutritious forage, the flavor and succulence of which are highly appreciated by sheep and swine. As a promotor of growth in young animals, rape is said to be unequalled by all stock raisers who have experienced it."

Like all rank growing crops, rape requires a soil rich in organic matter and plant-food. Warm,

(1) We have the honour of recommend the cultivation of the *rape* in this country, long before Experiment-stations were heard Ed.

friable soils, old pasture lands brought to a fine degree of tilth, or newly broken up land, generally give the best results. It will do very well also on a clover or timothy sod, provided that the soil is thoroughly tilled. This condition is essential to success, and should come before all other considerations. A good ploughing in the fall, followed in the spring by the pulverizer, will put the land in good shape. As rape requires a large amount of water, all precautions should be taken to prevent the loss of such from the soil by evaporation. In order to do so, the cultivator should be kept going over the land until seeding time, thus keeping the weeds in check and forming a moisture-saving mulch. If ploughing in the spring is needed, the harrow should follow closely behind the plow so as to prevent evaporation.

Three methods of sowing the rape are known. The seed may be drilled in rows, 26 or 30 inches apart, at the rate of 2 lbs. to the acre, or sown on drills, or broadcasted, at 6 lbs. to the acre. The first has proved, through repeated experiments, the most satisfactory. Less surface being exposed than with the drill-system and cultivation being possible during the summer months, the loss of moisture is lessened and the plants can withstand drier weather. They also grow taller and make better fodder than when broadcasted. This last method however is claimed by some to give good results when the land is perfectly clean. (1)

Rape may be sown at any time from May until August, and can be thus advantageously used as a catch-crop. Early seeding, as a rule, is not advisable unless the crop is cut as soon as developed, for soiling purposes. If not, the plants will turn yellow and become infested with plant-lice during the summer months. The most satisfactory method is to sow it at different dates. At the Ontario Agricultural College where 6 acres of rape are annually grown, one acre is sown in the latter part of May for early feeding (pigs and lambs); the remainder is sown at the end of June for fall-feeding (pigs, young cattle, steers and lambs).

The quantity of fodder given by a good crop of rape is very considerable. In a good season, with rape sown in May, 3 cuttings may be obtained before the snow come in November. "By cutting the plants 4 inches above the ground, which best

enables them to throw out new shoots, and cultivating between cuttings, it is estimated that about 30 tons of green fodder may be obtained from an acre." This yield, which may be considered as a limit, is obtained only by combining the best conditions. Experiments conducted at the O.A.C. have recorded a difference of 3 tons per acre in favor of the variety "Dwarf Essex" over all others. Similar results have also been obtained at other stations, so that the Dwarf Essex may now be considered as the most reliable variety of fodder-rape known. Plump, selected seed, gave an average of 5 tons per acre over the small seed.

Rape may be either pastured or cut off and fed as a soiling crop. The first method is the more convenient, and gives very good results, especially for lambs. Care must be taken however to get these gradually accustomed to eat rape or else they are liable to bloat. They should always be left to graze 2 hours on pasture land before being put on rape. This combination of pasture and rape will not only prevent bloat, but also secure better gains. At the Wisconsin station, it has been found that 40 lambs fed on an acre of rape and gives some pasturage and an average of 1 lb. of grain daily, per head, in addition, will produce at least 400 lbs. of mutton in one month.

In feeding swine, rape has also considerable value. It is considered as a very economical food during the latter period of fattening, as on an average of several trials, in Wisconsin, it was found that one acre of rape is equivalent to 2,600 pounds of grain. Its succulence, and the relish with which it is eaten, render it especially valuable for swine feeding during the hot summer months. Already rape is grown quite extensively and with benefit in Ontario. Let not Quebec miss the pecuniary advantages which this valuable crop affords to the former. CHS. MORTUREUX.

An acre of good rape will fatten ten tegs (weaned lambs) in about 3 months. Clover-hay chaffed, and a half-pint of pease and oats, mixed, should be given in troughs. See page 22, vol. I of this JOURNAL, 1879: "On the sandy soils of Bedfordshire, as well as on the chalky clays of Kent, towards the beginning of July, the traveller sees, as he journeys along the roads, large fields of a rich green plant, something like a tall cabbage-stalk, with leaves growing all the way up it, and from 3 to 3½ feet high. This is *rape*, or *cole-seed*, the *colza* of the French, etc., etc." ED.

(1) We have grown acres upon acres of rape, and seen thousands of acres grown by others, and except at Hillhurst, we never saw any except broadcasted. ED.

### WHICH IS THE BEST WAY?

An old Irishman living in an adjoining town, who is a most excellent farmer, in speaking of the way farmers cut their clover hay, said the following, once on a time.

"It's a quare thing that so many folks live all their lives wid clover an' don't know it. The way they cut it for hay is just the same as if a man, in fillin' a jug, would turn half the stuff onto the ground."

We have seen a lot of clover hay cut this season, that positively, we would not give half price for as a milk fodder.

The clover, in almost every instance, is left too long for the first cutting. That spoils it for hay, and also prevents a good second crop.

As we write, we look out on a small field of clover, of an acre in extent. It is new seeding. It came on in the spring with a rank growth, and just as it began to head out and show a few blossoms, it commenced to fall down badly. To secure any hay whatever, and prevent its rotting on the ground, the owner was obliged to cut it. It was given a day or so of hot sun, then cocked up and covered with hay caps. It cured nicely, even in the midst of heavy rains. For the best economy, it was cut a few days too soon, but the question was to save any hay at all.

But here was clearly shown a principal in clover cutting that every farmer ought to study. If the first crop is cut early, before the heads commence to brown, a very much stronger growth will come afterward. Now, in this case this truth is abundantly proved. The second crop came on finely, and that was cut just as about two-thirds of the heads were well in blossom. A larger weight of hay than the first crop, and very much finer in quality, was secured. This was cut two weeks ago. A third crop is coming on rank and strong, and will be ready to cut by the 10th of September. Now here are three crops, two of splendid milk quality, and one quite fair. A yield of hay of fully five tons per acre, will be secured. Is not this a better method to pursue than the one most farmers practise?

A practical feeding value of \$30 an acre will be had in this way. The principle involved is this:

Clover is a biennial. That is, it takes two years to grow and produce seed. When once the root has fulfilled its mission, and produced seed, it

begins to die. The thing to do then, if we want the largest supply of hay from that root, is to prevent seed from forming.

Nature is very persistent, and so she keeps on throwing up flower stalk after flower stalk, trying to produce seed. By cutting these stalks *before any seed forms*, we secure two results:

(1) We keep the root alive and vigorous.

(2) We secure two, and often three crops of hay, all of which, pound for pound, will produce double the milk that the clover hay, commonly harvested by the average farmer, will.

The brings us to the caption of this article "Which is the Best Way?"

What is the use of this constant turning of half of the water on the ground when we are filling the jug? Does it indicate that we are students of our business?

Farmers talk about their clover killing out. They don't realize that their practice of allowing it to stand until the seed forms before cutting, is one great reason why it kills out.—*Hoard.*

### GROWING EARLY POTATOES

The Kansas Experimental Station has been experimenting for two years on the methods of hastening the growth and maturity of early potatoes. During 1897 some whole potatoes were set in shallow boxes with the blossom side up on Feb. 23rd. They were filled around with sand, leaving the upper fourth exposed and the boxes placed in a room of rather subdued light, and a temperature of 50° to 60°. Vigorous sprouts soon began to push from the exposed eyes. These potatoes were planted on March 22nd in furrows in the same position as they were in the boxes and fourteen inches apart in the rows. They were not cut but kept entire. Similar rows were planted of potatoes taken from the storage room and unexposed to the light till planted. As they grew, the sprouted potatoes took the lead from the start and both lots of whole seed kept ahead of cut seed of the same varieties. On June 1st the sand-sprouted lots showed excellent young table potatoes, while none of the others were yet large enough for use. A week's difference was apparent in the two lots. On June 16th the sand-sprouted potatoes were still ahead in size, and at the final digging, July 24th, the sand-sprouted lots showed better tubers and 10 per cent, larger yield than the others.

Last year, somewhat similar experiments were carried on with about the same results. (Just what we recommended 12 years ago. Ed).

Farming.

### STATE OF THE CROPS.—CATERPILLARS.

To the Editor of the JOURNAL OF AGRICULTURE :

DEAR SIR, — Your correspondent can make a report on some of the crops ; others you will have to wait for. I would say in general that early sown grain is looking fairly well ; but, that, that was sown later, did not come up well, on account of the drought.

*Wheat.*—There is rather more acreage in wheat this year than usual ; it is looking fairly well ; the Province of Quebec is not much of a wheat-country.

*Oats.*—This is the crop above all others for this Province ; in some places it has come up unevenly, but the braird is looking well.

*Barley.*—We used to grow lots of this cereal, but lately the price has been very low, so that it has been used for the growing of pigs, etc., in preference to selling it to the brewers.

*Pease.*—The growing of pease has been a great failure for the past few years ; they must be covered at least 4 inches deep to insure a good crop. (1)

*Rye.*—There are but a few sections where rye is grown, down in the sand near Berthier, and again near Three Rivers ; it is looking fairly well.

*Buckwheat.*—There is lots of buckwheat sown around here, usually, but it is too soon yet to sow it this season.

*Corn.*—The weather has been somewhat cold for the favorable growth of this plant ; however, it is now somewhat advanced in the season and we should soon get nice warm weather. In some sections, quite a good deal has been planted.

*Potatoes.*—It is rather early to speak of this tuber. The first potatoes I saw through the ground this year were at Maskinongé on the 25th of May ; while, here, those who raise many potatoes are only putting them in the ground this week. There will be a great acreage planted this year, as they have been selling very high the past 3 months.

*Roots.*—Have made a fair start, the fly, that used to bother us years ago, does not nowadays seem to do much harm to the young turnip plant. Some mix the turnips and carrots together.

*Grass and hay.*—The past winter has been hard on the clover plant. Some grass was also winter killed. It will be many a year before we have another crop of clover like last year ; new seeded down fields have some clover, but where clover was grown last year, very little of it is to be seen now. The pastures are looking fairly well, and cows are going out to graze pasture in better condition than usual. (2)

The price of *cheese* is gradually falling as there was up in Ontario plenty of fodder-cheese made, despite the warning given not to make it.

*Butter* is stiffening up a bit in the price, within the past 10 days, since grass butter has been made.

As regard, the outlook for *small fruits* and *apples*, it looks rather bad at present ; this is an off-year anyway for apples ; the dry spring having been favorable for the tent caterpillar, and, as a consequence, there never was such a host in any remembrance. They are very general all over the Province, and apple and cherry trees seem to be their favorite haunts, but the great crawling ugly things ! they make me shudder just to think of them. In some sections, where they have not been killed, they have got all the foliage eaten up, the trees look about as bare as in mid winter. It will be just a chance if they survive through the hot sun. I should say that those who have kept them at bay have past the worst time for them, unless they swarm from those who have not kept up the warfare against the pest.

*Gooseberries* are suffering too from a green worm, but a spraying occasionally will keep them free.

*Currants* seem to have a fair appearance. Of *plums* I do not think we shall have many this season.

*Strawberries* are just now in bloom.

*Raspberries* seem to have lots of dead canes. Whether it was the hail storm that we had in August last that did the damage, or the past winter, I should not like to say.

To sum up : appearances are only fair, and I do not expect more than  $\frac{2}{3}$  of last year crop, as a general thing ; to be sure, that year was a quite exceptional season in every respect.

Yours truly,

PETER MACFARLANE.

Châteauguay, 30th May, 1899.

(1) Instead of, as usual, just harrowed in. Ed.

(2) The hay-crop, from Montreal to Ste Anne de Bellevue, is sad to see. Ed.

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