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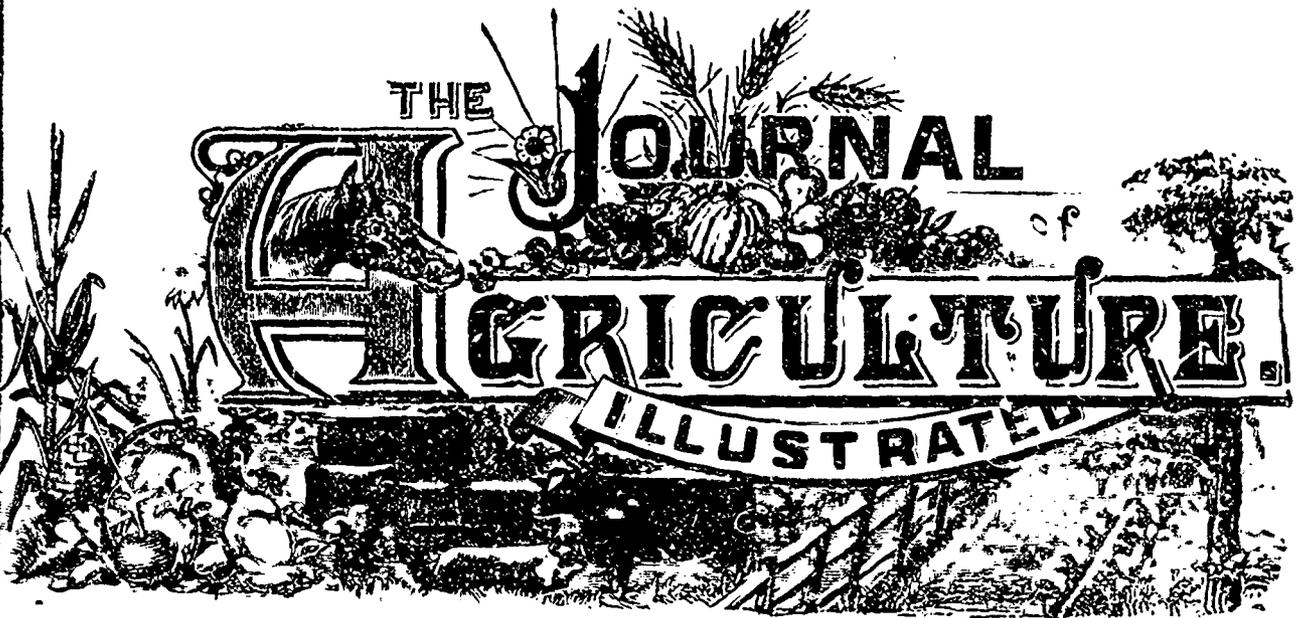
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**NOTICE.**—The subscription to the *Illustrated Journal of Agriculture*, for members of Agricultural and Horticultural Societies, as well as of Farmers Clubs, in the province of Quebec, is 30c annually, provided such subscription be forwarded through the secretaries of such societies.—**EDITORIAL MATTER.** All editorial matter should be addressed to A. R. Jenner Fust, Box 109, Lachine, Que.—or to the Director of Agriculture, Quebec.

## OFFICIAL PART.

### PROVINCIAL EXHIBITION AT QUEBEC.

We have just received as we go to press the list of prizes to be offered at the coming Provincial Exhibition to be held at Quebec from the 5th to the 9th of next September, and also the *Prospectus* which we give at page 124.

It will be seen that several new features are to be introduced which cannot fail to make the Exhibition of 1887 quite attractive. Favourable arrangements are promised with the Railway and River Boat Companies, and the citizens of Quebec are most active in preparing every attraction in their power. It is to be hoped that the public generally, —and especially our readers—will give the Exhibition every encouragement.

The *Journal* was quite ready for the press before these important documents came to hand. We can therefore make room only, besides the *Prospectus*, for a synopsis of the prizes offered.

For full particulars, address Georges Leclerc, Esq., General Secretary, Provincial Exhibition, Quebec.

Scientific Dairy Practice or profitable dairy-agriculture,  
for Canadian Farmers, Illustrated

By William H. Lynch: Ottawa; A. S. Woodburn;  
1886: 102 pp.

Intelligence is a great thing, and industry is a great thing, but industry and intelligence, when they are blended in the same person, are fitted to cope with any difficulty. In the work now under consideration, Mr. Lynch shows that he is largely endowed with both qualifications: first, by the exceedingly acute perception of the needs of the country at large which he evinces, and, secondly, by the very painstaking way in which he clears the road of the farmer of most of the difficulties which impede his progress along the road which he is invited to travel. The book is intended, I presume, to aid in remedying those defects in the manipulation of the produce of our milk-cows which are so painfully evident to those who, like myself, have been obliged to confess that the

butter turned out from two thirds of the dairies in the province of Quebec is only fit for cart-grease; and if it succeeds in convincing any fair proportion of our butter-makers that we really know more about the means of converting cream into butter than our grandmothers did, and that, therefore, their old unscientific methods of the "rule of thumb" must be converted into the modern methods guided by "the rule of reason," Mr. Lynch will have deserved well of his country.

*Raising cream.*—After describing, very briefly, the old fashion of raising cream in shallow pans, and the more modern mode of using deep, ice-surrounded cans for that purpose, the author proceeds to descant upon, what is evidently his favourite plan, the division of the cream from the milk by means of the separator, the advantages of which instrument he describes as follows:

The first advantage is the *increased yield of butter*. A glance at the diagram which appears on a previous page will show that the centrifugal machine is far superior to the other systems. It was only once beaten, during a whole year's experiments; and that, in August, by the ice-system. In other instances the centrifuge has been superior to other systems at all times and seasons. There can be no reasonable doubt as to the effectiveness of the centrifuge in point of quantity of butter produced, and to its superiority in this respect over all other systems yet known.

The second advantage is the *speediness of the creaming*. Milk may be brought direct from the cows and turned into the machine; the creaming will begin almost immediately, and go on continuously, a single machine creaming the milk of a herd of perhaps 50 cows in one hour.

The third advantage is the *quality of the skim-milk*. Whether it be for feeding or skim cheese making, the skim-milk from the separator is in excellent condition. Aside from

the loss of its fat, the skim milk has undergone no change to hurt it; indeed it is doubtless somewhat improved for some uses by having been purified by aeration and removal of sediment and dirt. It is, of course, somewhat poorer from the loss of so large a proportion of its fat. (1)

A fourth advantage is in its use in factories. It will allow of the transportation once daily of milk to the factory; and possibly the carrying back of the skim milk, by the farmers, on the return trip. There are other minor advantages.

As for the disadvantages of the system of centrifugal separation, they may be summed up, briefly, in these three: the higher cost of the machine; the necessity for employing power of some sort; and the risk of accidents. As for the first, the extra amount of butter made from the milk settles that question; the new hand-power centrifuge disposes of the second; and as for the third, nothing but carelessness in the daily inspection of the machine, or the running of it at too high a rate of speed, can cause accidents, if the centrifuge, or any other power-worked implement about the farm—the threshing mill for instance—is put up under the supervision of a competent mechanic.

Many years ago, when rapid refrigeration were first introduced into the brewery, an old practitioner of the art of making malt-liquor told me that I was wrong to run my worts boiling hot out of the copper over the refrigerator; you ought, said he, to allow them to come down to 100° F., on the coolers, first: the worts won't stand such a sudden shock. Being a thoroughly "rule of thumb" man, he could give no reason for this peculiar sensitiveness on the part of the worts, and of course I paid no attention to his remonstrance. And so, were I purposing to use the separator, I, like Mr. Lynch, should pay no attention to Major Alvord, who gives preference to the "old, quiet, gravity method," because of the "lesser disturbance and change of the fat globules of the milk."

The following may be taken as the points of merits in a centrifuge:

*First.* Strong and simple in construction; safe and easy in working.

*Second.* A good strong foundation, and a steady motion. The danger in the machine lies in the chance of the breakage of the skimming vessel, or drum, which revolves with greater or less speed. This should revolve within a strong metal armor, or shell, which will serve as a protection.

*Third.* The minimum need of power.

*Fourth.* Thorough skimming. It should be capable of separating the maximum quantity of fat from the milk, the cream yet containing the minimum quantity of milk. This is required because it would be a proof of merit in the machine, not because the skim milk in the cream is in itself necessarily objectionable. It should have merit in the special quality of thoroughly creaming the *first* and *last* milk of the skimming.

*Fifth.* Easy means of regulating the flow of milk and cream, obtaining thin cream or thick cream at will.

*Sixth.* Easy cleaning.

*Seventh.* Freedom from defects in its mechanical construction, running, motion, inflow and outflow, oiling, heating, loss of speed, starting, &c., &c.

*Eighth.* General conveniences of detail.

*Ninth.* Cheapness and durability.

*Churning.*—The temperature of the cream at the time of churning is a matter of great importance. It is impossible to lay down any absolute rule, but, in general, it may be said that the higher the temperature the more quickly the butter will come, but the poorer will be the quality; and the lower the temperature the longer will it take to bring the butter, but the better will be its quality. This will hold good, at

(1) Which can be easily and profitably replaced by an ounce or two of crushed linseed.

A. R. J. F.

least, within the usual range of churning temperatures, i. e., between 55° F. and 65° F. The true rule, adopted by the author, is to churn at as low a temperature as will bring the butter in a reasonable time. My own favourite degree is 58° F.; but as I always practise after the Devonshire fashion that may be no guide to the churning of separated cream.

Mr. Lynch wisely remarks that various causes will render a variety of temperature necessary: the cream of some breeds of cows and of some individual cows will come quicker than that of others; the distance from calving, and the quality of the food, will cause variations; but these are considerations that a by no means lengthy experience in the dairy will make clear to any one. I said enough about the case in which butter will not come at all in the May number of the Journal, vol. 1886, p. 67.

Where the churning is done at too high a temperature, the butter as we have just seen, comes very rapidly, and will probably exceed in weight that produced from the same bulk of cream churned at a lower degree. But this increased product is not advantage, as it consists of the inferior constituents of the cream, the casein, albumen, &c. And herein lies the reason why butter made after the Devonshire manner is less in weight—quantity and quality of the milk being equal—than that made after the ordinary manner. (1) In the former, the milk being raised to a temperature of about 170° F., the albumen is coagulated, and in the after process of washing, the flakes of that matter may be seen floating over the side of the vessel used for that purpose. The loss is somewhere about 3%, but the butter is all the better, as, being deprived of such a very perishable article, it is all the more likely to keep: not by any means a trifling consideration in this climate.

*Granular butter.*—As every one knows, the old process of churning was to gather the butter in great lumps in the churn. Nowadays, this is entirely given up in all creameries, and the sooner it is abandoned in private dairies, the better will it be for both producers and consumers. Several of my friends at Sorel have been trying to manage their butter after this fashion, but they all seem to have failed; why, or on what account I do not know. I will try to condense Mr. Lynch's counsels into as small a compass as possible, hoping that thereby I may aid him in bringing before a large circle of readers this the most important of all the recent improvements in the art of making butter.

1st, It is clear that when butter in lumps is removed from the churn, they contain a considerable portion of buttermilk charged with caseous and albuminous matters, and must be pressed to remove this buttermilk. But the act of pressing or kneading can only squeeze out the water of the buttermilk and those particles which are chemically held in solution by it. The very process of kneading must incorporate with the butter the very impurities we wish to get rid of; for, by it part of the liquid is squeezed out, and the butter is solidified, but the strainings, so to speak, are incorporated with it, and left behind.

2nd, The churn should be stopped when the butter has formed into pellets about the size of a grain of wheat, or, for beginners, between a grain of wheat and a small pea. This may be known by examining the contents of the churn after removing the cover, when the indication of finish is the appearance of the butter floating on the milk, in a pebbled mass. Or, partially taking out the stopple, allow the milk to flow through a sieve, when if the milk is thickish and full of specks of butter, the finish is not yet arrived at. If, on the

(1) Strange to say, at the dairy-trials at Dorchester of the Bath and W. of England association, the Devonshire plau turned out the greatest amount of butter and was all but first in quality!

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other hand, the milk is thin, comparatively free from grains of butter, and drains freely through a cloth strainer, it is all right. Churn slowly, test as above frequently, and lower the temperature of the contents of the churn by cold water, towards the end of the operation, particularly in hot weather: the warmer the weather, the sooner with the butter mass together.

3rd, Draw off the buttermilk through a sieve, and pour into the churn plenty of cold water. The main point is to get the temperature low enough to permit of the butter being agitated without causing it to gather.

Having sufficiently chilled the butter, fasten up the cover of the churn, and turn the handle slowly; drain off the water, and repeat the operation with fresh cold water, until it runs off as clear as it went in.

A quantity of cold brine should be prepared for the last washing; allow the butter to stand in this for ten or fifteen minutes, giving the handle a few turns from time to time, and then drain off as before.

Brine may be substituted for water in the first washing, and with advantage, for salt coagulates the albumen of the butter, and the water used afterwards dissolves the coagulum. Use plenty of water in these washings: butter that will mass together in a small quantity of liquid will preserve its grain distinct in a large quantity.

4th, As to salting: pulverise the salt thoroughly, sprinkle one-third of it over the butter, which has been drained from the last washing and should now be lying spread uniformly on the bottom of the churn; then, tip the mouth of the churn towards you as far as you can without disturbing the butter, and, with a jerk, tip it enough farther to throw the butter over on to the side of the churn. What was the top face of the butter, and was sprinkled, is now beneath, and the fresh face presented must be sprinkled with half of the remaining quantity of salt. By a dexterous movement, throw the butter to the opposite side, and sift on it the remaining salt. Rock the churn from side to side, gently, to mix the salt, and let the whole lie quietly for half an hour to dissolve the salt. After this, put on the cover, turn the handle slowly, and the butter will gather in lumps, the surplus brine exuding under the motion. The butter is now fit for packing.

Clotted cream.—Mr. Lynch quotes Professor Long as saying that the principal advantage of making butter after this fashion (Devonshire) is that "when, from unknown causes, the cream has made a practice of taking a long time to change into butter, the annoyance may in future be prevented by this plan:" which I showed to be the case two years ago, when the milk of M. Séraphin Guévremont's cows had persistently refused to yield any butter for more than two months; v. Journal, p. 67, v. 1886.

In making butter after this mode, a small quantity of cold water should be put into the pan before the milk. In winter, after scalding, the milk should be allowed to cool gradually, as when cooled rapidly the cream is apt to be thin.

Our author recommends that the heat should not be carried higher than from 140° F. to 145° F., "having in view the quality of the butter." Now, as I have always carried the heat of the water in the *dain-marie* up to from 165° F. to 170° F., at which heat the coagulation of the albumen is perfect, I fear I cannot agree with Mr. Lynch. If people will persist in scalding on an iron *back*, instead of in a water medium, no doubt these higher heats will cause the butter to have a fire-flavour: in a waterbath there is no such danger.

The Mark Lane Express says, on this subject: "We find the Devonshire system of scalding milk strongly advocated by Professor Tanner but whatever other merits that system may possess, it has not the important one of producing butter

pure and free from any admixture of casein." True enough, for casein is not coagulable by heat; still if we get rid of the albumen, by this means, as we do, one enemy at least is gone. And surely when we consider that there is, in this system, a positive impossibility of the souring of the cream on the milk—in which case the effect of the heat would be to make "curds and whey" and not clotted cream—the plan is worth following out in small dairies. Besides, the butter comes, even in winter in two minutes, at the outside. I have tasted Devonshire butter of no very high quality, it is true, but positively bad butter of this kind I never saw, whereas there are plenty of *creameries* that turn out, *fade*, mawkish, un-eatable stuff in plenty.

Winter Dairying.—We cannot all practise butter-making in winter, for fear of swamping the market; but I can conceive of no more profitable plan, for those farmers who possess sufficient energy and skill, than to employ the dead season of the year in making butter and soft cheese of the best quality. The cows intended for this purpose should calve about the 1st of October, and be warmly kept in well ventilated stables all the winter. I do most sincerely believe that a cow in milk should never stir out of doors from the first of November to the first of April. Dry off your cow at least six weeks before the time of calving, particularly if she is a great milker: it is of the greatest importance to her future yield that she should go into winter quarters in good condition, to say nothing of the benefit it will be to the calf. When drying off, take care that the cow is really dry before you finish with her: most of the *lost quarters* I have seen so many of during the last three years, were caused by carelessness towards the end of the drying off.

Food for milch-cows.—"The perfection of feeding is pasture-feeding at its best. Summer weather; rich upland slopes, sweet grasses, unmixed with weeds, for food; water, pure and abundant; fields roomy; shade, convenient; quietness, comfort, and plenty:—all the essentials of health and comfort are here."

"Such is pasture at its best. The reality in practical life too seldom approaches it. Scant, weedy, innutritious grass, giving in a day's travel all over it too little food to produce milk without robbing flesh; bad water, and not too plentiful either; no pleasant shade without long tramping after it; flies all day; dogs for drivers, and kicks from milkers—Poor brutes! All of them! Such is pasture at its worst."

Very good indeed Mr. Lynch! Three-fourths of the pasture in most parts of the province where I have lately wound is of the latter character, and nothing astonishes me more than to hear it claimed as a dairy country. Nothing can be more absurd than the idea of a dairy-farm without an acre of permanent pasture, and that is the state of nine-tenths of the farms at Sorel, unless you like to call miserable bush-runs pasture. Is it not true that by the 1st July the cows have nothing to eat but the roots that they drag up from the ground? By August, here and there, a stubble is cleared, and there the "poor brutes" of cows get a little picking of couch-grass and other weeds. But how many farmers grow green crops of any sort to fill up the vacuum between July and the time when the cattle are stabled—say November? One in twenty? No, not one in fifty! I must speak out: the farming of the light lands all round Sorel is a disgrace to any country. The system is to sow down with timothy and clover, mow and sell the hay, as long as there is any, and then pasture. The clover soon disappears, after the first mowing, and what sort of a pasture can be expected from timothy on any land, let alone on sand? The Guévremonts, I am proud to say, have, under my instruction, begun to increase their summer provision by sowing a few acres of mixed grasses—clovers, fescues, and ryegrass; and I do trust that as their neighbours

have followed their example in growing roots, they will also imitate them in trying to raise permanent pasture grasses. (1) Feed the grass level, and allow no seed to form.

But, I beg I may not be misunderstood. In spite of here and there a cool-bottomed pasture in the Townships, no country with such a climate as ours can ever grow permanent grass that will afford a full bite to cattle in July and August. Subsidiary crops must be sown to fill up this *lacuna*, and the kind of crop to sow must be chosen that suits the soil on which it is to be sown. No better general mixture can be found for light land than my favourite: one bushel pease, one bushel oats, one bushel tares, half a bushel of corn; and for heavy land, the corn may be left out and the tares and pease increased by a peck each. On both heavy and light land, two pounds of rapeseed should be sown after the grain is harrowed in; the roller will cover it and prepare the land for the scythe.

*Winter-feeding.*—Milch cows, like every other animal, require a variety of foods. Why are the calves born from straw-eating mothers such miserable objects? No nitrogen, or very little, in the food, consequently the calf cannot make his muscles. Pea-straw is worth more for in calf cows or for in-lamb ewes than the best timothy hay. Why? Because it contains far more nitrogen. A sheep-breeder wrote to the papers the other day to ask why his lambs all died in the womb or shortly after birth; they were fat enough, he said, and the ewes before parturition had been fed upon the best hay. You will understand the reason now, my readers. I see Mr. Lynch gives the respective value of wheat and pea-straw as \$2 to \$3, and \$6 to \$10 a ton and he is not far from right, but what on earth does he mean by making from 2 lbs. to 4 lbs. of oil-cake and from 5 lbs. to 7 lbs. of *inseed* the equivalent of 10 lbs. of hay?

"If cows are turned out for water twice a day in winter, it is enough." But, I say, never turn cows out in winter at all. Let water be always before them in the stable, and then it will be at a decent temperature—cows do not like lukewarm waster any more than we do.

*Carding cows.*—Cows should never be carded *pace* Mr. Lynch. It makes the coat thin. If the cattle are at liberty to lick themselves that will be carding enough for all purposes.

Mr. Lynch recommends the manuring of pasture lands. Well I fancy that for such pastures as we see here manuring is necessary. On this question arising at the meeting of the Huntington dairy association last winter, I wrote to my brother, the whole of whose landed property consists of grass-land, in the celebrated Vale of Berkeley, Gloucestershire, England, on the subject, and in reply, after consulting his tenants, all of whom are cheese makers, he speaks as follows: "What do you mean by dairy-land? I presume you mean land that is grazed year after year, without being either mown or manured. None of my tenants will admit the idea that such a course will impoverish the land. Some of them have a *home-piece*, as they call it, which is handy to the dairy, and for this reason they graze it continually, and this land they look upon as the best they have; but one and all agree that if land treated after the above fashion were to be mown, so good a crop must not be expected from it as from other land mown in rotation (i. e. mown one year and grazed the next)."

The land in question has been in our family for upwards of three centuries, and there is no record of its ever having been laid down to grass, so I presume the grass—and fine herbage it is—is the natural product of the soil.

ARTHUR R. JENNER FUST.

(1) I find that there have been sown this year within a radius of two miles from the town of Sorel, about *fifteen times as many acres of roots* as were ever grown before 1885.

## DE OMNIBUS REBUS.

Upper Lachine, Que.—June 21st, 1887.

*Horses for the English cavalry.*—The letter, which most of my readers must have seen, written by Col. Ravenhill, R. A., Inspector and purchaser of horses for the Royal Artillery, on the subject of the conditions afforded by Canada for the supply of horses for the Cavalry service in England, coupled with an address, by the same gentleman to the Breeders of Horses in Great Britain, is full of information most interesting to the Canadian farmer.

The first observation made by the Colonel is, that, as a rule, the farmers in Canada are ignorant of the value of their animals. He states that in some places where local, or other exhibitions of stock, were being held, the agricultural authorities had most generously got together subscriptions to help the work, and offered considerable money prizes for competition; but such indifferent animals were exhibited that Col. Ravenhill could neither award prizes nor purchase anything; whereas, in another part of the same town, good, even excellent horses were brought for inspection, many of which he bought, and in one or two cases the owners were with difficulty persuaded to enter these superior animals for exhibition, so that a prize might be awarded to them.

The Colonel complains, 1st, of the slowness of the Canadian farmer to act or observe; 2nd, that the distances to be travelled are too great, and the number of good horses to be met with too small, to make it worth an English or European horse-dealer's while to embark in the business; in proof of which he states that he spent 167 days in the Dominion, during which time he travelled 14,755 miles, examined 7,674 horses, and was only able to purchase 83 of them for the Government. 3rd, While the prices asked were far from being extortionate, Col. Ravenhill found that the majority of horses of fit size and sort were unsound or blemished, from being worked too early, 4th, that the stallions employed are too often faulty in shape and unsound, and their get too short and too drooping in the quarters: precisely the point I remarked upon a month or two ago, and which the writer attributes to the same cause I have mentioned so often only to blame it. Too extensive employment of the American trotter for stud purposes, this defect being very apparent in that horse; 5th, that the American dealers purchase many of the most valuable mares, leaving the unsound malformed stock to be bred from—unsoundness in the horse being as surely hereditary as consumption, cancer, scrofula, or general weakness, in the human race.

Colonel Ravenhill proposes that the Dominion government should offer a considerable number of remunerative premiums for brood mares of a certain well defined stamp, with foals at foot, with still larger premiums for stallions. Very good, but who is to judge whether these mares and stallions are worthy of admittance into the *haras*? I fear, as things go at present in the Dominion, favouritism or prejudice would have a good deal to say in the matter.

As a reason for the scarcity of good horse of the stamp required, the writer says, what nobody can deny, that the Canadians are not a riding people; "you never see a boy riding a horse to plow, or a man riding a horse to the forge. All travel on wheels in summer, and in sleighs in winter," and the consequence is that we rarely see a horse with lengthy rein and quarters, good withers, and lengthy, sloping shoulders. And the same defects are visible in the ranched-bred horses. Nothing but a perfect weeding out of the mares and the introduction of the *thoroughbred* stallion, with plenty of bone, power, and action, can possibly remedy these defects.

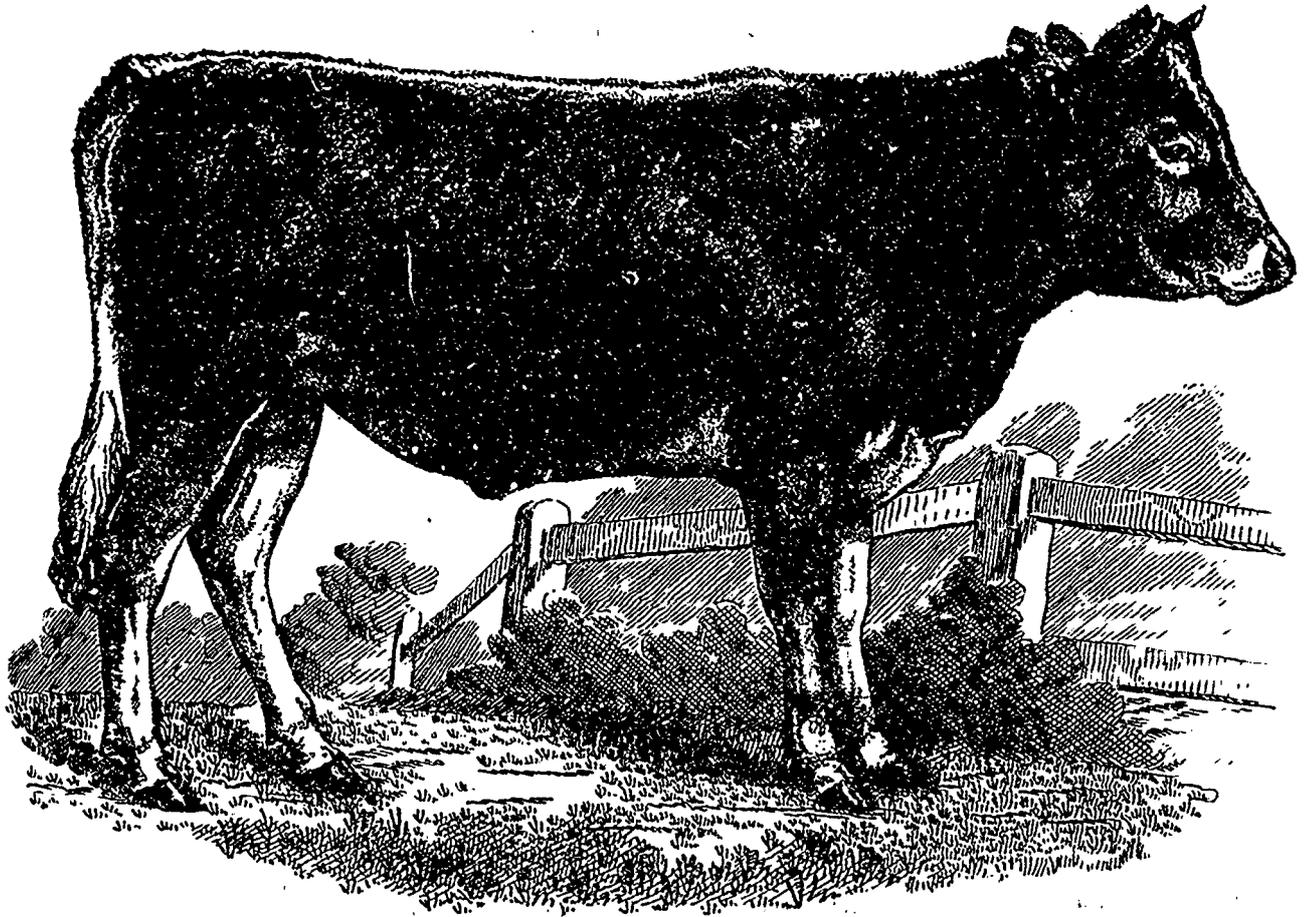
After a reference to the War-office in England, Col. Ra-

venhill was directed to inform Mr. Carling, the Minister of Agriculture, that, "so far as can be seen, the horses which have been already bought would appear to justify the purchase of additional numbers annually in the future."

And, now, let us see what constitutes "a horse fit for military purposes." There are two sorts required in the army: the one, the most difficult to find, is a horse that, as we say in England, "carries a saddle well"; with lengthy quarters, good sloping shoulders, and with his head well set on. He should, at 5 years old, stand not less than 15 hands 2 inches—5 feet 2 inches—. Of these, about 1,500 are required annually in time of peace. To breed this stamp, a strong infusion of throughbred blood is absolutely necessary. Weedy,

the sweetest, most gentlemanlike manners, I ever had, had this one and only fault; in the field, he was perfect, no fence too big, and no day too long for him, but on the road, he was almost down on his nose ten times in an hour.

Never forget that the first impressions you receive from the look of a horse are the most correct and lasting. If a horse does not fill the eye and satisfy the mind generally at first sight, he is not likely to do so afterwards. The best style of mare to breed from for horses of the description wanted for the English army is a three-parts bred, long, low, wide, good constitutioned mare, hereditarily sound, of from 15.1 to 15.3 in height, served by a good, sound, well limbed throughbred stallion.



GUERNSEY BULL; WONDER OF THE WORLD.

fast trotting brutes, like too many of those we see in the Eastern Townships, with cow-hocks, and no middle-piece to speak of, will not do at all. The badly formed hocks, when the work is hard, throw out curbs, and a horse without a well filled up middle-piece—what we call "herring-gutted"—is always a bad feeder.

The second style of horse is a short-legged, compact, quick-walking draught-horse, for the Royal Artillery, the Engineers, and transport corps. He should be from 15.2 to 16 hands high, and able to walk with ease 4 miles an hour. Fine, high withers, with sloping shoulders, are a great attraction, whereas a horse with thick or low withers has generally thick upright shoulders, and is only fit for draught. A horse that turns his toes in would be rejected at once: he is sure to come down sooner or later. The best hunter, with

*Dominion Exhibition, 1887.*—I have just received the prize list of the "Grand Dominion and Industrial Exhibition" to be held at Toronto from the 5th to the 17th of September next. As usual, there is a most liberal list of prizes to be distributed. One or two features in the list are rather objectionable, notably the jamming together in one class of the Oxfords and the Hampshire Downs, the former a breed manufactured, within my memory, by old Sam. Druce of Eyasham, by coupling Hampshire Downs and Cotswolds together, the latter, a race as old as the chalk hills on which they graze. Why Shropshires should have a class to themselves and not the Hampshire Downs, I fail to see.

Another peculiarity is that in the very handsome prizes offered for the best collection of grain, the barley must be six-rowed! And the prize for the best two bushels of 2-rowed

barley is only \$6 00, whereas, the prize for the best two of 6 rowed is \$10.00! I know as well as anybody that *lazy* maltsters prefer the 6 rowed, because it takes less time in the steep and requires no watering on the floor, but the 2-rowed, when properly manipulated, will yield at least two gallons more ordinary beer from a bushel than the other.

The Provincial Exhibition will be held at Quebec this year from the 5th to the 9th September. Canadian cattle and Canadian ponies will be the chief features. The Eastern Townships show will be held the following week.

*Ensilage.*—A friend writes me word, from England, that his store cattle, fed chiefly on ensilage, paid well this year. "They left £5.10 for their winter keep, only receiving 2 lbs. of common cotton-cake a day. I never had a lot of better thriving beasts or better-haired in the spring."

*Pasturing grasses.*—The same correspondent says on this subject: Grass is first class, second year's pasture completely beating young seeds in the matter of carrying young stock. I always give my first year's grass a fair start. I have invariably found that once second year's pasture gets so far ahead as to wave in the wind, it will stand any amount of months, but if it is nipped in the bud, it never recovers it. I would recommend this to the notice of my readers, as every May as it comes round sees cattle turned into pastures when there is but a bare bite for them, and the grass never recovers from these early attacks, as was plainly shown by Dr Daubeny, in the Botanical garden at Oxford, Eng., some 45 years ago.

*Roots.*—"When the ensilage craze has had its day," wrote, some time ago, the late Mr. Poore, "he firmly believed that the farmers of the Northern States, especially those who produce milk, will turn their attention again to turnip culture. The Ruta baga—swede—is superior to other kinds for its nutritious qualities and for its hardy, and late-keeping qualities. It is greedily devoured by horses, cows, pigs, and sheep, and is, withal, an excellent table vegetable, especially from January to June. Mr Poore says that when cows are fed on them, the turnip taste is not perceptible in either their milk or butter, if they have daily access to salt." I am, as every one knows, a great advocate for the cultivation of roots, but such stuff as this cannot tend to its promotion. Just try to make butter from the milk of cows fed with swedes every day at noon, and with a lump of rock salt in a trough for them to lick at will, and if you do not speak ill of the late Mr. Poore's knowledge of the dairy, I shall be surprised. Give the swede immediately after milking, and place a small piece of nitrate of potash—a bit the size of a small nutmeg will do—in the milking pail, and it may be that you shall hear no more about the turnip-taste, particularly if you make your butter Devonshire fashion.

*Cheese.*—Without going so far as my old friend Archdeacon Dennison in my admiration of the true Somerset-Cheddar cheese, I must say that, if the cheese shown at Montreal in 1880 by Mr. Macfarlane be excepted, I never tasted such good cheese anywhere as that I used to buy at "Keinton Shop" in the year 1840. The opinion of Mr. John Naden, as to the texture of a perfect Cheddar, as given below, is also mine.

*Cheese.*—Mr Stovenson, says: "The standard quality of fine cheese I would describe as a solid, close-textured, fine-flavoured, mild, rich, sound, handsome, clean looking cheese." Again, he says: "Solidity of body and closeness of texture are essential points in determining the grades of quality amongst which the tried cheese will take its place... It is sur-

prising that so many of the cheeses that pass weekly through the Glasgow Bazaar, are lacking in body and solidity of texture." Now here, in North Derbyshire, we think that the principal fault of a deal of factory-made cheese is, that it is too solid of body and too close of texture. And if I must describe the standard quality of fine cheese, I would use all the other words that Mr. Stovenson uses, but in place of "solid, close textured," I would put "flaky, open." So that when it was bored, instead of coming out in a solid close-textured body, it would, as we say here, "rove" out, and leave the outside of the iron rough with fat and little particles of cheese. Cheese of the sort I am describing melts in the mouth almost like butter. It is solid in the sense of being firm, but it is not solid in the sense of requiring much masticating. People who have no teeth may eat it without difficulty.—*John Naden.*

*Permanent pasture and ensilage.*—Faith is a capital thing, when it does not carry people too far, as it does with M. Louis Beaubien, when he says:

"Before the establishment of the silo, Mr. Bayley could only support on his farm six cows and a horse. Now, the same farm supports thirty-five cows, five horses, and a hundred and twenty-five sheep." Now really this is going a little too far, neglecting the horses and converting the sheep into cows at the rate of eight for one, the farm, it is pretended, now supports 50 cows! Does M. Beaubien really believe that this increased power is solely attributable to the silo? His ideas on permanent pasture are so good, that I am sorry to see him running wild in this fashion. Establish permanent pasture as much as possible, and build silos if you please; but do not expect either of them alone or the two together to work miracles. By the bye, the seeding for permanent grass recommended by M. Beaubien is rather funny! Six pounds of white clover, in addition to 4 pounds of Rawdon and only 1 pound of Alsike, 2 pounds of timothy, 1 pound of Italian rye-grass, 1 pound of K. blue grass, and gracious heavens! only 1 pound of orchard grass!!!

M. Beaubien evidently does not know how very small the seed of white clover is, Italian rye-grass will not stand this climate, and in England, when sown alone, the quality used is  $\frac{1}{4}$  bushels to the acre, the same, or nearly the same with orchard grass, at all events, not less than 3 bushels are necessary. What earthly good, then, could be gained by sowing a pound of either of these, in their proper proportion, valuable grasses? For sheep pastures, white clover is a very valuable grass, but it grows naturally in this country, particularly if a small dusting of plaster be given in the fall. What cows want is a high-growing grass, round which they can readily lap their tongues. I do not find they care much for white clover after the first freshness of the feed is over. A heresy of mine, perhaps, but I speak from experience and pretty serious attention to the matter. (Vide Dairymen's Ass. Journal).

*Hallucinations.*—All sorts of queer ideas are continually making their appearance in the agricultural papers of the United States. I really thought it was decided that the way to make clover into hay is to mow it when the majority of the heads are in full bloom, to let it wilt and then turn it; get it into large cocks as soon as the second side is wilted, and then let it sweat and make until fit for stack or barn. Not at all! We who have made so many hundred loads for the London market know nothing about it. M. B. F. Johnson, whoever he may be, writes to the "Rural New-Yorker" to say that we are wrong and have always been so. A perusal of his letter, (crowded out), will amuse my readers.

*Early strawberries.*—In a report of a speech by Mr. Sann-

ders, Superintendent of the Experimental farm at Ottawa, The Witness makes that gentlemen speak as follows: "They had got together . . . . . and about 20 000 strawberry plants. The latter had been set out on the 8th of May, and the berries on the table had been picked from them that day; " that day being the 13th of June! Did any of my readers ever succeed in gathering a crop of this fruit in 38 days from planting?"

*Price of seeds.*—I see by the advertisements of the chief seed-men in England that the price of swede seed, by the bushel, there is from 10 cents to 12 cents a pound. Here, it is quoted in the catalogues at from 35 cents a pound. How I wish I was a seedsman!

*Agricultural education.*—As I have often said in this Journal, I do not believe in agricultural colleges. The only way to learn farming, in my opinion, is to live on a farm for at least two years—three would be better—and to put your hand by turns to every operation that is going on. And it seems that my farmer-friends in England hold the same opinion, for Professor Wrightson, the Principal of the Downton Agricultural College, stated at a public meeting last month, that "if Agricultural Colleges depended for their existence on farmers' sons being educated at them, they would not be very prosperous, as neither his own establishment nor the Cirencester College would have more than three or four students." Nine-tenths of the students of these colleges are young men intending to become land-agents, or stewards, to noblemen and large landed proprietors. I hope, I may say, I believe, that next session a proposal will be laid before the house at Quebec to assist really competent farmers, in every county of the province, to admit to their farms a certain very limited number of pupils for the purpose of studying and practising those branches of cultivation which are most profitable in this country. I am sure that in no other way will the youth of the province ever learn how to farm properly.

ARTHUR R. JENNER FUST.

#### Agricultural Clubs.—Agricultural Instruction.

The "Committee on Agriculture" of the provincial Legislature is deserving of all praise from the friends of agriculture on account of the activity it displays in the consideration and study of the wants of the farming population of the province. It received, last April, a deputation from the Dairymen's Association and promised to aid that society in its efforts to obtain certain favours from the government. A few days afterwards, it met, in special session, to receive a deputation from the "Meeting of Agricultural Clubs," composed of the Revd. Messrs. Garon et Montminy, the Hon. Praxède Larue, M. L. C., and Messrs. Ed. A. Barnard, J. P. Tardivel, and J. C. Chapais.

This deputation appointed by the meeting of dairymen held at Three-Rivers, in January last, had for its object the obtaining of the assistance of the committee in gaining from the government a grant for the purpose of maintaining the parish agricultural clubs as well as another grant for the experimental farm at Three-Rivers. It was also charged with the duty of impressing on the committee the importance of the question concerning lectures on agricultural matters and several other subjects connected with farming.

The deputation had prepared, and distributed to the members of the committee in advance, a printed memorandum showing the aim of its mission. M. Bernatchez, president of the committee, opened the sitting by presenting the deputation to the committee, and requested M. l'abbé Garon to explain the views of the deputations as contained in the memorandum,

which had been communicated to most of the members of the committee. The *abbé*, then, read the document, and commented on each article in turn. It treated of the present agricultural yield of the province; of its potential production, and showed how much commerce, trade, &c., lose by our faulty cultivation, of the working of the agricultural clubs and the agricultural associations; of the encouragement to be given to those farmers who desire to gain information; of the value of the agricultural clubs to the farmers; of the need of money grants for the support of these clubs; of the assistance they can afford to the agricultural associations, of the good they have done in the past, of what they now need, of the want of a supply of lecturers; of the agricultural teaching to be given at the Three-Rivers experimental farm. Details of this farm, established for the solution of agricultural problems, were given, together with a complete plan for agricultural instruction, when there would be a boarding house, a school of workmen, a school for young men in easy circumstances, in connection with the farm, which is, according to the views of its promoters, eminently a work of charity. Lastly, the memorandum explained the views of the deputation as to what should be the relations of the Director of Agriculture with the Council of Agriculture.

After hearing the comments of M. Garon, M. Beauchamp expressed himself as being in favour of a grant to the clubs, but he refused to allow this grant to be taken from the grant to the agricultural associations. M. St. Hilaire was of opinion that the agricultural law, as it stands, provides sufficiently for the establishment of the clubs, and he thought it unadvisable that any more should, at present, be done for them. M. l'abbé Montminy was next called upon; he showed how great has been the progress made by the parish of St. Agapit, of which he is *curé*, since the creation of a club there. Emigration thence has ceased, cultivation is improved, exhibitions of stock and of magnificent farm-products have been held there, and everything is prospering amazingly. The lecturers have been listened to with the most rapt attention.

M. Garon corroborated M. Montminy's speech, and showed that, in his county, the agricultural associations which had expired through want of support, had been restored to life by the clubs, and were now prosperous.

M. Montminy, in continuation, said that in one very backward parish where he had lectured, the expression made was so great, that farmers, who had never previously bought any grass-seed, had sent an order the following day for 420 dollars' worth. The experimental farm, as proposed in the memorandum, is indispensably necessary. All kinds of experiments in cultivation will be tried there, and the children of the poorer class of farmers will receive instruction, while at the same time they will be earning wages by their labour.

M. Déchêne (l'Islet) asked if the *abbé* did not think that this farm would prove injurious to the existing agricultural schools.

M. Montminy replied: by no means, since, at the experimental farm, numbers of the poorer children, whose parents could not afford to send them to the colleges, would have an opportunity of learning to farm, and be earning their keep at the same time. Besides, according to the plan proposed, agricultural teaching would be given to girls as well as to boys, seeing that the office of the woman in farming is as important as that of the man.

M. Tessier asked how large a grant was asked for the clubs, and for the farm, and in reply, was told that Mr. Barnard was prepared to answer the question, which that gentleman proceeded to do.

After having explained how the farm had come into his possession, Mr. Barnard showed how, although he was sneered at as having ruined himself by his outlay, he had in reality

reaped considerable benefit from the farm. It was true that he had spent a good of money on it, for it was utterly worn out when he took it in hand, but the farm had paid its debt to him, and if his expenditure had been great at starting, that was because he wished to do in one year, what an ordinary farmer would hardly do in ten or fifteen. This he had done, because in his position as Director of Agriculture, he would have been unmercifully chuffed (1), if he had shown his visitors over a badly cultivated, untidy farm. In spite of all, every operation had been executed with the greatest economy, and the like may be done by any farmer. Without divulging the means to the committee, he has succeeded in finding a way

to keep it on an excellent footing, so as to offer to the government every possible guarantee for its success.

M. Bernatchez remarked that the explanation of Mr. Barnard threw much light on the matter; he thought that, before taking any action, the committee should hear all the members of the deputation on the subject, in order to be thoroughly acquainted with the proposed plan before pronouncing on its merits. M. Larue, of the Legislative Council, being invited to speak, said, that, although he was by profession a medical man, he had always taken a great interest in agricultural questions. He had been for several years president of the agricultural association of his county. In his opinion, these



AYRSHIRE COW, ALICE DOUGLASS; 4398.

of surrendering the property, absolutely, to two religious communities, one of men, the other of women, who are especially devoted to agriculture, and who will establish practical schools for girls and for boys, separately, where the pupils, or rather the apprentices, will receive wages in return for their labour. The plan has been under the consideration for the Bishop of Three-Rivers for more than twenty years, and will shortly be in operation, if the committee will commend it to the legislature, and try to persuade that body to accept it. A grant of \$6,000 00, a year, for a certain number of years, will suffice to meet all the expenses of the farm, including the buildings, and

(1) Excuse the slang. There is no other word in the language half as forcible. *Translator.*

societies, during the forty years of their existence, had not done the good that might have been expected from them. Let us try a new system, such as is now offered us, to secure the better working of agricultural improvement. He had seen the clubs and the lecturers at their work, and knew how much good they were doing. He had been present at the meeting of the clubs at Three-Rivers, where he saw an immense number of farmers greedy for instruction, and discussing during whole nights questions concerning agriculture. He had visited the experimental farm, and there saw a system of culture, perfect and within the reach of every one. The want of such a farm is evident. In agriculture, as in medicine and in every thing else, difficulties are daily arising, discoveries are being made, which must be examined, and whose value must be discussed.

He laid great stress on the fact that the farmers' clubs are called upon to enlighten, especially, that poor and backward class of cultivators who are opposed to every improvement and who must be followed to their very hearths, where instruction must be almost forced upon them. In conclusion, he besought the members of the committee to view his remarks as proceeding from one who desired, above all things, the prosperity of the farming population.

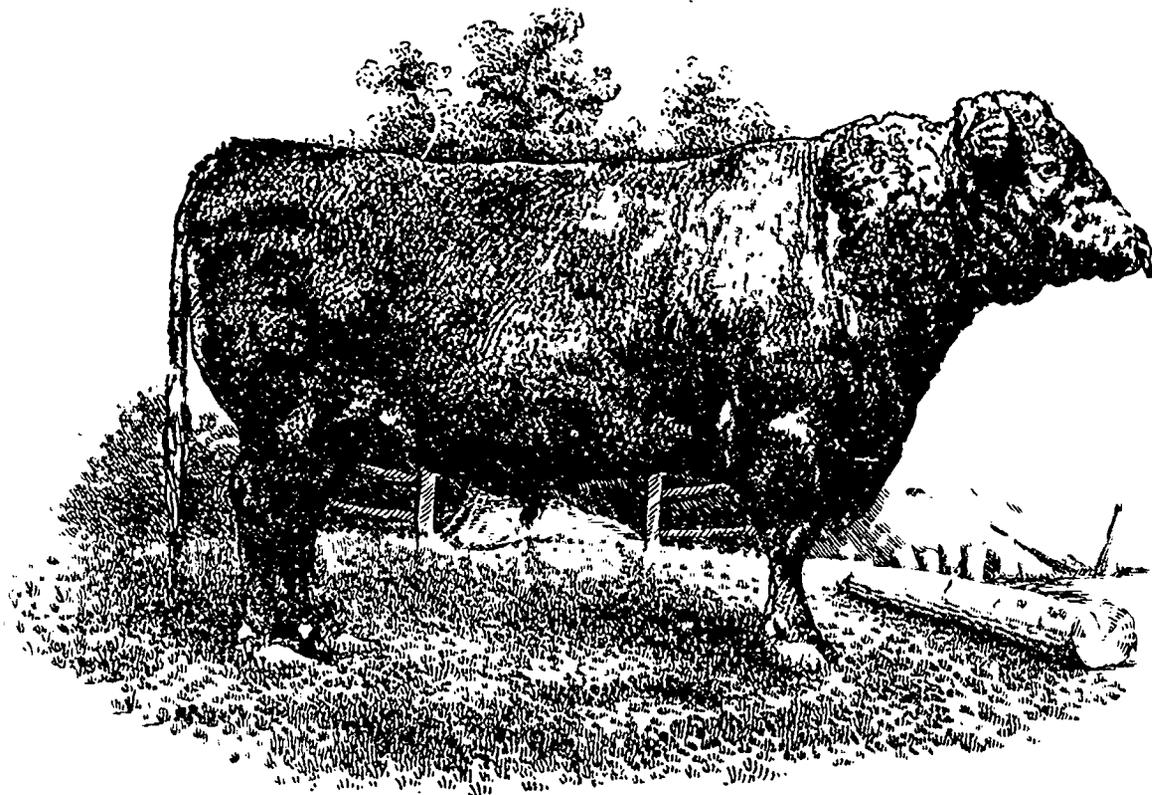
M. Chapais observed that he would only relate to the committee what he had remarked when engaged in his duty as lecturer on farming matters. He mentioned all the good that had sprung from the establishment of farmers' clubs in Beauce. He had frequently found the farmers, before whom he was lecturing, so desirous of information that he had been obliged to go on talking until his voice failed him. In such

#### THE CANADIAN COW.

*Dear Sir,*—I cannot sufficiently praise you, and the country should be grateful to you, for the efforts you have made to raise the race of Canadian cattle from the state of neglect and contempt into which the more than century long carelessness of our farmers seems to have irrevocably plunged it.

The Canadian cow, as I am happy to see acknowledged nowadays, with equal advantages, is inferior to no other cow, whether English or Scotch, in the production of milk and butter.

Therefore, when a comparison is drawn between the Canadian cow and the English cow, to the disadvantage of the former, the cause should be attributed to the different treatment to which the two have been subjected.



MR. W. A. TYSEN-AMHERST'S RED POLLED NORFOLK BULL, "DAVYSON THIRD," FIRST IN HIS CLASS AT THE NORFOLK SHOW.

extensive counties as Rimouski, Témiscouata, Chicoutimi, Saguenay, Ottawa, and Pontiac, he showed, that it was impossible for one agricultural society to make its influence felt over an entire county. There, especially, the clubs are called upon to decentralise the action of the associations, so as to cause the proper work to be done and felt in every parish, even in those the farthest from the centres of these counties. As to the experimental farm, he knew that, for his part, he had often felt the want of such an establishment, that, in his position as a lecturer on farming, he might draw definite instruction from it on certain as yet unsettled questions, which cannot be expected to be solved by a lecturer, however well acquainted with the practical part of agriculture he may be. He hoped that the committee would be convinced of the justice of the requests of the present deputation, and would strive to ensure the acceptance by their government.

(From the French.)

J. C. CHAPAIS.

An Englishman made me remark this, one day, in these terms: "I observe," said he, "a curious state of things. One buys a Canadian cow from a Canadian; she is poor and thin, and gives little profit the first year; but the following year, she is so entirely altered, that her former master no longer recognises her, and she is as profitable as our own cows; on the other hand, if a Canadian farmer buys a cow of English race, the next year she is so reduced in flesh that in turn we can no longer recognise her, as she is no more profitable than a Canadian cow that has had the same keep!" "The reason is," replied I, "that the English cow in the hands of a Canadian, has had, during the year, time to learn French!" He understood that I was joking, and burst out laughing. (Very kind of him, I'm sure. Trs.)

One day, in spring, a Canadian farmer accosted one of his friends with: "How are your cattle this spring, Jean?" "Very lively, indeed," replied Jean; "they can get on their

feet without help!" One can understand how very little milk a cow would be likely to give she were to receive only such an amount of food as would enable her to raise herself to her feet without assistance. (Pun intended between *traitement* and *traite*? Trs.) When will the Canadians understand that a cow, be she English or be she Canadian, if she is badly wintered, will give no milk, or any rate very little, during the winter, and hardly more than half what she ought to give in spring, whatever may be the quality of her pasture? A cow thus badly wintered is only in a state of convalescence, not of robust health, when turned out to grass, and half the summer is past before she has supplied the waste of tissue caused by her winter semi-starvation.

The Canadian farmer, before getting into a state of enthusiasm for foreign breeds, should, by sedulous study, learn how profitable his own country's stock may be made to him.

In order to economise in hay, the cows often get nothing but straw—very often, for the sake of selling the hay—. In summer, they go to pasture in a bare *pacage*, and in the fall, that the very straw itself may be saved, they are often kept out of the stables until the ground is frozen hard, after having endured all the rains of autumn.

One day, I saw a lot of six cows, so lean that one felt for them, I never saw anything so poor, and that is not a little to say. "Why do you not give them some hay, and curry them a little?" (v. p. 116, l. 39.) "I have not the means," replied their owner. "You had far better sell one of them," said I, "and give the food purchased by its price to the other five. You would make more profit by your five, well kept, than by six skeletons like those." When the farmers are advised to buy clover-seed to sow down with the last grain-crop before the land is let lie in *pacage*, (1) the answer is that they cannot afford it!

More than one farmer, however, can be cited who, in this very locality, has grown rich by buying and sowing both red and white clover-seed. The first year, he bought more than sixty dollars' worth, a proof that his predecessor had ruined himself by adhering to the old system. And how many are bold enough to follow such an example?

One spring, I bought a fine, large Canadian cow from one of my flock; she was giving less than a gallon of milk. In the fall, she increased, and continued the whole winter to give more than a gallon, even up to the first of May. No one, then, would have known her for the same beast.

I gave a lecture on the treatment of domestic animals in my parish. I did not say much about the horse, for the pride the Canadian takes in his horses is certain to insure their good treatment. As well as I remember, the impression left on my mind by the lecture was that the audience was but scanty: nobody believing that he had anything to learn about that subject; and among those who were present, I doubt if five or six have put in practice the advice I gave them. Again, in another lecture, some time afterwards, I spoke of the systems of rotation, and of the means to be adopted to ensure good pasture for the cattle of the farm, I do not think there were two of the audience convinced!

I believe that one of the greatest benefits conferred by the cheese-factories is that they have compelled the farmer to establish good pasture, and a neighbouring parish affords a good example of the truth of my opinion. One of this parish, to whom I was speaking on the subject, told me frankly that, at sixty-five years of age, he had only just learnt what a good

pasture was worth, and it was sending his milk to the factory that had taught him. "It seems to me," said he, "that I never had an idea what farming really meant. (1) Ah, if I only had the time to come over again?"

I have had Shorthorn, half-bred English cows, and, to-day, I have a pure-bred Ayrshire and two thoroughbred little Canadian cows, and I can state with truth that, in my hands, no English or half-bred cow has made more than sixteen ounces of butter a day, and that, with the same keep, which is nothing out of the way, my two little Canadians have each made, in a pasture poorer than ever, twenty ounces a day.

I know a Canadian, a working-man in Vermont, who, in the space of ten months, with one cow alone, sold seventy-five dollars worth of butter: that cow made three hundred pounds, but he looked after her well. To every objection that is made to me on this subject, such as: it does not pay to keep cows well; I reply: If it does not pay to keep them well, it certainly won't pay to starve them as you do!

I have the honor to be, dear sir, your, etc,

AM. BOUCHER, *Priest*.

(From the French).

Bravo! M. Boucher, but I am still at a loss to know how we shall settle the *purity* of any Canadian cow's parentage or descent. I do hope that at the Exhibition at Quebec, in September, we shall see either no Canadian cattle at all, or something better than those shown at Sherbrooke last year. The stewards of the yard ought to be empowered to refuse the admittance to any animals which, like those of Mr. Carr, could only have been brought to the ground as a sneer. At the same time, I must be allowed to adhere to my opinion, expressed before in this publication, that it would be wiser to improve the breed of the country by crossings with the Jerseys or Guernseys (the latter for choice), than to spend an unknown number of years in bringing up the Canadian cattle to their proper place by selection. We really must have beef, and the greatest admirer of the breed, or race rather, if you please, cannot pretend that they will make profitable meat. I ate lots of it last winter and I can speak from experience—it can never pay to fat them.—A. R. J. F.

*Grass Seeds.*—Since I wrote the paragraph on permanent pasture, v. p. 118, I have seen in the French journal for June, p. 93, a short reply by Mr. Ed. A. Barraud to a question put to him by one who signs himself "Roberval": As I am not acquainted with the nature of your land, it is impossible for me to tell you what grass seeds will suit it. At any rate, you will be safe in sowing two gallons of timothy, six pounds of Rawdon clover, three pounds of Alsike, and one pound of white clover. Timothy is, doubtless, not the best grass for pasture; far from it, but I cannot advise you to try, on a large scale, grasses that are not usually sown in your neighbourhood. You had better buy only a few pounds of the foreign seeds recommended in the journal, and give each separately a fair trial, having, previously to sowing, got your land into good heart and good form.

All right. One or two pounds of white clover are about the dose. Timothy, as Mr. Barraud says (only more so), is not the best of pasture grasses. Paocoy's perennial ryegrass is good for our land and stands the climate; as Mr. Ewing offered me seed last year grown and ripened in the vicinity of Lake George. My mixture, sown on the farm of Senator Gudremont last year gave him entire satisfaction when he saw it in May. It was very full of plant, and very forward.

(1) I am happy to say that, before I left Sorel, more than one of my friends were kind enough, and frank enough, to make the same speech to me.

A. R. J. F.

(1) The word is *friche*—land allowed to remain unploughed after a grain crop to grow whatever it can—generally weeds—on which the "poor brutes" are supposed to feed! As in England we have not the *thing*, so we have not the word, for the real *friche* would be, in England, *fallow*, but that has earned to itself another very different meaning. Trs.

This was sown on the lower land across, the S. E. railroad, by the cemetery, on a *grillée*. Some of the same I sowed myself on the sand nearer Sorel village (*town*: I beg to apologise) was also most successful. I think with the 7 pounds of rye grass, 7 pounds of Orchard grass, perhaps 4 pounds of timothy and the above clovers, one would have as good a meadow as can be wished for though, no doubt, some fescues and noas, with a little foxtail, would improve the mixture. But above all things, do not waste time, labour, and money in trying to improve worn-out grass-land by harrowing and sowing seeds. Go at it like men; break it up, grow a crop of pease, if you like, a crop of roots or corn, well manured and well horse-hoed, and then sow down again with grass-seed and a grain-crop. Alsike clover I doubt lasting long on light sand. Do not allow any of *grasses* to go to seed: however *perennial* they may be, the seeding exhausts them, and the majority will die. Feed pasture level, by heavy stocking and then change your cattle to a fresh piece. If the grass gets ragged in appearance, from the want of close feeding, run the mower over it. Knock about the droppings of the cattle when you can spare time. Two pounds per head a day of cotton- or linseed-cake, or of corn, for cows on pasture will pay over and over again. Divide your pasture into three parts. When young horses are loosed from the plough and turned into the cow-pasture to graze, it is great fun sometimes to see them chivy the cows about: but, I don't think it is fun for the cows, or conducive to the soundness of the milk.

**Bone-Ash.**—By the bye, I observe that Mr. Barnard recommends the use of animal-black, in conjunction with ashes, as a manure for buckwheat to be sown about the 20th May and ploughed in the 20th July. My own idea is that insoluble as is the phosphoric acid in the bone-ash it will have but little or no effect on the buckwheat, though it will do no end of good to the following crop. Four hundred pounds of animal-black would cost about \$4.00, which expended in buying 100 lbs. of sulphate of ammonia would certainly produce a much larger amount of green manure than any quantity of bone-ash. Perhaps, as Mr. Barnard is about instituting experiments on the effects of various artificial manures on his farm at Three-Rivers, he will kindly try the two different manures on a piece of worn-out land. I doubt the correctness of the position that "the bone-ash and the wood ashes, together with the green buckwheat, would give all that farmyard manure can give." I know little or nothing about buckwheat growing, but I do not think the plant when in bloom contains any great proportion of nitrogen. At all events it contains nearly 98 parts per cent of water and carbohydrates, so its nitrogenous matter cannot be more than 2½ per cent, and allowing eight tons to the arpent of green-stuff to be ploughed in, I cannot see that the succeeding crops can be much benefited by the operation. In this it differs very much from the interring of a clover-ley, for the roots of clover are very abundant and excessively rich in nitrogen, whereas the roots of buckwheat are of trifling bulk, and they do not dive into the subsoil. Green tares, where the land is propitious to their growth, would afford a much richer green-manure than buckwheat, but they are too valuable a food to be treated so disdainfully.

ARTHUR R. JENNER FUST.

#### Mr. Louis Beaubien's Advice to Farmers.

"Lay down the whole of your farm in pasture, all, except the piece, which should be a good one, necessary to fill the silo. Take good care of green pasture, ensile your green corn, and enough is said. I promise you prosperity with this simple, this utterly simple system. This style of manage-

ment has been carried out most successfully in Franco. No grain-crop at all. Litter for the cattle is taken from the forest.

"You will tell me, I know, that you must have a small piece of land in vegetables for the houses, and another in oats for the horses and young stock; a little wheat. True, but these crops you shall only grow on a very small scale, as an exception to the general system. The chief end of your work shall be the establishment and care of the pasture and the fodder-corn. But the pasture must be really good. No! there must be no great field where the cattle get more exercise than a fodd, but a good *bite* all over. The corn, for its part, shall be kept clean, and the land well pulverised and stirred from time to time, not forgetting to plaster it. In the autumn previous, you will have manured the piece thoroughly and ploughed it. You will find that you have less work and more profit.

I have a farm at some distance from my residence. As soon as my silo at Outremont is finished, and is in full operation, I intend that the farmer at my off farm shall come and inspect it in all its details. Then he shall have one built for himself, and for his guidance, I shall only give him this advice: Lay down the whole farm in grass, except land enough to grow fodder sufficient to fill thy silo. That is all I require, but do it well." (1)

(From the French.)

The following is from a lecture on Agricultural Education, by Mr. Morton, for forty years editor of the English Agricultural Gazette, an old friend of mine when he was with his father, who managed Lord Ducie's model-farm at Whitfield, Glo'stershire. He knows what he is talking about, if any man does.

A. R. J. F.

You must admit that I ought to be the ideal witness on the subject which is occupying us to night; and I claim to be a very good one, and I am telling my story thus in order to make good my claim:—And I give it for my opinion on a review of all these 40 years—in the interest, not of one class, but, as I firmly believe, in the interest of all—that the best possible preliminary education is needed, not merely to make the boy stronger and more capable as a future farmer, but to fit him for something else as well if that should fail him; to make him a better man, no doubt, within his fields, which it will do—aye! but to enable him to leave them. Why should I, a young man, we will suppose, educated to the very top of those qualifications which the practical man deems all-important, be tied hopelessly to any failing occupation I have chosen, being fit for nothing else?—"Educated! I have been accustomed to my farm from boyhood. I know every acre of it, every tool upon it; every beast and sheep I know from birth to the butcher's shop. I know the soil I work—the plants I grow, the animals I breed and feed and fatten—the management in detail of every one. I can plough and sow, and reap and thresh, I can manage the ewe-flock, the cowhouse, the stable and the pigstye. I can give a drench to a sick beast, and I can see when he wants one. I can wheedle a customer in the market-place, and I can slang him, if I think he needs it. I am a practical man from head to foot. I never read an agricultural journal. Do you think I want the AGRICULTURAL GAZETTE to help me to go into that twenty-acre field and put things straight? I don't want nobody to teach me."

**Value of muck.**—Professor Goessman finds in fresh muck only one-fourth of one per cent. of nitrogen! I rather think

(1) The above is taken from the report of the Dairymen's Association for the year 1885.

"Quebec" some months ago wanted me to admit that there was generally  $2\frac{1}{2}\%$ ; to which demand I replied, if my memory serves me, that there might be that percentage where an ox or a horse had got "bogged" in a *savane*, but not otherwise. The ash of muck was, according to Goessman,  $3\%$ , principally lime and magnesia: I still hold to my position, that muck is not worth the cartage, except as an absorbent of liquid *feces*.

#### Prospectus of the Quebec Provincial Exhibition, 1887.

If those who take an interest in the Provincial Exhibitions will take the trouble to compare the Prize List of the forthcoming Exhibition with the previous lists, they will notice several innovations which ought to be accounted for. They will see that while adhering to the policy of their predecessors and offering the same liberal encouragement to the importation and breeding of improved races of horses and cattle, the Exhibition Committee has attempted to draw attention to certain breeds which very nearly deserve to be called indigenous, as they have come over with the first French settlers.

While fully acknowledging the great benefits arising from the importation of improved breeds, the Committee thinks it right to encourage the attempts of intelligent men (well qualified to test and compare the relative merits of the different breeds) to save the few remains of the old race of Canadian horses and reconstitute it, and collect and organize herds of Canadian cattle.

It is no light undertaking, requires great patience and a considerable outlay, and deserves the liberal encouragement which the Committee offers.

Those who can remember the Canadian stallion will acknowledge that it was a fine type of pluck and vigour, and well adapted to our requirements, and, as for the Canadian cow, her reputation as a good milker is well established; she is very hardy and can be kept in good order with less expense than any other cow.

To secure a reliable start, the Government has instituted a Pedigree Book for the registering, without charge, of such animals as, after a careful survey by the Official Veterinary Surgeon, will show the points characteristic of the old Canadian cattle.

With the same purpose of developing our home resources, the Committee has turned its attention to Canadian grown tobacco. The climate is favorable to that crop, it promises to become a great source of profit if our farmers will only improve their mode of curing it. The prize list has been prepared with a view to encourage the careful handling of that crop, and show what can be achieved with proper attention.

In order to meet the views of the Horticultural Society of Quebec, and, at the same time, secure a reasonable chance of fair weather before the season is too far advanced, the Committee has appointed for the Exhibition the week from the 5th to the 10th September. It is rather early, especially for the Eastern part of the Province, for agricultural products grown during the present season, but the Committee will admit grain and tobacco of the crop of 1886, and furthermore, will award prizes for grain in the sheaf.

With the assistance of the Provincial Dairy Association, the Committee hopes to be able to give a *practical* turn to the Exhibition of Dairy Produce by means of a series of interesting experiments to be carried on on the grounds.

The lately introduced system of *ensilage* for the preservation of green fodder deserves special attention, and the Committee has made arrangements for the immediate construction of a *silo* on the Exhibition grounds and the filling of it with green fodder; it will be opened during the Exhibition, and the value and quality of its contents tested in the presence of the visitors.

For the different branches of industry, the Committee has sought everything deserving encouragement, taking special care to bring under public notice new industries still struggling in their infancy and gain support for them.

It is a subject of astonishment to thoughtful men to see how little we appreciate the importance of our Gulf Fisheries. Thousand of fishing vessels cross the Atlantic every year, to reap at our door a bountiful harvest. Why should we not take our share of it? The Government has been especially requested to sanction the granting of additional rewards for the products of the Gulf Fisheries.

The Committee appeals to the good will of the farmers and manufacturers of the Province of Quebec, and hopes that they will contribute their share to the success of the Exhibition and at the same time, advance the interest of the country and their own, by showing our wealth and the greatness of our resources.

The entries for the cattle must be made on or before the 29th August,

and for the other articles on or before Saturday, the 3rd September.

In conclusion, the Committee refers to the Exhibition Pamphlet containing the Prize List and other information.

It will be seen that the comfort of the visitors will be duly attended to, and that the citizens of Quebec, whose hospitality is well known, have appointed a special Committee to make arrangements with the Railways and Steamboats, and with the Hotels, and prepare amusements for their visitors, during the Exhibition.

Quebec, 9th July, 1887.

GEORGES LECLÈRE,  
Secretary.

H. G. JOLY,  
Chairman of Committee.

P. S.—For further information, apply to Georges Leclère, Esq., Secretary of the Exhibition, at Quebec.

M. Barnard, at the request of the committee, submitted the following report, which was unanimously accepted:

Quebec, July 20th, 1887.

TO THE HON. MR. JOLY,

President of the permanent committee of the  
Provincial Exhibition at Quebec,

SIR,

I have the honour to accept with pleasure your pressing invitation, and I place my services at your disposal, as far as my official duties will permit, in order to assist in ensuring the success of the coming exhibition in the dairy department.

At your request, I have attended the exhibition of centrifugal creamers, and this is what I now have the honour to suggest to your committee.

That the dairy department may receive the attention it merits, I advise:

1st, The construction of two siloes of equal dimensions, after the two opposed systems: one, that of Fy, when the silo is filled by degrees, the heat being allowed to rise to  $125^{\circ}$  F., and the other the Goffart plan, on which the silo is filled as quickly as possible.

I am certain I can sell this ensilage for as much as the forage delivered on the spot will cost.

2nd, To build between the two siloes a stable for from 20 to 30 head of improved Canadian cattle, and to place there the apparatus for preparing their winter-food. This apparatus is my own property, and I place it at your disposal free of cost except the carriage.

3rd, To bring my Canadian-Jerseys to occupy the above stable, with perhaps some of the best Canadian cows exhibited.

4th, To erect a building for the exhibition of the dairy apparatus in full work, and in connection with the siloes and the model cow-stable, so that visitors may pass from one to the other of these buildings with ease.

5th, To make the necessary arrangements to ensure the assistance of the Dairymen's Association to obtain the services of the three inspectors paid by the Department of Agriculture, and by it placed under the orders of that association. These professors would aid us in the general management. They might even give explanatory lectures while they were making butter and cheese before the audience, which they would of course do after the different accepted methods.

6th, To establish a restaurant for the sale of milk, in all its forms, as well as of bread or rolls to be eaten with the milk; fruit, too, with cream, might be sold there.

In this restaurant, samples of the prize-butter and cheese should be for sale at a few cents each. The whole might be so arranged as to return a satisfactory profit over and above the price of the raw material employed in the necessary display of the apparatus when at work.

7th, As soon as possible, to send an official circular inviting all the Curés of the country to be present at the Exhibition, bringing with them as numerous a deputation as possible of their flocks, that they may have an opportunity of profiting by the truly unique lessons which the Exhibition Committee is taking the trouble to prepare for them.

8th, To form a special committee, composed of three agriculturists to assist the direction in the management of this undertaking.

The whole respectfully submitted.

ED. A. BARNARD,  
Director of Agriculture.

Prizes offered at the Quebec Provincial Exhibition  
in the Agricultural Department.

Sept., 5-9 1887.

Class 1. *Thoroughbred Horses (with pedigree).*

" 2. *Roadsters.*

" 3. *Horses for general purposes.*

In class 3, three prizes are offered for matched horses (mares or geldings) 15½ hands or over, in harness ..... 20, 10, 6

And also for Single horse, mare or gelding, 15½ hands or over, in harness..... 15, 10, 5

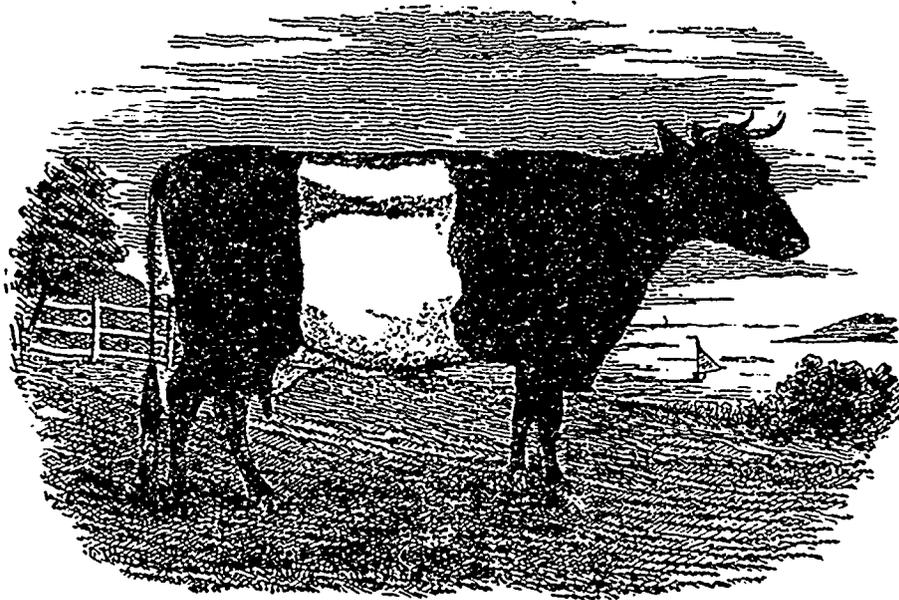
Class 4 is for heavy draught horses, exclusive of Clydesdales, Shires or Percherons 1400 lbs. and over.

Class 5 is for Light draught horses under 1400 lbs.

Class 6 is for Heavy draught horses, Clydesdales or Shires with pedigrees.

In these three classes the following prizes are offered : (1)

- 1. Stallions 4 years old and upwards..... \$25, 15, 10
- 2. " 3 " " ..... 15, 10, 6
- 3. " 2 " " ..... 12, 8, 6
- 4. " 1 " " ..... 10, 6, 4
- 5. Filly 3 " " ..... 15, 10, 5
- 6. " 2 " " ..... 12, 8, 4
- 7. " 1 " " ..... 8, 6, 4
- 8. Mare with foal by her side..... 20, 15, 10
- 9. Pair of horses, mares or geldings, in harness.. 20, 15, 10



DUTCH-BELTED COW, LADY ALDINE.

In each of the above classes the following prizes are offered.

- 1. Stallions 4 years old and upwards..... \$30, 25, 15
- 2. " 3 " " ..... (1) 25, 15, 10
- 3. " 2 " " ..... 15, 10, 5
- 4. " 1 " " ..... 10, 6, 4
- 5. Fillies 3 " " ..... 15, 10, 5
- 6. " 2 " " ..... 12, 8, 5
- 7. " 1 " " ..... 8, 6, 4
- 8. Brood mare with foal by her side..... 20, 12, 6

In class 2, three prizes are also offered for pairs of matched horses, mares or geldings, in harness—15 hands high and over..... 20, 15, 10

(1) For classes 2 and 3 read \$20, 15, 10 instead of \$25, 15, 10.

Class 7 is for Percherons; class 8 for Suffolks; class 9 for Boulonnais and class 10 for Canadians (of French descent); in each of which the following prizes are offered :

- 1. Stallions 4 years old and upwards..... \$30, 25, 15
- 2. " 3 " " ..... 25, 15, 10
- 3. " 2 " " ..... 15, 10, 5
- 4. " 1 " " ..... 10, 6, 4
- 5. Filly 3 " " ..... 15, 10, 5
- 6. " 2 " " ..... 12, 8, 4
- 7. " 1 " " ..... 8, 6, 4
- 8. Brood mare with foal by her side..... 20, 12, 6

Class 11 is for Stallions accompanied by six of their foals of any age - 3 prizes : \$30 and medal, \$20, \$10.

Class 12 is for the best herd of brood mares with foals by

(1) In class 6, however, no prizes are offered for pairs of horses.

their side belonging to the same proprietor. Same prizes as in class 11.

**Class 13. Hunters and Saddle horses.**

- 1. Saddle horse, gelding or mare..... \$15, 10, 5
- 2. Hunter, to go over hurdles 210 lbs..... 15, 10, 5
- 3. " " " 154 lbs..... 15, 10, 5
- 4. Saddle horse, best jumper..... 10, 8, 6

**Class 14. Cobs and ponies.**

- 1. Pony in harness, 12 hands and under..... 6, 4, 2
- 2. Pair of ponies in harness 12 hands and under 8, 6, 4
- 3. Cob in harness or saddle, 12 to 14 hands..... 6, 4, 2
- 4. Pair of cobs in harness, 12 to 14 hands..... 8, 6, 4

**Class 15. Tandems.**

Best tandem of horses: 1st prize, medal; 2nd prize diploma.

**Class 16. Boy Riders.**

Best boy rider under 18 years: 1st prize medal and \$10, 2nd prize Silver watch, 3rd prize Silver mounted whip.

**CATTLE.**—We cannot make room for a detailed list of prizes in this number. *Durhams* have 13 sections, with prizes from \$40 down, and 3 prizes in each section.

*Herefords*, *Ayrshires*, *Polled Angus*, *Galloways*, *Jerseys*, *Guernseys*, *Canadian cattle* (of French descent) *Holsteins*, each form separate classes, with from 12 to 13 sections and prizes from \$35 down, and 3 prizes in each section.

There are also prizes for dairy grades, for best milch cows, for fat and for working cattle.

**SHEEP**—The *Cotswolds*, *Leicesters*, *Shropshires*, and *Southdowns* have each a class—the *Oxford* and *Hampshire downs* are in one class. Each class has a section with 3 prizes in each section. The long wool grades or crosses and the medium or short wool do so—each form a class with 3 sections and three prizes from \$10 down. The fat sheep have 2 sections and 2 prizes, \$10 and \$5 each.

**PIGS.**—*Berkshires*, *Suffolks*, *Essex* and *Poland-Chinas* form separate classes, with 9 sections and 3 prizes each, from \$12 down.—*Yorkshires*, *Chester whites* and other large breeds go in one class with prizes as above.—Large size and small size cross breeds and grades each form a class and 4 sections, with 3 prizes each, from \$12.

**Poultry** old and young, in pairs, have each 55 classes of 2 prizes each \$3 and \$2—*Pigeons* in pairs have 35 classes with 2 prizes each \$2 and \$1. *Ornamental birds* have 5 classes, with 2 prizes each \$2 and \$1. Various pets have 14 classes with prizes from \$1.50 to \$1.—*Artificial hatchers* and other utensils for poultry use have each a class, with diplomas offered.

**Implements** do not compete for prizes with the exception of ploughs, but collections of agricultural implements, for horse and hand power, have each 3 prizes: \$15, \$10, \$5.

**Agricultural products.**—The various seed grains; grains in the sheaf; pressed hay; ensilage, have separate sections with 3 prizes each, from \$8 down. The small seeds, &c., &c., roots and other field crops have 40 separate sections with 3 prizes each \$3, \$2, \$1. *Tobacco* and *cigars* have 9 sections of 3 prizes each varying from \$12 down.

- Dairy products.** - 1 creamery butter, 3 tubs of 50 lbs..... \$20, 15, 10
- 2. Best tub, creamery or private dairy, 50 lbs. .... 15, 10, 5
  - 3. " " " 28 " .... 15, 10, 7, 4
  - 4. Dairy butter not less than 10 " .... 10, 8, 6, 4
  - 5. Cheeses—2 boxes 40 lbs or over each..... 25, 15, 10, 6
  - 6. 3 best stilton..... 6, 4, 2

- 7. " uncoloured—12 to 15 lbs .... 6, 4, 2
- 8. " " —2½ to 3 " ..... 3, 2, 1
- 9. 6 best cream. .... 4, 3, 2, 1
- 10. 6 " refined—raffinés..... 4, 3, 2, 1

Class 59 is for Sugar, Honey, Bacon with 7 classes and 3 prizes from \$5 down. Class 60 is for dairy and sugar utensils, &c., with 12 classes and medals, diplomas and money prizes.

For full details, apply to G. Leclère, Secretary Provincial Exhibition, Quebec.

We cannot guarantee the above as being exact, and would refer all persons interested to the official prize list, to be obtained as above.

ED. A. BARNARD.

**OVER-SALTING BUTTER.**

LETTER FROM THE AUTHOR OF "SCIENTIFIC DAIRY PRACTICE" TO THE "JOURNAL OF AGRICULTURE."

The writer is just in receipt of a communication from Mr. E. B. Biggar, of Montreal, which speaks for itself:

"The point urged in your pamphlet that Canadians over-salt their butter is very important. Canadians in London may notice that what Londoners look upon as the best butter, tastes rather flat. This is because there is comparatively little salt in it. It was the common verdict that the very best samples of our butter at the Colonial Exhibition were not liked for this reason, and some complained to me that there was a bitter twang to it, resulting probably from not only an excess of salt, but salt of a poor quality, or at least having chemical elements which should not be present. The latter fact, too, may account partly for the earl-rankness of some samples of our butter. The fact is that Canadians eat more salt in their food generally than Englishmen do, and if they wish to regain their hold on the English market they must make a radical change in the use of that article in their butter."

I am glad to have another opportunity of emphasising the position taken, that a reform in the direction of lighter and better salting is imperative. "A word to the WISE."

W. H. LYNCH.

**The Provincial Exhibition.**—The show will take place on the 5th of the month of September. I hope to be present, and shall expect to see a fine display of Canadian cattle there. The prizes offered for this breed of cattle are numerous and liberal in amount, and ought to bring out a class that will put the shock our eyes received last year out of our memory. My own idea is that the only prospect of resuscitating the Canadian cow is that some one of means should start a herd by purchasing, wherever he can find them, a dozen cows of picked quality and a couple of bulls. Price must be left out of the question altogether, and the breeding must be confined to the herd itself. In-and-in breeding has been at the foundation of our most highly valued herds of *Shorthorns*, *Herefords*, etc., and in no other way can the type of beast we aim at be scoured.

**Newcastle Exhibition.**—The Royal Agricultural Society of England's meeting this year was held at Newcastle-on-Tyne.

Just 41 years ago, the meeting of the same society took place at the same town. I remember it with peculiar vividness, as it was in that year that, little dreaming I should live to edit a Canadian Agricultural journal, I wrote my first article on farming matters. If I remember rightly, it was an attack upon what I thought to be the utopian theories of sir James Caird (then Caird of Baldoon) and have no doubt about my having been utterly in error, as most young enthusiasts are.

**Guernseys.**—One of the leading herds of Guernseys in England, Major Greene's, was sold in June last. The cows and heifers average \$165.00 and the bulls \$152.00.

**Canadian beef.**—It is astonishing how well Canadian cattle sell in the London market this season:

Best Scots..... 4s. 6d. a stone = 14 cents a pound.  
 " Canadians .... 4s. 4d. " = 13½ " "

Only a half a cent difference between them. I only hope the farmers who breed and the distillers who feed these cattle get a fair share of the profit.

**Jerseys vs. Holsteins.**—Oh, very angry indeed are the breeders in the States on the victory of the Holsteins at the New-York show of dairy cattle! Well, if they had, as they say they had, far better cows than the Holsteins, why on earth did not the Jerseys men show them? Messrs Cooper and Farlee are perfectly childish in their display of wrath; not at the judges' decisions, for they do not seem to attempt to impugn them; they can no longer say that the Holstein-cow's milk will not yield butter, so they go off on another line of abuse, and say that although it does make a sort of butter, still it is not, etc., etc., etc. A more babyish style of argument I never met with.

And here is a curious thing connected with the Jerseys. Mr. Dawes informs me that he has had great trouble with his calves of that breed; he has lost several from diarrhœa and dysentery, whereas his Hereford and Angus calves have not suffered from these complaints at all! Mr. Dawes also tells me that a Jersey breeder in the States told him lately that the children at Boston whose families are supplied with Jersey milk have been attacked with diarrhœa; he also says that Mr. Cochraue who, on his return home after his recovery from his accident last year, took to drinking milk from his Jersey cows, had to give it up, as it produced the same effect on him. I give this statement for what it is worth, but I must say that I cannot see why the milk of this breed should be more likely to cause diarrhœa than milk in general use.

ARTHUR R. JENNER FUST.

AN AYRSHIRE RECORD.

ALICE DOUGLASS 4398.

On March 9th I received an appointment to witness the seven days' test for the milk of the Ayrshire cow Alice Douglass, No. 4398, entered by George A. Fletcher for the seven days' milk prize for 1886, offered by the Ayrshire Breeders'

Association; and having accepted the appointment, and attended to the duties in connection therewith submit the following report.

On March 11th Alice Douglass was milked dry at 9 p. m., and I saw her milked at intervals of eight hours for seven days from that time, ending on March 18th, at 9 p. m., during which time we gave her another trial. She was accordingly milked perfectly dry at 5 p. m., on Tuesday, April 6th, and her test extends from that time to 5 p. m., on Tuesday, April 13th. On account of a great flow of milk she was milked at intervals of eight hours, except as shown in the report. I was present at each milking and saw the cow milked, and myself weighed the milk on scales, which were specially adjusted before the test, and warranted correct. The cow stood in the barn with the rest of the herd during the entire test, and had two feeds of rowen, one-half bushel of mangolds, and one-half bushel of brewers' grains daily, besides grain as given in the tabulated report.

Alice Douglass was calved May 18th, 1878. She was got by Edward Douglass, 1783, out of Stella Douglass 2nd, 3848—a cow which gave 25½ quarts for many days, and for which her owner refused \$500.

Her color is deep mahogany red, well marked with white, fine head and neck, fore quarters light, body large, deep at flanks, wonderfully fine udder, carried well up, and reaching far forward; teats exceptionally good size and well placed; Flandrine escutcheon, skin fine, soft and elastic; her disposition in the very best. She is not a strong feeder, and great care was exercised to prevent her from getting off her feed during the test.

FOR THE SEVEN DAYS ENDING APRIL 13, 1886.

3 Milkings.	Total.	FEED.	
Lbs. Oz.	Lbs Oz.		
26 —	62 14	Bran . . . . .	6 qts. }
19 10		Corn Meal . . . . .	2 qts. }
17 4		Ground Oats. . . . .	4 qts. }
19 8	54 10	Bran . . . . .	8 qts. }
16 14		Corn Meal . . . . .	4 qts. }
18 4		Ground Oats. . . . .	6 qts. }
		Oil Meal . . . . .	1 qt. }
21 —	60 —	Bran . . . . .	6 qts. }
19 10		Corn Meal . . . . .	6 qts. }
19 6		Ground Oats. . . . .	4 qts. }
		Oil Meal . . . . .	1 qt. }
		Cotton Seed . . . . .	1 qt. }
21 8	60 4	Bran . . . . .	8 qts. }
19 —		Corn Meal . . . . .	4 qts. }
19 12		Ground Oats. . . . .	6 qts. }
		Oil Meal . . . . .	1 qt. }
21 8	57 8	Bran . . . . .	6 qts. }
19 —		Corn Meal . . . . .	4 qts. }
17 —		Ground Oats. . . . .	8 qts. }
		Oil Meal . . . . .	1 qt. }
21 —	59 —	Bran . . . . .	4 qts. }
18 —		Corn Meal . . . . .	6 qts. }
20 —		Ground Oats. . . . .	6 qts. }
		Oil Meal . . . . .	1 qt. }
		Cotton Seed . . . . .	1 qt. }
22 —	53 8	Bran . . . . .	6 qts. }
18 8		Corn Meal . . . . .	4 qts. }
13 —		Ground Oats. . . . .	8 qts. }
		Oil Meal . . . . .	1 qt. }
		407	12

**Guernsey Bull Wonder of the World.**

The animal shown at page 117 took the first prize at the New York Dairy and Cattle Show for best bull over one and under two years old. He was calved October 29, 1885, on the Island of Guernsey. He is by Wonder, out of Avenirier. He is now owned by Mr. E. N. Howell, of this city, whose fine herd of Guernseys made the neatest and most attractive display of all herds at the Dairy Show. The Guernseys are beautiful animals, and always make a fine display in the show ring. They are somewhat larger than Jerseys, and more uniform in color.

R. N. Y.

**POULTRY-DEPARTMENT.**

**Dorkings and Other Breeds.**

**A TEST IN CHICKEN-RAISING.**

**EDS. COUNTRY GENTLEMAN.**—Another year has passed, and the annual Thanksgiving has been held at very many farm houses throughout the entire country. Many families have been reunited in whole, or in part, that have been separated during the whole year, especially among New-Englanders and their descendants wherever they are now settled; and for the many blessing received during the past year from the kind Heavenly Father, who bestows so liberally on all his earthly children, the American farmers have abundant cause for thankfulness in their general prosperity. There have been some places visited by drought and earthquakes which enlist the sympathies of all who have been free from some such distressing casualties, and needed help has been liberally offered and sent to the sufferers by those who have been more highly favored. All such intercommunications help to bring the dwellers, both north and south, as well as east and west, into a closer bond of friendship. These, with other passing events, should teach us wisdom, and knowledge is of vast importance to the farmer, whether he lives at the North or South, East or West; we have one common country, and are bound by common ties, and any information gained in the passing seasons by any farmer will benefit some one if that knowledge is published, as we are a reading people, and very many profit by their reading as well as by their labors. One of the lessons learned by the writer the past year has been in the rearing of poultry, and as each particular breed has its advantages, some no doubt claim for their favorites more merit than they really deserve compared with other breeds.

The Silver Grey Dorking has been bred by the writer for a number of years past, and with success. It is a bird of good size; the chicks feather out early and grow finely, and by some are considered the best fowl for the table; they certainly are a good table fowl, and they lay nice large eggs, larger than those of many other breeds, and are good layers, careful sitters and mothers of their chicks—all good qualities, with the objections of an extra toe, and the large single comb, which is liable to be frozen in winter, unless the fowls are warmly housed. A flock of nice Silver Grey Dorkings are very beautiful in the eyes of the writer; if well selected, they are all nearly alike, and the cocks are splendid birds when in full plumage, and are very showy on the farm.

Last spring my son procured three sittings of eggs; one of a cross-bred fowl; one of Plymouth Rock, and one of Brown Leghorn, to test with our Dorkings. The cross-bred eggs were purchased of a neighbor whose fowls were noted for good size and extraordinary laying propensities, and were first hatched; the Dorkings came next, the Plymouth Rocks following soon, and the Brown Leghorns last. The first three

breed were hatched in May, the Brown Leghorns not till the last of June, as the eggs were not received on the farm till May 30th. We raised four pullets from the Brown Leghorns, five from the Plymouth Rocks, four from the cross breed, and five Dorkings. These constituted the pullets of the trial sittings of the different eggs purchased from our farm stock. These pullets have all been reared together as soon as their size would permit of their running together, and were fed mostly on wheat, until the harvest fields, which were near the barns, became their foraging grounds during the day, when they were fed mixed grain at night, corn, wheat and oats—what they would eat before going to roost. On this fare they all grew finely, the Leghorns of course being much the smallest. The cockerels were disposed of in the kitchen as wanted for table use, as pullets were desired in the experiment. Each set of pullets began to lay in October; the Brown Leghorns at hardly four months old. (1) Not all of them have yet begun to lay, but some of each breed, those probably that are the best matured. The Plymouth Rocks and the cross breeds lay a yellow egg, while the Dorkings and Brown Leghorns lay a white or light colored egg, which is easily distinguished. The Dorkings lay a slightly larger egg than either of the others, none of which are as large as eggs laid by birds of full age, as it not expected they should be.

Which variety will prove to be the best layers, will require further treatment, which it is our intention to give them, separate from our flock under the same circumstances; all to run together, and fed alike. We have never before had as many eggs from pullets so early in the season as this fall; whether our method of rearing them on wheat when young, and as they grew older to still continue it, is the cause of their early laying, I will leave your readers to judge. Their main feed has been wheat, just as soon as they would eat it. Their corn meal was scalded before feeding when they were small, and we have had healthy fowls and chicks with such feeding; chicks free from gapes and all other ailments. I should like to have any reader of this give notes on my method of rearing these birds that will give information to the readers of the **COUNTRY GENTLEMAN**; also, if any improvement can be made in their winter treatment to production; so far, we can discover very little difference in either breed in their egg-production. (2)

J. TALCOTT.

Rome, N. Y., Nov. 26.

(1) A Dorking pullet, hatched on January 27th last, began to lay on May 15th!

A. R. J. F.

(2) For table use, particularly of boiled fowls, there never has been any breed equal to the Dorking. Crossed with the large game-fowl, they are capital for roasting, as the colour of the meat does not signify.

A. R. J. F.

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