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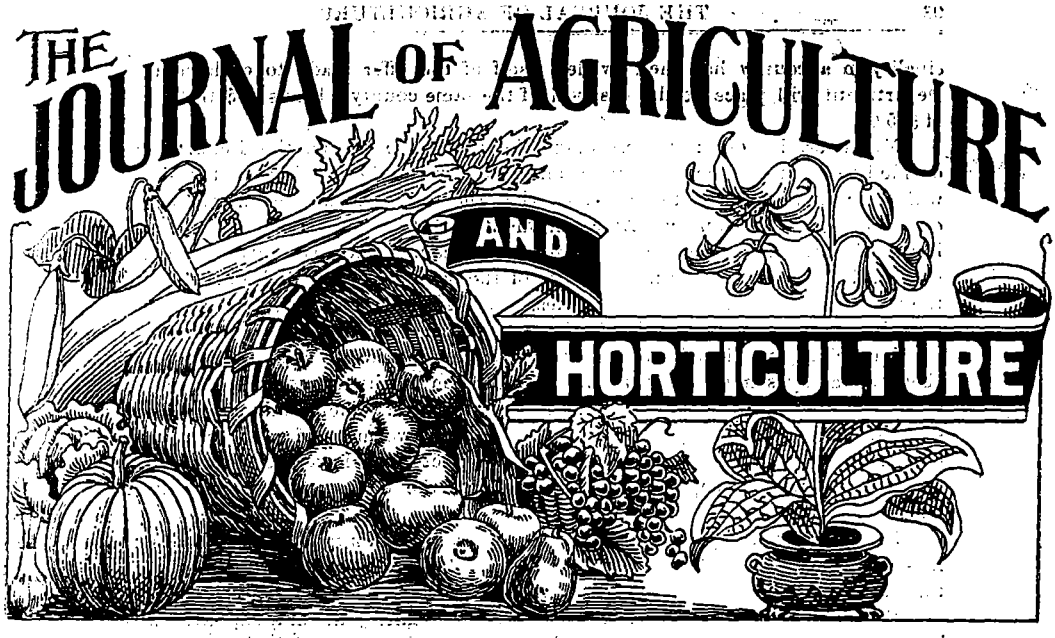


VOL. I. No. 7. This Journal replaces the former "Journal of Agriculture," and is delivered free to all members of Farmers' Clubs. APRIL 1st, 1898.

Good Roads.

DEPARTMENT OF AGRICULTURE.

Quebec, 29th March, 1898.

SIR,

In 1897 the Department of Agriculture inaugurated a new policy for encouraging improvements to roads by granting aid to rural municipalities to enable them to purchase special machines for repairing roads.

Notwithstanding the bad weather that prevailed during last summer and last autumn and that was unfavorable for effecting repairs to roads, the results obtained have been most satisfactory. Seventy-seven municipalities have had their names entered so as to benefit by the advantage offered th m, and according to the official reports received up to date at the Department of Agriculture over 150 miles of road have been repaired since last June.

These results justify the Department in carrying out the system inaugurated last summer with the following modifications :—

A special grant of $300.00 was placed last summer at the disposal of each county, to be divided into premiums of $125.00, $100 and $75.00 between the first three municipalities that availed themselves of the same. The same grant will be given this year to the counties which shall not have claimed it in whole or in part between this and the month of July next.

In counties where the total amount of $300 00 shall have been distributed between now and July, the Department will again grant, from and after that date, three premiums of $75.00 each to the first three municipalities applying for the same. If a single muni-

cipality in a county has then availed itself of the offer made to each county, the Department will place at the disposal of the same county a bonus of $100.00 and two of $75.00.

Moreover, in order to encourage the stoning of roads, the Department has decided to grant each county municipality, aid towards the purchase of stone-breakers, with engine, roller and sorter, provided that the total cost of such machines do not exceed $2,400.00 per county. An amendment to the Municipal Code passed during the last session of the Legislature, authorizes county councils to make arrangements with each parish, village or town municipality of the same electoral division, for repairing the roads in those various municipalities. The general act respecting town corporations has likewise been amended in the same sense.

Municipal councils of parishes or of counties desiring to avail themselves of the above advantages must draw up their application in the form of a resolution, a copy whereof must be sent to the Department of Agriculture. The premium to which they shall be entitled shall be paid to them after at least two miles of earth road shall have been repaired and after a certificate to that effect shall have been forwarded to the Department with a copy of the invoice from the company that sold them the machine.

In the case of the purchase of the stone-breaker, half a mile of macadamised road must have been completed and accepted by an officer of the Department of Agriculture, before the government contribution shall be paid.

Machines for repairing earth roads that are brought by the municipalities with the help of the government shall remain the property of such municipalities for at least three years, and the county councils that purchase stone-breakers cannot sell such machines before they have been at least five years in use in the same county.

I have the honor to be,

Sir,

Your obedient servant,

F. M. G. DECHENE,

Commissioner of Agriculture.

Notes by the Way.

Wheat yield in the Province of Quebec.—At pages 34, 35 of the first vol. of the Journal of Agriculture (1879) will be found, in an article by Mr. Ed. Barnard, a statement of the yield of wheat per acre in the different provinces of the Dominion, as compared with the yield of the same cereal in England.

By this table, we find that, though the yield in England was, on the average of ten years, 29 bushels an acre, the yield in this our province was only 8¾! To put it more forcibly, our wheat crop was less than one-third of the crop grown in England.

As there has been of late a great deal done by the Government, as well as by public spirited individuals; by practical demonstrations, as well as by public lecture; to advance the cause of agriculture, we where naturally inclined to hope that not only had the dairy-industry profited by these advantages, but that the production of grain had moved *pari passu* in the improvement so clearly visible in the production of butter and cheese.

Alas! we were too sanguine. The yield of wheat has by no means increased, even if it has not diminished. In the Government returns for the years 1880, 1890, we find the following figures:

(We leave out the yield in Manitoba, as that province being new land cannot, with any degree of fairness, be brought into comparison with the old farm lands of the more eastern provinces.)

Wheat Production in Canada according to Census Returns.

Provinces	1880		1890.	
	Acres.	Bus.	Acres.	Bus.
Ontario	1,930,123	27,406,091	1,480,519	21,314,522
Quebec	223,176	2,019,004	191,599	1,568,289
Nova Scotia	41,855	529,251	14,157	165,806
New Brunswick	40,336	521,956	17,306	209,80 9
Prince Edward Island	41,942	546,986	44,703	613,364
British Columbia	7,952	173,653	15,156	388,300
Total	355,261	3,790,850	282,921	2,945,568
North West Territories	5,678	119,655	113,811	1,792,409
Grand Total	2,342,355	32,350,269	2,723,861	42,144,629

We see then, by the above table that, in 1880 the province of Quebec grew 223,-176 acres of wheat, the product of which was 2,019,004 bushels, that is, to the acre, just 9 bushels.

In 1890, our province grew 31,577 acres of wheat less than in 1890, that is, 191,599; and these acres only turned out 1,568,284, as nearly as possible 8 1-10 bushels to the acre. But it must be observed that whereas the bushels in the statement of Mr. Barnard were bushels of 64 lbs., those in the government census-table are bushels of only 60 lbs.; so, we have shown, fairly, that the yield of wheat in this province was, in 1890, absolutely less than the yield of the same cereal in 1879: q. e. d.

Surely something can be done to remedy such a state of things. There are many good farmers scattered here and there throughout the province. They do not sow wheat to reap such a paltry return as 8 bushels an acre. What is the reason that the example of such men as Messrs. Cochrane, of Hillhurst, James Drummond, of Petite Côte, Geo. Buchanan, of Côte St. Michel, and dozens of others, have no influence on the practical work of our farmers in general?

Our great fault is that the proper quantity of seed is not sown. As we have said a hundred times in this periodical: though 6 pecks to the imperial acre may be a fair seeding for land in very good heart and in the latter end of April; when the land is in poor condition, and the third week of May is the time, 2½ bushels will not be found too much.

Want of proper cultivation is another defect in wheat-growing here. The preparation of the seed-bed is defective in this: those who have broad-cast seeders do not, as a rule, thoroughly harrow the land before sowing, and those who sow by hand do not harrow enough after sowing: neither the one or the other dreams of rolling; and yet if we are sure of anything in farming, it is that the best possible yield of wheat cannot be extracted from the land without rolling, aye, and with a heavy roller, too.

How often have we heard: Oh! the seed is all covered, so that will do; it does not want any more harrowing. Of course, the seed must be covered, but if, when the rootlets form themselves, they find that they are so close to the surface that the first hot day dries their bed up, and leaves them without any liquid food for their nourishment, how then will they feel?

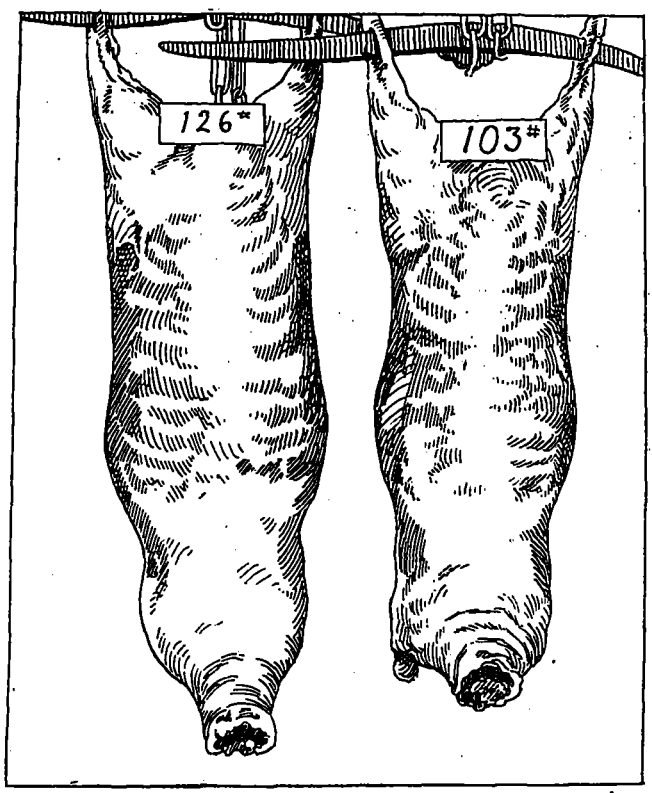
Sow a fair quantity of seed; bury it at least 2 inches deep; harrow till the ground is all equally divided, and treads smoothly; roll with the heaviest roller you can get, and harrow a couple of times after the wheat is well up; and you will find that the yield of the wheat will be something very different from 8 bushels an acre.

The Gallon.—The common gallon, used in this country, is the Imperial gallon containing 277.274 cubic inches. This filled with milk will weigh 10.32 lbs. The gal-

lon used in the States is the old wine-gallon of 231 cubic inches; it holds 8.6 lbs of milk. Thus, the imperial gallon holds, as nearly as possible, 20 per cent more than the U. S. gallon.

"Lawns will last a lifetime," says a correspondent of "The New England Homestead," if properly made." A lifetime, indeed! Why at Cambridge and Oxford, the grass-plots in the courts of many of the colleges have been untouched for at least 300 years, and are perfect specimens of thickly set turf still, as they will be, bar accidents, three centuries hence. The older a lawn is, provided it is kept constantly mown and rolled, the closer will be the turf. It is allowing the grasses to throw up their seed-culms that ruins lawns, and pastures too.

Mutton —Says Mr. L. B. Harris, of Vermont, in the "New England Farmer": "For many years I suppose I have obtained higher prices for my mutton than anyone else in this country. There are a hundred little details that must be looked after to bring about this result. I can give you some of the most important. First you must have a good sheep. Observed the backs of the dressed examples. Well sprung can certainly be applied to their ribs. Look along the shoulder and see how near the ears a good chop can be cut, and how the meat is piled on the whole length of the back just where it will bring the best price. The leg is as trim and neat as can be imagined and with almost no waste at all. There was very little daylight under those sheep.',



Now, we have one or two observations to make on those sheep-carcases: First they are too large for an ordinary sized family; the legs cannot weigh less than 14 lbs' in even the smaller one. And if any one reflects for a moment, he will easily see that a moderate sized joint is, from any point of view, likely to bring a higher price in th

market than a joint too large for ordinary tables, as may be seen any day in the list of prices in the London market, in which the small Sussex-down, weighing from 60 to 64 pounds, invariably sells for 3 cents a pound more than the big Hampshire-down of 88 to 90 lbs. It is just the same with cattle; the neat Welsh runt and the Devon sell for much higher prices per pound than the big shorthorn.

Mr. Harris is a great lover of our favorite plant, rape. He evidently has studied the sheep thoroughly, for he advocates the use of clover-hay in the form of chaff, and denounces the giving of timothy-hay to sheep, wherein we thoroughly agree with him, for we are sure that sheep will do better on well made pease-straw and roots than on roots and timothy-hay.

It is a pity that, in the engraving, the fine inside swell of the "legs of mutton" is concealed by the placards. Mr. Harris speaks of the "mutton chops" taken well up to the throat: the mutton-chop should invariably be taken from the loin.

Early Seeding of Peas and Oats.—Have no fears about sowing the peas and oats too early, or about getting too much of this crop. It is just as good for hay as for grain, and is as valuable for grain as for hay. It offers the advantage of allowing one to get it with profit at any period of its growth after the peas are half grown. Peas and oats 1 bu to corn 2 bu make a most excellent ration for milch cows, or cheap fare for work horses, while the straw of the ripe crop if cured right will take the place of good hay.

We quite agree with the former piece of advice, but the idea of the straw of a crop of ripe oats being equivalent to good hay as horse-food is, we need hardly say, an absurd exaggeration.

Sub-Earth Ducts for Cheese Room.—A member stated that the past summer he tested Mr. Caspar's duct with the thermometer and found the air entering the duct at a temperature of 90 degrees, and coming into the curing room at 60 degrees.

Quite a number of the cheese makers questioned whether the duct would add enough to the value of the cheese to make it pay. On this point, Prof. Robertson may be taken as very good authority. In a recent Canadian convention, he stated that the difference of about 4 cents a pound between the price of the finest English cheese and Canadian cheese in summer is mostly due to the English cheese being cured at a uniformly low temperature. There ought to be 500 of these ducts put in Wisconsin factories, the coming season.

Sugar Beet Pulp.—There is considerable interest felt in this section in regard to the establishing of beet sugar plants, and the enquiry has been made in regard to the value of the pulp, after the sugar has been extracted, for food for cattle.

Binghamton, N. Y. S. M. E.

The pulp from beet sugar factories is accounted a most excellent feed, and like silage and all kinds of roots, more valuable than a chemical analysis seems to indicate: This pulp is almost as valuable, pound for pound, as the original beets from which it comes.

To Increase the Yield of Beans, the quantity planted in drills will give almost, if not quite double, the product it will planted in hills, says a bulletin of the W Va exp sta. (Does any one sow beans or corn, or plant potatoes in hills now-a-days?—Ed.)

Seed-catalogues.—We have to ackowledge the receipt of the seed-catalogues, for 1898, of Messrs. Wm. Ewing, the well-known seedsman of McGill Street, Montreal. We think it a wise plan of the firm to have published a French edition of their annual.

Note: Mr. Harold Plummer must forgive a blunder we were guilty of in crediting his confrère Mr. Bunbury with part of the former's article on "Separating milk, etc." The truth is, the manuscript got mixed, and we got mixed too.

Garden and Orchard.

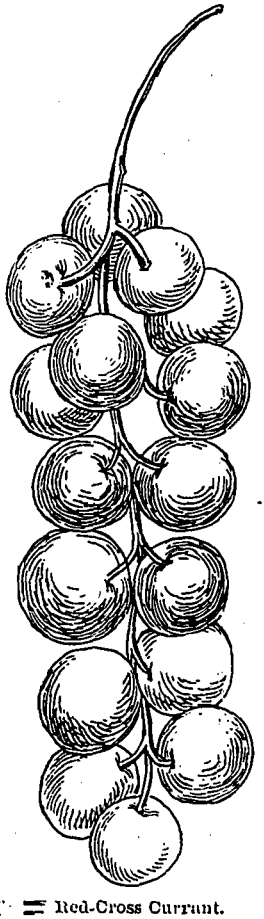
(Conducted by Mr. Geo. Moore.)

Currants and Gooseberries.

These delicious garden fruits do not receive the attention they deserve.

There is a good opening in the vicinity of most of our large centres of industry for men of enterprise to embark in their culture: the markets not being sufficiently supplied.

There are no fruits which are more easily grown, nor any which will give so certain and regular a return for the small amount of labor and attention they require; they produce an abundant annual crop, which ripens early, and hence they are very suitable to our climate, especially as the bushes are not injured by intense cold. All the winter protection they require is to have their branches tied in a bunch, so that heavy snow will not break them.



Red-Cross Currant.

Another point in their favour is that they are easily propagated, so that the grower as he finds the business profitable can readily and cheaply increase his stock by making cuttings of the most vigorous shoots of the last summer's growth, as soon as the wood is sufficiently

Natural Currant Worm.

ripened, of which he can judge by the leaves begining to fall.

These cuttings should be about eight inches long, cut off smoothly below a leaf joint, all the embryo buds, but two or three at the top of the cutting, trimmed off and then they must be inserted into the earth up to the buds which have been left. The cutting, bed should be made in a sheltered place, and covered at the approach of winter with a thin coating of coarse dry litter which must be removed as early as possible in the spring. Else it may decay and destroy the crop; by the end of summer the cuttings will have rooted and may be removed into nursey-rows or planted in their permanent places for fruiting.

Propagation may also be made by suckers being allowed to grow and take the place of the original bush, but when grown from cuttings, and kept to one stem they are the most satisfactory, provided the branches are judiciously thinned out.

Currants and gooseberries will amply repay good culture in the size, quality and abundance of the fruit; but if they are neglected, as they too often are, they will only produce small, sour fruit, and stunted and unhealthy growth.

The land beneath the bushes should be kept clean and free from weeds and, as, soon as the frost is gone, if it has not been done in the autumn, some well rotted manure should be dug in about the roots but not too close to the stem. If the weather should prove very dry a mulching of leaves or manure would improve the quality and size of the fruit; currants especially the black, delight in cool, moist (not too wet) soil with a dry atmosphere above, but partially shaded from the sun.

If we are to keep the bushes in good shape, and with a proper quantity of bearing wood they should be pruned and the branches thinned out annually.

In most climates, currants may be grown on clear stems about a foot before they

Currant Span Worm.

branch out, but here the sun would burn the bark, therefore it is better that the branches should start close to the ground.

Black currants are even more easy of culture than red or white, being nearly free from the attacks of insects.

The insects which attack currants are not numerous, and by a little careful attention can be easily poisoned.

The first of these is the currant "Span worm" (Ellopia riberia.) It is called the "Span" worm from its peculiar method of locomotion; its legs are placed only at each end of the body, and instead of crawling, it moves a span at a time and extends itself from branch to branch, or from leaf to leaf, like an acrobat.

The moth, from which the worm is produced, flies about the bushes in the summer and deposits her eggs on the young branches: here they remain until the following spring, when

they hatch out, and, if not at once checked, devour every leaf in an incredibly short time, after which they drop off and descend into the earth where they change into a chrysalis from which a new moth issues in due time.

The other two currant and gooseberry depredators are the native currant worm,

"Pristiphora grossularia", and the imported currant worm, "Nematus ventricosus"

These do not appear until the leaves expand when the eggs are laid on the underside of them and are hatched in a few days into grubs similar to the span worm, only with numerous legs which enable them to crawl quickly from leaf to leaf.

As they hatch out all at once, and commence eating the leaves immediately, if not watched for and poisoned, they will strip off all the leaves in a few days.

A preventative which is very simple and will apply to all the species of currant worms is the following.

Place some white hellebore powder, which is very cheap and can be procured at any drug store, in a pepper box or a bag made of fine white muslin, tie this to a short stick, and standing to the windward side of the bush dust the leaves thinly with the powder; during a heavy breeze or rain is a bad time for the operations, but in the quiet of the morning when the dew is on is the best.

As to varieties of currants there are quite a number but only a few profitable to grow.

The old Red Dutch, which has a number of aliases such as Red Grape, Queen Victoria, etc., is one of the most useful. Bush is a good grower prolific and hardy, fruit which ripens early, is of a fair size and not so acid as many.

Versaillaise is also a good sort, large bunch and berry, but fruit acid.

"Red Cross" a variety of recent introduction has long clusters of large sub-acid fruit bush vigorous and hardy.

The Cherry Currant is the largest of all and has been very useful to the unscrupulous tree agents as it makes a very attractive picture, but it is disappointing, there are only a few currants on the cluster and these are very sour, and the bush is not prolific even of these.

The White Grape and Godoin are the best white varieties: "Attractor", a new French variety, is said to produce large and very white fruit abundantly and of excellent flavor.

White Currants are sweeter than red and are only used for dessert, as their color is not good for preserves, therefore a small proportion of them only should be planted.

The only three varieties of Black Currants profitable to grow are the "Black Naples" the "Champion" and the Crandal. Black Currants can only be used when preserved, but are then very good and much more in demand than formerly on account of their pleasant flavor and hygienic qualities. (1)

Gooseberries

The fact that Gooseberries in our climate have suffered greatly from mildew, has discouraged many from attempting their cultivation, but since an effective means of preventing its destructive influence has been discovered, there is no reason it should not be practised successfully on a large scale if early and prompt spraying with "Bordeaux mixture" is resorted to.

It may be interesting to remark that, at the begining of the present century, gooseberry growing among the British miners of Lancashire had attained a popularity which was extraordinary. Gooseberry Clubs were formed and competitive displays held, and the man who raised the largest fruit was a hero. To achieve this victory, various methods were adopted: such, for instance, as taking all the fruit off a bush but two or three of the most promising ones; feeding with liquid manure and blood from the slaughter house, etc.

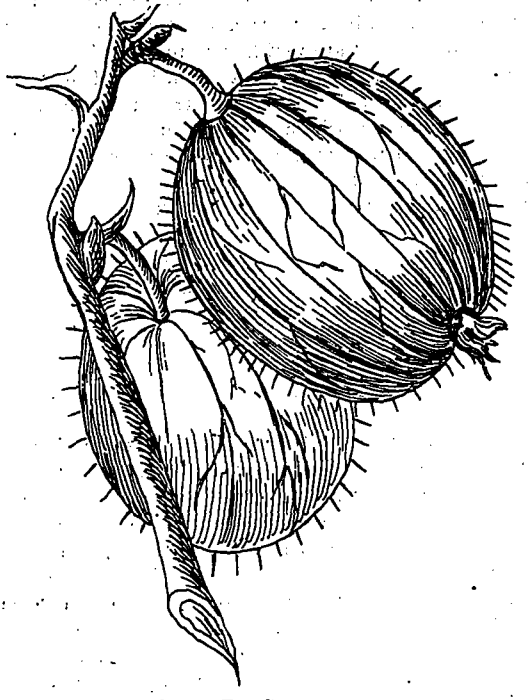
(1) May be wholesome, but to our taste, very nasty. ED.

Unfortunately, this led to gambling, and large sums, for them, were bet as to who would have the heaviest berry.

Of course this fruit had no commercial value except the mere pleasure of producing it, but gooseberry growing may be made a profitable investment. If a better supply was on the market it would create a better demand.

The propagation of the Gooseberry is like that of the currant only that the cuttings are not so certain to root, hence layering is sometimes practiced.

The cultivation too is the same with the exception of spraying to prevent mildew which must be promptly attended to insure success. The European varieties are numerous, but there are only a few which are really useful as market fruit; of these "Crown



Crown Bob Gooseberry.

Bob," red, "Lancashire lad," smooth red, Industry, hairy red, Whitesmith, greenish white, finest flavor, "Warrington red" or rough red is small but of delicious flavor and is valuable because it will hang longer on the bush without bursting then any other.

The American varieties "Downing" pale green, and "Houghton seedling," used to be about the only two sorts grown because they were supposed not to mildew. They are very hardy and prolific but the fruit is small and since it has been proved that mildew can be overcome by Bordeaux mixture the European sorts are taking their place.

Note by the editor: The finest plantation of gooseberries, in fact, the only good one we ever saw in this province, was at the late Judge Rolland's, at La petite Rivière des Hurons, Ste-Marie de Monnoire. There were 100 of them, two years from the nursery, and they were all loaded with fruit as fine as any we ever saw in our native county of Kent.

The Flock.

WOOL GROWING.

It is satisfactory in more ways than one, now that the price of wheat has so raised the spirits of the farmers to alight on another green spot, another oasis in the desert of agricultural depression in England. Foreign competitors may meet the British farmer on a common footing with the products of their virgin soils, they may even defy him in the meat market, or defeat him in certain other walks of commerce, but he holds the balance of the wool industry, and he grows what no other part of the world can produce. The vicissitudes of the wool market are well known to every farmer, its ups and downs fluctuating at the will of fashion. The greatest extensions of the wool trade in Britain, were made during the Civil War in America, and later during the Franco-German war. But these were but milestones on Britain's road to success in regard to the wool trade. Nevertheless those in Canada who would make the attempt of growing wool must remember that this success has not been arrived at without much tacking in the teeth of many adverse winds. Public fancy, that most fickle goddess of all, at one time threatened the British wool grower to the verge of ruin, but today he is not a little indebted to her for the bouyancy of the wool market and the very encouraging gradual rise in prices. Certainly prices have at times gradually dwindled, but this is merely the swing of the pendulum, but it must not be forgotten that between May and September the wool of Lincoln hogs rose fourteen cents per pound. However much this invites one to dwell on this particulur branch of the subject, we must plead forbearance and hurry on to consider the more practical aspect of the English wool market as it affects breeders.

The fact is public property that Australia and other merino breeding countries have so largely introduced English blood into their flocks, that the pure merino wool is becoming scarcer year by year. This of course comes of the antipodean sheep breeders' determination to compete with the other parts of the world for the English dead meat trade, as well as in the British wool markets. This half bred wool is produced in a very much finer state abroad than in the Old Country, consequently the home grown wool of a similar nature realises only a second and third rate price. However it has to be borne in mind that wool to the breeder of half breds in England is but a secondary consideration, the mutton market being the primary goal. If this were not so, then, assuredly it would be foolish policy on the part of the British farmer to fly into the face of such defiant opposition.

Speaking from a wool purchaser's point of view, it is quite right to advise the English farmer to avoid, as far as possible, the indifferent success which is sure to follow in incursion into the half bred wool market, and for his own sake, it is but natural to counsel the strict preservation of certain classes of wools, of which England possesses, if not a monopoly, at all events, most freedom from foreign competition. The temptation to breed for the mutton market was certainly very strong when prices for wool were at a very low ebb. But now that the swing of the pendulum has brought lustre wools so much to the front, the temptation will doubtless be somewhat removed, and breeders consequently will be more free to listen to the advice of the expert. In lustre districts, we are told, it has become a difficult matter to find a flock which is free from half bred, or what we should call cross bred sheep. This if true—which one can hardly credit—is very short sighted on the part of the owners, for the increasing foreign demand for pure bred sheep, and the fact that the Lincoln is above all an admirable wool breed, suggests to breeders the advisability of keeping their pre-eminent characteristics unimpaired.

The breeders of Devon longwools seem to have at length awakened to the value of

this breed, as they have just established an association to form a flock book. It seems strange that this had not be done long since for when exported, Devons have always done well, indeed in the Argentine and Australia, the best reports have been received of the ewes sent out, for they have proved as good meat and fleece producers as any breed. The Scotch black faced breed is most useful, particularly, for its length and strength of staple. There is always a market for this class of wool for the carpet trade. If crossed with something finer, it then comes into competition with East Indian wools, of which there is almost and unlimited quantity. The Cotswold has a long, strong staple, and during the depression found a better market than any other wool for making the hard, stiff goods which go by the name of lastings and camlets for the Eastern market. The Southdown cross unfits it for this purpose, and it then comes into competition with the finer half breds from abroad.

The most unique position is that held by the pure lustre wools grown in Lincolnshire, Nottinghamshire, and East Riding of Yorkshire. It is nearly on a par with alpaca and mohair. The latter will probably be scarcer owing to the disturbances in the East, but the pure lustre can be mixed with, or used in place of it. It makes beautiful bright goods, and as these are in demand, it is much in request. The demi-lustre wool, straight and silky, such as Leicester, like others is capable of improvement by the introduction of a little more firmness in it. This could be accomplished by selection, but crossing detracts from its breed characteristics, and throws it into the swim with the foreign half breds. For hosiery purposes the pure Down wool still stands unrivalled, and will always find a market of its own accord. Good judges believe in keeping it to the old fashioned style, short and fine, with "no suspicion of a long wool strain," adhering to purity above everything. Many of the so-called Down wools offered in the market are declared to be the produce of half breds, but then if you want Down prices you must not offer half bred wool. The above are some of the few remaining breeds with which the British wool grower holds up his end successfully against foreign invaders.

In regard to wool growing as an industry I need only mention that in 1896, the wool clip of Australia was to the value of $25,000,000, far exceeding the value of the output of gold. *Verb. Sap.*

W. R. GILBERT.

The Horse.

HALF-BRED HORSES.

In writing on the subject of half bred horses I hope I may not be accused of plagiarism on an article, which appeared in the Montreal Gazette some eight or ten years ago, written by my old friend the late Mr. Sam. Penniston of Lachine Rapids. In that article he remarked on the surprise expressed by my uncle, the late Mr. James Somerville, of Lachine, at seeing two good steeple-chasers (Madeline and Emergency) doing good and steady work together in the plough. My opinion of halfbred horses for general purposes and all round usefulness so thoroughly coincides with Mr. Penniston's, that what I am about to write must so reflect his ideas as to demand this apology.

There is a prevailing idea that the thoroughbred is a mere racing or gambling machine, of no use for any other purpose, and I now wish, to the best of my ability, to disabuse the minds of my readers of this idea. My own opinion always has been, that if all breeds of horses but one were to be exterminated, by all means let that one breed be the thoroughbred. I should like to call to mind a few of my old favorites, and for the sake of "Auld lang Syne" I mention first three good old mares. These were Mr. Henderson's Topsy, Messrs. Penniston's Madeline, and Mr. Hugh McGee's May Bee. I name Topsy first, as

having been the dam of more good halfbreds than any other mare I can at present call to mind. I have to thank Colonel Crawford of Westmount, in whose possession she was when I first saw her, for particulars as to her pedigree, which I could not otherwise have acquired.

Topsy was by Slap Bang, son of Arthur Wellesley, by Melbourne, Slap Bang was one of the best weight carriers and stayers in England of his day. Topsy was out of Molly Carew, by Dan Webster, grand-dam a half-bred mare. Topsy afterwards became the property of Colonel J. Alex. Strathy and finally of Mr. Wm. Henderson of Sault-au-Recollet, for whom she won many good steeple-chases and in whose possession, I believe, she died.

In order to air my favorite hobby (a preference for allround goodness as opposed to absolute soundness), I may say she was a small bay mare, scarecely more than a pony, and latterly would have been passed as absolutely sound by hardly any V.S.; and yet she was the dam of Sunshine by Aerolite (in my belief her best produce), Quaker by Quito, Mosquito by Quito, Milton, Minden and Magic, by Mocassin, and King Top by Kinhead, Sunshine was killed, all too soon, by a fall at the water jump at Bel Air breaking his neck. Quaker was a real good steeple-chaser. Mosquito was never trained, but was a good hunter and driver and is now breeding promising half-breds by Gladiator and other sires for Dr. W. H. Drummond. Milton won the Queen's Plate for his owner, Mr. Henderson. I was blamed by Mr. Frank Penniston for not including this horse in an article in this Journal describing the principal thoroughbreds which have stood for mares on the Island of Montreal for the last twenty years. My reply was that he was not a thoroughbred, but on reading up the early volumes of the American stud book I have come to the conclusion he is as well bred as many so-called thoroughbreds. There is at present in my stable, a half bred horse standing 16.1½ hands high and who in condition would weigh nearly 1200 pounds. This is Mr. W. J. Price's Marlborough, winner of last years green steeplechase at the Montreal Hunt Meeting. He is strong enough to draw a lorrie or work in a plow. This horse is by Milton out of Madeline, thus combining the blood of two of my old favorites.

Minden was bred by Mr. Henderson and sold to Messrs. Penniston of Lachine who sold her to Dr. Charles McEachran. She was a good steeple-chaser but was unfortunately killed by an accident like her half brother Sunshine. Magic, also owned by Dr. Chas. McEachran, had raised one foal and was carrying another when she won last year's hunt cup, at the Montreal hunt meeting, ridden by Mr. Johnson.

King Top was by Kinhead out of Topsy. This colt ran a good third in last year's Queen's Plate.

I now come to the "Plough Mare" Madeline by Helmbold. This mare stands about sixteen hands high with lots of weight and bone, was a good steeplechaser, a real good driver, and as I have said before a good plough mare. If my readers will think over the subject, I think they will agree with me that this is a combination of good qualities which no other breed of horses (if a halfbred can be called a breed) can show. Madeline became the dam of Rapid Star, by Day Star, Rapid Queen, by Attorney, and her full sister Lapwing, and Marlborough by Milton. I believe Messrs. Penniston have some promising young stock from her which will no doubt be heard from in time.

I must now say a few words about Mr. Hugh McGee's May Bee. This mare was got by Tubman out of Kate.

Kate looked almost like a cart-mare, but showed her ability to breed good horses by throwing Quick by Quito, and Advocate, by Attorney, as well as May Bee.

May Bee was a stylish big bay mare and like Madeline could do anything: gallop, jump, trot ten miles an hour, draw a ton in a Scotch cart or work in the plow. She was the dam of two of the best half breds I ever saw: Quitoski by Quito and Vendor by Gladior. Both these horses went wrong in training, unfortunately, but this only helps to prove my theory of the usefulness of halfbreds as correct, as after becoming useless for racing one has been doing good work in a cab, and the other in an express waggon.

WALTER WARDLE, JR.

The Farm.

LARGE FARMS versus SMALL FARMS.

Conditions affecting agriculture are so different and so peculiar to it in different countries that one could not lay down as a general proposition that large farms are better than small ones or vice versa. We may, however, safely assert, that generally speaking a moderate sized farm is more advantageously worked, than one of any other size. It would be easy to give instances of both very large and very small farms being farmed successfully and yielding good profits, but not in this province, nor under the conditions and possibilities of agriculture as they exist here. Here we have no very large farms and no very small ones. Farming is not market gardening and the so-called small Belgian farm of two acres, is not a farm at all.

Are our farms in this province as a rule, too large or too small? About the usual size from 80 or 90 to 120 acres, being the size of the smallest concessions made, I think that we may call a farm of between 100 and 200 acres, a moderate size one for this province, and I consider that, under the agricultural conditions existing here, it is the most economically sized farm to own and work profitably for the good farmer. I also think that the usual sized farm of the habitant, it is not at all too large in its extent for his requirements, while it leaves him at perfect liberty to go in for intensive cultivation on a small portion of it, should he wish to make that experiment. The farmer here wants some acres in wood to provide him with fuel during our long winters, on all our farms, there is a certain amount of waste, poor and irreclaimable land, so that a 100 acre farm does not, by any means, mean a 100 acres of prime arable land. What is left is not too much for the support of a whole family and a moderate stock of animals. Except under exceptional circumstances, a very small farm of 30 to 50 acres, is not of much use here as a farm. You require the same buildings and farm implements, nearly, as on a 100 acre farm and the carrying capacity of stock is much less. I have seen people try to farm 25 acres of land intensively, but have also seen them give up the attempt, buy more land and cultivate much less intensively and keep more stock. The better and more skillfull the farmer, the more advantageous he will find it to work a farm of about 200 acres, rather than a smaller one. He ought to have more rough pasture, which requires nothing more than feeding down with sheep or cattle, a better wood supply, with perhaps, a nice lot of sugar maples on a farm of this size. Generally, on a farm of 200 acres there is room for sheep somewhere, and properly managed sheep pay exceedingly well, and it is very desirable to have them if you have land suitable for them. The same buildings and equipment of tools and implements that are necessary for the ordinary 100 acre farm, will do for one of twice its extent, at any rate to begin with. The habitant is not a high class intensive farmer, nor a very industrious farmer, nevertheless, he has intelligence enough to make a first rate farmer, if properly taught and willing to learn. This, he is not always willing to do. He has never been taught the advantage of the application of capital to agriculture, and he has never had any himself to make use of in this way. It is quite impossible for any to farm highly and intensively without capital and skill. The habitant hasn't got the capital, and he hasn't got the skill and knowledge required for intensive farming, and he is not industrious, he generally does his farm work in a very careless and slip-shod manner, and although he is not an expert agriculturist he knows enough to know that he is doing wrong. He knows that his ditches should be cleaned and water-furrows made in proper time, and that if this were done, he could get in his crops earlier, and that they would be better in consequence. He prefers waiting longer, doing less work, and getting inferior crops.

There is one thing, however, which he can do, and for capacity for doing which, I

will back him against anybody. He will get better crops out of poorer land, with less abor, and worse implements, than any other farmer that I have ever heard of. This is in its way, a satisfactory species of farming accomplishment, and the French Canadian farmer prefers getting a very moderate result, with a slight expenditure of labor, and none at all of capital, from a rather considerable extent of land, to getting the same from a very limited extent of land, at the cost of very hard labor. The *habitant* often mortgages his farm, and though he may take a long time about it, generally succeeds in paying it off also, but this is generally done for the purpose of paying off some obligation, or for the purpose of providing for the cost of some very necessary farm building. I have never heard of one borrowing money in order to spend it on the farm he already owns in the way of the purchase of fertilizers, draining, the purchase of better stock, or to place it in a bank as a fund to draw against, according to the exigencies of his farming operations as an English farmer would do. His way of getting an increase in farming returns is to buy more land, and where land is very cheap, it is possible that this plan, is as good as the other.

The propositions, that capital is not very necessary in farming, and that, while capital invested in trade, or manufacturing, bring certain returns and profits, according to the increase of capital put in the business, are neither correct, nor fair to agriculture. Increased capital in trade, or manufacturing is squandered away every day, by incompetent traders or manufacturers, and a farmer who squandered his capital away on useless operations would not be a good farmer. But, to a good farmer, the possession of working capital is of inestimable service in farming operations, directly or indirectly, and enables him to farm at a much increased ratio of profit.

The percentage of profit obtained from a farm or from anything else, is only of importance when the sum total obtained is a sufficient one for the needs of the worker, $200 from one acre of land would be a very handsome return, but $1000 from even a badly worked farm of 200 acres, would be a much more desirable result. The ordinary 120 acre farm would have to be very bad land indeed, if it were not worth more, than an acre of the very best land, to be obtained anywhere in this province, and the possession of a certain extent of land, is worth something in itself, where taxes are low and land not difficult to hold.

All things considered, I think that there is no doubt whatever, that the French-Canadian farmer would get his $1000 worth of crops from his 120 or 200 acre farm with much less exertion and comfort to himself, than he would from the intensively cultivated small patch of land, in the most favorable situation.

Intensive culture on a very small extent of land is really market gardening and that only pays in close proximity to Montreal. You must be close enough to drive your own stuff into town. The market gardeners around Montreal fully supply the market. Facility of carriage, by railway, does not make up for the lack of this proximity. Instances are numerous of people living at very moderate distances by rail from town, who have tried market gardening and who have all, one after another given it up. The markets here, are not good enough, land is too cheap, labour too dear, want of agriculture knowledge too prevalent for anything like an attempt at intensive farming on small tracts of land on a general scale in this country. Let us try and be fairly good farmers, before we attempt to become intensive ones.

C. F. BOUTHILLIER.

Bleury-Ste-Thérèse.

The Dairy.

THE DAIRY COW

Selection.—Milk yield.—Chief points.—Care and management. Food.—Breeding.

What breed to select for dairy purposes is very difficult to decide, but it should be some one of the special dairy purpose breeds. A dairy man wants a cow that will give him milk or butter as may be desired. This does not necessitate fancy bred stock. No disparagement is meant to pedigreed cows as milk producers, but we wish to point out that a farmer can buy a good useful dairy cow without having to purchase pure bred stock. Choose a cow that will use her food so as to make milk rather than flesh. A record of the milk given by cows should be kept and those which fall below the standard in quantity and quality of milk or the length of their milking period, should be got rid of.

A farmer going in for milk producing should not keep a cow that has a beef tendency, she will only prove unprofitable to him. You cannot get milk and beef at the same time from one animal.

A good dairy cow should give milk for 10 months in the year and during that time ought to produce not less than 6,000 lbs of good milk. Some breeds of dairy cows give richer milk than others and those giving a large quantity give poorer quality than those giving less.

In the Jerseys for example we get very rich milk but not so much in quantity; whereas, in the Holstein breed we get a large quantity but smaller percentage of butter fat.

Cows should be selected if possible where it is known their dam or sire come from a good milking strain.

The chief breeds of dairy cattle are : Shorthorns (dairy strain) Ayrshires, Jersys, Guernseys, and Holsteins.

In the choice of a good milch cow the following points should be born in mind.

A fine bright eye, quiet and docile looking; lean flesh and not signs of making flesh instead of milk; a fine big udder, well set and with teats that are a good size and milk easily.

Plenty of width between the forelegs, to denote good lungs, and healthy chest proportions.

A fine, thin tail and a straight prominent backbone. A large milk vein.

Cows should be well fed and cared for at all times. In the winter and cold weather they should be kept comfortably housed and in the summer, when out at pasture should have some shelter from the hot sun and the flies. Cows are sensitive creatures, and it pays to treat them gently and kindly.

In the stable they must be kept clean and should be fed, watered and milked as regularly as clock-work every day.

In milking, the milker should work as fast as possible and milk the cow quite clean. If this is not done the richest part of the milk is left, and this kind of milking will cause the cow to shrink in her milk. Always milk with dry hands. Milking with wet hands is not a cleanly habit and brings dirt into the pail. Cows should be milked, as far as possible, by the same person every night and morning and at the same time each day.

In the feeding of dairy cows it should be remembered that milk is rich in albuminoids and therefore cows require a nitrogenous diet. If a cow has to rely on a large quantity of poor herbage or other watery food the milk will necessarily become poorer

in solids and th· butter fat will fall in quantity. Cows should have plenty of succulent food when milking and, if possible, a little bran or oats when at grass. For cows in winter a good ration would be:—

Bran	4 lbs
Corn meal	3 "
Crushed oats	2 "
Hay	8 or 10 lbs
Roots or silage	25 lbs

Mangels are better for milkers than turnips or swedes, as they do not flavour the milk. If turnips are fed they should only be given the cows immediately after milking and not just before. Cabbages are a good feed and so are carrots. Brewer's grains make a capital feed for milk, but they produce quantity rather than quality. (1)

A mixed food for cows should have an albuminoid ratio of 1 : 5. They should have access at all times to good fresh water and as much as they care to drink. They should also have access to salt at all times. A piece of rock salt placed in the manger, is a good thing, and then the cow can have a lick at it whenever she likes.

A cow should have her first calf when about 2 years old or perhaps a little older. Calves should be handled from the time they are quite young and then they get accustomed to the people who have to care for them. The best time for cows to calve is in the autumn. Then the cow is in full milk when that article is at its best price, and she will milk all the winter and in the spring when turned out to pasture will freshen-up her milk.

Another reason is that there is less work to be done on the farm in winter and the calving cow can be well looked after, whereas in the summer there is so much work to do on the farm that the cows cannot get so much attention.

Walter. S. G. BUNBURY.

Household Matters

White Petticoats.

Dainty people like nice underwear as well as outer and for those who cannot afford silk a nice well made white calico one is the next best.

A silk petticoat is one of the luxuries and comforts of the age and after counting the cost of washing (in town) the silk one will pay in the end, and the comfort of walking in one is delightful; the dress slips on it so nicely and the weight is small.

A laundried white petticoat costs from 25 to 50 cents in town; thus it will be easily seen how soon the washing eats up the cost of the silk one.

It will take 7 yards of calico to make one of the present fashionable ones.

This sounds rather much, but as th y are now ma le w.th flounces, or one large one put on quite full; the calico will all be u-ed, especially if tucks are made in it.

The flounce should be 12 inches deep when finished; a two-inch hem on the bottom andallow an extra half inch for every small tuck; thus 15 inches of calico will make the two-inch hem and two half inch tucks: the more tucks the nicer the flounce will look, so add one half inch for every extra one.

Lace will look well on the bottom of the flounce, but will add quite a bit to the cost.

The shirt part is cut like a dress; gored in the front, with two side gores and two widths behind; not two whole widths of the calico, but enough to make it wide enough for comfort in walking.

The front gore has three darts in it, one in the center and one on either side about 3 inches from it.

The side gore has also a dart to make the skirt sit well to the figure; a gored band is also put on as far as the side gore, the hind part is plain with a hem; a tape is put in and thus the fulness is drawn to the back.

(1) Add pease-meal and crushed linseed, for quality. Ed.