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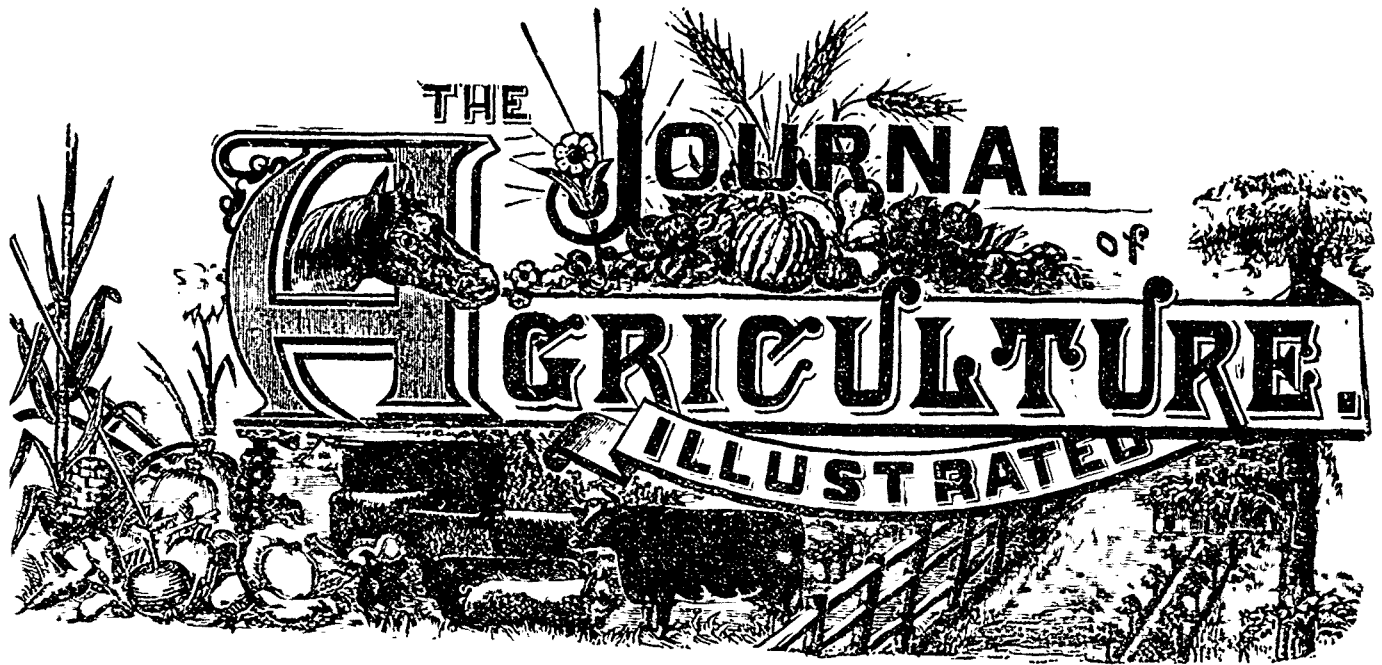
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culture, by the Veterinary Inspectors of his Department, that the measures hitherto taken for the extirpation of the disease of " Sheep Scab " have not been sufficiently stringent and persistent; the disease having in consequence increased, particularly in the district aboved named;

And whereas the Minister of Agriculture is of opinion that it is in the public interest of the Dominion, and also in the interest of the localities affected by this disease, that such steps should be taken as would be adequate to effect its extirpation:

On the recommendation of the Minister of Agriculture, and under the provisions of the Act of the Parliament of Canada, 42 Victoria, chapter 23, intituled " An Act to provide against infectious or contagious diseases affecting animals,"—His Excellency, by and with the advice of the Queen's Privy Council for Canada, has been pleased to order and it is hereby ordered, that the Order in Council of the 30th December, 1884, on the subject of the contagious disease of Sheep Scab, be and the same is hereby cancelled, and His Excellency has further been pleased to make the following regulations:—

1. In order to provide for the segregation or isolation or otherwise dealing with animals affected with the disease of " Sheep Scab," a Veterinary Inspector, or other person appointed by Order in Council acting under the directions of the Minister of Agriculture, may declare any farm or place or common or yard, or any building, where such diseased animals are found, to be an infected place within the meaning of the Act aforesaid.

2. No person whatever except a Veterinary Inspector, or other person duly appointed as aforesaid, and acting under the direction of the Minister of Agriculture, shall remove any sheep from such infected place, and then only for the purpose of carrying into effect the provisions of said Act, under a penalty of two hundred dollars.

3. A Veterinary Inspector, or other person duly appointed as aforesaid, acting under direction from the Minister of Agriculture, may make a selection of a particular place or places within or without the limits of an infected district for the purpose, in such cases in which it may be considered

ORDER IN COUNCIL.

GOVERNMENT HOUSE, OTTAWA,

Friday, 6th day of March, 1885.

PRESENT:

HIS EXCELLENCY THE GOVERNOR GENERAL
IN COUNCIL.

Whereas the contagious disease of " Sheep Scab " prevails among sheep in parts of the Province of Quebec, and particularly in the District of Montreal;

And whereas the High Commissioner for Canada in London has reported to the Minister of Agriculture that among cargoes of sheep from the Dominion arriving at the port of Liverpool, animals affected with the disease of " Sheep Scab " have been found; such cargoes having in consequence been ordered to the Diseased Animals Wharf;

And whereas it has been reported to the Minister of Agri-

advisable, of isolating and segregating such animals as may have been exposed to the disease of Sheep Scab. And such Veterinary Inspector, or other person duly authorized as aforesaid, shall alone have the power to order the removal of such animals, as he may consider advisable, to or from such selected places.

4. Such duly appointed Veterinary Inspector or other officer acting under the direction of the Minister of Agriculture, may, under the provisions of Section 14 of the Act aforesaid, order any animal found to be affected with Sheep Scab, or in contact with animals so affected, to be slaughtered; a compensation to an amount not exceeding two-thirds of the value of such animal before it became affected, to be paid to the owner thereof, but such compensation never to exceed the sum of four dollars for any one animal.

5. The value of such animals is to be, in all cases, appraised by a Veterinary Inspector, or other person appointed for that purpose by the Minister of Agriculture; but no compensation whatever is to be allowed in any case in which it is found that fraudulent attempts at concealment of such disease shall have been made; or in any case in which such animals shall have been removed from any place declared to be infected under the provisions of the Act aforesaid.

6. Any market, or railway yard, or pen, or wharf, or part or parts of such, or other place where sheep are exposed for sale, or where, or in which, they may be placed for the purpose of transit for removal to market, or from the Province, for the purpose of exportation, shall, in the event of any animal affected with the disease of Sheep Scab being found therein, by a Veterinary Inspector, or other person duly appointed by Order in Council, and acting under instructions from the Minister of Agriculture, on a declaration to that effect made by him, be held to be an infected place within the meaning of the Act aforesaid; no animal being allowed to be removed from such infected place, except on order of such duly appointed Veterinary Inspector, or other person aforesaid, under a penalty of two hundred dollars.

7. All sheds, out-houses, or places used for sheep affected by "Sheep Scab" must be thoroughly cleansed and disinfected under the directions of a Veterinary Inspector or duly appointed person.

His Excellency has been further pleased to direct that the Minister of Agriculture be, and he is hereby authorized to give effect to the foregoing Regulations, as well as generally to the provisions contained in the first seven sections of the Act before mentioned.

JOHN J. MCGEE,
Clerk, Privy Council. (1)

EARLY TOMATOES.

EDS COUNTRY GENTLEMAN—The truth of the old adage that "whatever is worth doing at all, is worth doing well," is exemplified in the efforts of well meaning amateurs to find fault with methods of culture, which the experience of practical men long ago settled as the most profitable. These people conclude from a single experiment, but half carried out, that they have discovered that men who have been pursuing certain systems of culture in a thorough manner have been wasting time and labor thereby. What I mean is well illustrated by a contribution to the March number of the American Garden, in which the writer says that he made an experiment to test the difference between hot-bed tomato plants and those from seed sown in the open ground. He states that he sowed seed

in a hot-bed the last of March, and in the open ground 28 days later. The plants from the hot-bed, he says, drooped when planted out, and were pale in color, while the plants from the open ground were strong and robust, and grew right off. The hot bed plants produced their first ripe fruit on the 19th of August, and those raised outside, on the 21st of the same month. So the writer concludes that it does not pay for the trouble to raise tomato plants under glass.

Now, from the writer's own statement, I propose to show that it was his own fault that his hot-bed plants were no better. The writer in *The Garden* does not give his location. I will simply give my own practice, by which I get ripe tomatoes by June 25th, in Northern Maryland, in a location 600 feet above tide, on heavy limestone soil. In this same location, plants from seed sown in the open ground, will not ripen before the middle of August. My experience has satisfied me that we seldom get ripe tomatoes in less than four and a half months from the time of sowing the seed. So to get tomatoes ripe in June, I must start February 1st, to sow the seed. This is too early a date to use a hot bed for such tender plants, and, in fact, the old style hot-bed is a structure for which I no longer have any use. I sow my tomato seed in shallow boxes, in a greenhouse, about February 1st. As soon as the plants are large enough to handle, I transplant them to other boxes at about two inches apart. When they have made two sets of rough leaves, I cut them all back to the seed leaf. They will soon break strongly, and generally with two shoots. By the time they are well started in growth, it will be the last of March. They can now go into cold frames, and accordingly I put them in the frames six inches apart each way. Whenever the weather will permit, I keep the sashes stripped down, and endeavour to make them grow stout and bushy, and for a week before planting out keep them uncovered entirely. I usually plant them in the open ground about May 1st. The plants lift from the frames with a mass of soil about their roots, and never think of wilting. This method of growing the plants is troublesome and expensive, but a difference of two months in getting ripe tomatoes is worth a good deal of trouble, and to a market-man will be worth more than all the rest of the season.

The trouble in the first place with the writer in *The Garden*, was that he did not sow his seed under glass early enough; in the second place he did not transplant them, so as to have them grow stocky; in the third place he set them out with all their original top on; in the fourth place he did not air them sufficiently to get them hardened off, as was shown by their pale appearance and wilting. Plants grown, as he grew his, are certainly worth less than plants grown outside. Doubtless many of your readers have seen hot-bed plants, that have not been cut back, set out with clusters of blossoms near the top, and the owner congratulates himself that he is going to have early fruit from these blossoms, but the fact is that these clusters of blossoms are always out-stripped by shoots, which put out below, and the earliest ripe fruit comes on blossoms close to the roots. Now heading back, the original top starts these side-shoots earlier; hence, earlier fruit.

By my method of treating the plants, I always have tomatoes, in a very unfavorable soil and location north of Baltimore, two weeks earlier than the market growers in the sandy soils south of the Patapsco. These growers usually get \$5 per crate for their first tomatoes, as they are so much superior to the stale Southern tomatoes. How much two weeks additional of high prices would be worth to the man who would take the extra trouble and expense with the plants, I leave to experienced gardeners to estimate. My object is to answer the objections of those amateurs who are constantly telling us that hot-bed tomato plants are no better than out-

(1) It is a scandalous shame to see sheep, as I see them every day, roaming loose all about the country, with half their wool off their backs from this loathsome disease.
A. R. J. F.

door plants, and to show them the difference between plants properly forwarded under glass, and those improperly grown. (1)

Baltimore, Md., March 22.

W. F. M.

Newport, Vt., May 16, 1885.

My dear Mr. Fust.—Your queries on Mr. Fowler's article on Harrowing Young Corn leads me to think it may be worth while to write you that in this country when a farmer says "phosphate" he almost without exception means an ammoniated and usually a potashed superphosphate, otherwise called a "complete" fertilizer. If a plain acid phosphate is meant it is so expressed,—the unqualified word being used for the most common form.

In ordinary rough estimates we always allow 2 bushels of ears to make one bushel of shelled corn. This is tolerably near for average lots, but there is corn that will shell out 34 and even 36 qts. from two bushels of ears.

Allow me to thank you for the good work you are doing in the *Journal*,—there is not a more instructive agricultural publication in America. Yours truly,

T. H. HOSKINS.

Since closing my letter I note what you say (p. 71) about the Am. papers and clover. The reason is that there is, even in the oldest states, very little "clover-sick" land as yet, whatever the future may bring. So little indeed, that in 40 years experience, East and West, I never saw any, or ever heard of any.

T. H. H.

I receive so little encouragement in my by no means easy task, that I am doubly grateful to Dr. Hoskins for his too kind appreciation of my endeavours to promote the cause of sound agricultural knowledge.

ARTHUR R JENNER FUST.

When to Cut Timothy.

It has long been held by some that timothy should be left standing till nearly or quite ripe; that in earlier cutting "the bulb is left without support in its immanure state, and where it is suddenly exposed to the sun and heat it dies. If the meadow is left to stand till the bulbs mature, the plant retains its vigor." My observation for many years has convinced me that just the reverse is the case. When the stalk is ripe it is dry and woody, and the bulb has little vitality left. Cut earlier, young shoots put out at the base of the bulb. This they will also do when the stalk is matured, providing the ground is moist enough. All is dependent upon moisture, which timothy, like red top—with which it grows well—requires. It does not do well on light soil, and cannot withstand a long drought. If cut then it will be seriously hurt if the drought continues sometime afterward. In such case I have not unfrequently seen whole fields killed either when cut earlier or later—never any cut quite early, and for the good reason that they retained some of the early moisture of the season. Every observing farmer must know that in some seasons timothy meadows suffer great harm, and it is equally well known that it was the habit—as still to a large extent—to cut the crop late, when well matured, and often ripe. Certainly late cutting did not save it, and early cutting was little practised. Now it is cut earlier to some extent and with better success. This was the case last year, when we had one of the severest and longest droughts known.

(1) Most sensible counsel. The number of plants wasted by the ordinary treatment, and the disappointment thereby caused, is incalculable.

A. R. J. F.

All the early-cut meadows showed a fine green in the fall; late cut fields, I noticed, suffered badly. No new shoots put forth at the base, as in the other case, where the growth protected the ground from the hot sun and drying winds on good ground. In a moist season, a thick undergrowth—"bottoming," as it is called—always results. When fed off in pasture, which is equivalent to early cutting, the plant will thrive if it has its supply of moisture, however often it is fed off, or however tall it may be. Otherwise it will suffer, and in a severe drought, "burn out." Orchard grass, and even the small blue grass (*Poa Compressa*), will endure a drought that would kill timothy.

Let us then do justice to this excellent plant, productive and nutritious on our clay loams as it is, and instead of a single deteriorated crop, get the full benefit of the yield in two cuttings, making a rich and easily digested food, our meadows at the same time benefited. At least let it be tried, and adopt the use of the hay-cap, as rains will sometimes occur, often unexpectedly, and the damage will be more without the cloth to protect than its cost and trouble to apply it many times over. Fort Plain, N. Y.

F. G.

Hop-Growing in Central New-York.

A correspondent of the Albany Evening Journal from Waterville recently contributed to that paper an interesting article on this subject, from which we abridge the following extract:

For weeks during the early months of each year loads of hop poles follow each other, all day long, from the depôt, through the streets, out upon the farms. A few weeks later thousand of laborers commence at early morning and work through the day, until the sun leaves the country behind, grubbing hops, and pruning the roots. Poles are set; the vine is just starting out from the ground; a little while later and the yards swarm with women twining the vines around the poles and tying them in place. The drag removes weeds, the plow turns over the soil, and the hoe covers the roots with a little earth, and the hops are well on their way. Twice, at intervals of a few weeks, the plow and the hoe are introduced into the fields, and twice also the hops are tied, the second time when the vines are way up the poles and are branching on all sides. Two vines generally, not more than three in any case, are trained up the pole. The others are cut off, and the lower branches of the chosen two or three are clipped to within an inch or two of the main stalks. The hills are placed six feet apart and two poles are set in each hill. This is the process of hop culture.

No other crop shows neglect or incompetent cultivation so quickly as the hop. No other crop is so difficult of successful cultivation. An undulating country, or a higher altitude than the ordinary surface, is a requisite. An alluvial soil, high and dry, is another essential qualification for profitable raising and production. Low ground invites mould and rot. There the hop aphid, or louse, and innumerable bugs and insects feed fat upon the hop to its destruction. The aphid is, however, ubiquitous, and is a source of trouble and anxiety to every grower. The root of the hop, too, is set upon by worms peculiar to the hop, which often eat through the vine after it is well up the pole. Again, and later in the course of development, rust is apt to settle upon the recently budded hops, making it necessary many times to pick them before they are ripe. Constant attention from spring until fall, killing insects, overcoming the work of worms, bugs and insects, avoiding mould and rust, is required.

New-York is the great hop-growing State, and Oneida county, at and around Waterville, is the heart of the culture;

hence this locality is frequently termed the Kent of America. Wisconsin, next to this State, is the greatest hop region, but it is cultivated in other States also. Otsego county nearly matches Oneida county in the pounds and bales produced, and Cooperstown is to the first named county what Waterville is to the latter. Madison county ranks next, and then I believe Chenango—and Cortland raises some, but they are all right here together and adjoining. These counties constitute the principal hop belt and section of the country. Sixteen or twenty years ago ten acres would have been called quite a yard; not so now. William P. Locke, two miles south of here, cultivates a hundred and twenty acres; the large Marshall farm, about the same distance north, covers almost as many acres; and all around are yards of fifty down to thirty and twenty and ten and five. A man who has but two or three acres of land, all told, must have a hop yard too—an acre, or a half, or a patch. (1)

ENSILAGE—The national interest awakened by the recent exhibition of ensilage was such that Mr. H. Kains-Jackson is taking measures for the formation of an ensilage commission. It will meet early in the spring to take the voluntary evidence of exhibitors and others, and by the courtesy of the Agricultural Department of the Privy Council, will sit at 44 Parliament-street, in a room placed at the disposal of Mr. Kains-Jackson by Professor Brown. There is no doubt that this novel scheme will be watched with great interest, but it is to be hoped that the “commissioners” will not be entirely from those who are enthusiastic “silists.” There are still many farmers in the United Kingdom who are unprepared to accept all that has been claimed for ensilage, and much misconception requires to be cleared away. Mr. Kains-Jackson's scheme is novel, and it ought certainly to be useful.

CULTIVATION OF SUGAR BEET IN ENGLAND.—The enterprise of Messrs. Bolton and partners, in re-opening the sugar-beet factory at Lavenham, Suffolk, deserves success—greater success than it seems likely to attain. Professor Church has recently made his report of the first season's experience, and, although he describes it as encouraging, there is some reason to doubt whether either growers or manufacturers will so consider it. The yield of the beets on the sixty farms on which they were grown varied from five tons to 20 tons per acre, the average being ten tons. The average proportion of crystallisable sugar is 13 per cent., or about a ton to eight tons of roots. As the manufacturers pay £1 2s. per ton for roots that were kept in a clamp some time before being sent in, as the roots were this year, the prospect of paying for manufacture at the present price of sugar seems poor. As for the growers, those who did not grow more than the average of ten tons per acre can scarcely be very well satisfied with the results, as they had to pay the carriage of the roots or to cart them by road, and the crop is an expensive one to grow. The dry season of 1884 was very unfavourable to the production of a bulky crop, however, and if the manufacturers have not had enough of their experiment, growers may be tempted to go on for another year in the hope of better results.

DAIRY FARMING IN NEW ZEALAND.—Dairy factories are increasing in New Zealand. Sir John Hall, while in England, visited the London markets, and came to the conclusion that

(1) In 1883 hops were worth 40c to 50c a pound. I warned my readers, see Journal March 1883 vol 4, p. 163, that “out of every hundred farmers who, tempted by the present abnormal prices, try their hand at this fascinating pursuit, seventy-five will have cause, before four years are over, to regret their temerity.” The price now is 8c to 10c a pound! A. R. J. F.

there was a good opening for Colonial butter and cheese, which he believes can be conveyed through the Tropics without injury. The butter sent from New Zealand about nine months ago arrived in such bad condition that it was almost unsaleable; but this appears to have been due to bad packing. New Zealand cheese commands a better price than American. Many farmers in the colony, who previously used their land chiefly for wheat growing, are now turning their attention to dairy-farming.

LOSSES ON IMPORTED FROZEN MUTTON.—In confirmation of the fear recently expressed, that the export of frozen mutton from Australia and New Zealand could not have paid at recent prices, I learn that the Australian Frozen Meat Export Company declared a loss of £6,000 for the half-year at their last half-yearly meeting. The business is to go on for the present, but it is not to be extended without the consent of the shareholders. The contract of the company with the Orient Steamship Company will not terminate till next October. A. R. J. F.

Experience in Calf Raising.

Following is a pretty full account of a discussion on this important topic, which took place at the recent meeting of the Dutch Friesian Association at Detroit:

Mr. Blessing—I had the pleasure, a short time ago, of visiting one of my neighbors who reared a calf as he said, on less than two pails of milk. For myself, I give my calves plenty of milk. I had plenty and was making butter, and we used quite a large quantity of milk for them during the whole season until the weather became cold. In fact, used it until winter; but this neighbor of mine had reared as fine a calf as I ever saw, and I was very much interested in hearing his report. He told me he began, the day the calf was born, to use wheat middlings. He first poured boiling water on them, and then used half milk and half water, and after the first day he gradually increased the quantity from a handful up to the tenth day, and at the end of the tenth day he had reduced the milk until there was scarcely any used, feeding nothing but water with the middlings, and a small piece of salt. The calf showed for itself. I was surprised to see the result.

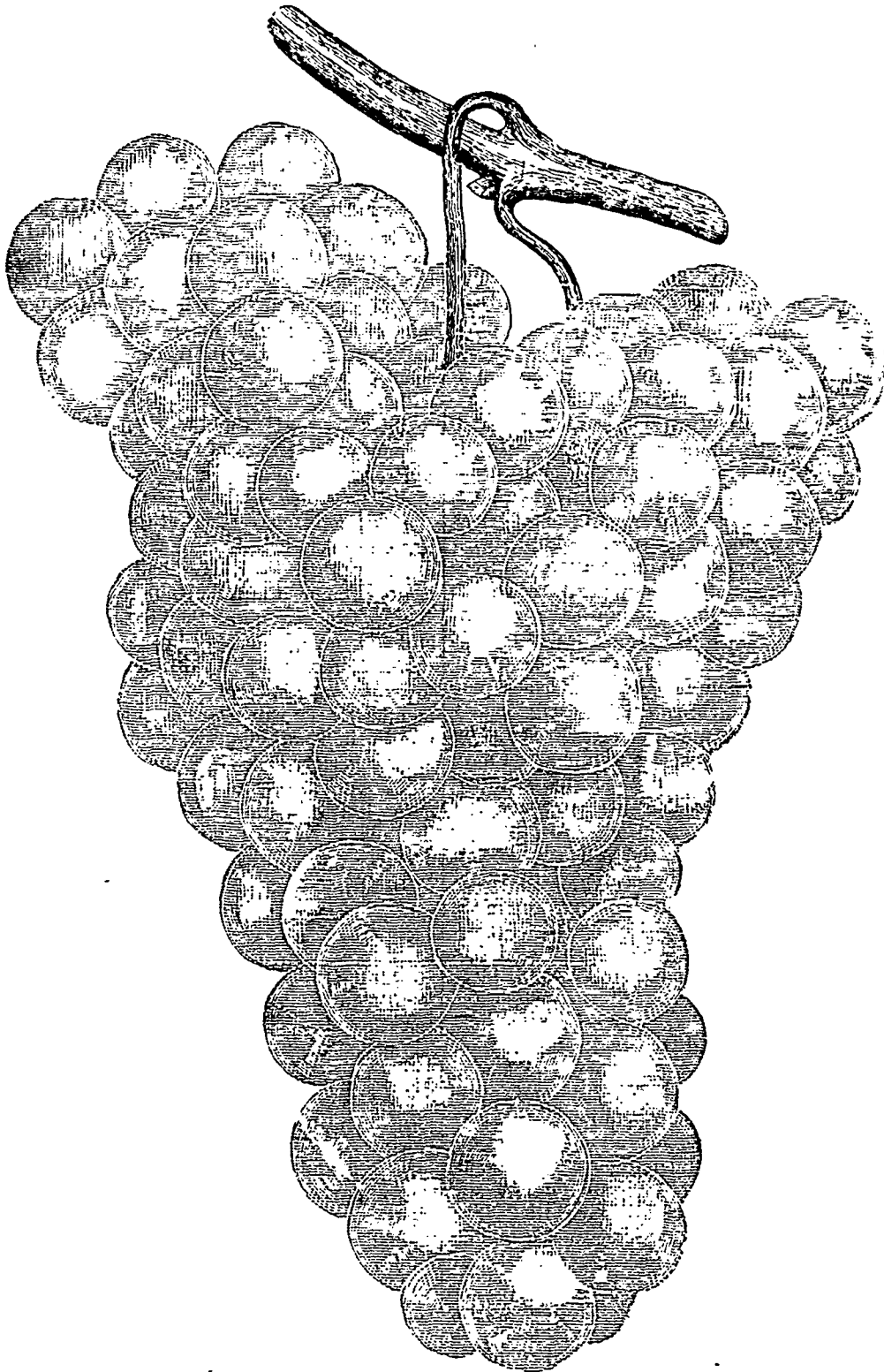
Mr. Burchard—Last spring, Dr. Patterson was kind enough to sell me a bull calf, and I thought I would try and take good care of it, because I appreciated the kindness. I fed the calf about 20 pounds of new milk a day until he came into the barn, and then I took the new milk off and fed him skim milk from that time until last Saturday, and at the age of 11 months and 25 days he weighed 1,080 pounds.

Dr. Patterson—I have been in the habit of taking my calf from the cow, if everything was all right, and the calf was in a healthy condition, at the age of three days. I like to let the calf suck the cow until the milk becomes pure and sweet for use, then I take the calf away and feed it. (1) I generally give them a good quantity of milk. That is the way I treated the calf that went to Mr. Burchard. I suppose I gave it about three gallons of milk a day up to the time I sent it away. I feed a calf until it is about eight weeks old on that sort of food. I do not think it is economy to sell your milk and starve your calf. It is money in your pocket to put it in the calf. When I get them to take mill feed or meal of any description, I have in the last few years, given it to them dry. A calf's stomach is not in the same condition as that of a grown animal. The saliva is much more extensively

(1) The calf should be taken away at once, unless the owner likes to bear the cow b'aring away for three or four days after weaning. A. R. J. F.

secreted. I put a very small quantity of meal into the bottom of the bucket, and they will lick it and eat it dry. This is done after they have taken the milk. It goes on to the top

milk, it will pass into the bowels, and frequently the calf will have the scours. In this way I have no trouble, because the stomach is full of milk, and you have an assimilation. You



NIAGARA GRAPE.

of the milk that has been previously taken to the stomach, and it is not likely to pass directly into the bowels and cause inflammation (1) If you give the calf wet meal before it takes

(1) Good.

can increase that, and soon get the calf to eat any quantity of meal it wants. Most of my calves are born in winter; I like winter calves best.

Mr. Wheeler—I have been experimenting three or four

years. I fed them too much whey. I have adopted the method of cooking the whey that we fed to our calves. We commenced by feeding them new milk for a while, and then began to add a little feed, and finally gave them whey; a little at first. It is a great deal better to feed a calf too little than too much. During the last year we did not have a single case of trouble with our calves; we had had before. Our rule was, if we found a calf off its feed or inclined to scours, to stop feeding him, or, if we fed at all, feed him milk. The calves have grown very well. I have had full blooded calves, and kept them right along the same way. In the first place we kept them in the barn, and fed them a little hay after three or four weeks, and as soon as it would answer we turned them out into good grass. I want to speak of the growth of a full blooded calf that came last September and weighed 118 pounds when he was dropped. We fed him for a few days new milk, and then we put him on sweet milk that had been skimmed, using the creamer so that the milk was sweet. We fed him along moderately until he was three months old, at which time he weighed 370 pounds, which was a gain of a little over 2½ lbs. every day from the time of his birth. (1)

Mr. Lockwood—My way of getting along with a calf, if I find he is off his feed, is to give him some fresh eggs. I break an egg into his milk, and give him a very small feed of it. If he is scouring, and that does not do the work, in about six hours I give him another. I have raised from 20 to 50 calves a year for 25 years. I have not always succeeded alike with them. I have been in the habit of feeding my calves from creamery skimmed milk largely after the first three weeks. My men who feed the calves say that the last two years we have not had any fool calves. We had a good deal of trouble before with some of our calves that we could not make drink. They go right to drinking now and to eating. That is one advantage, probably, of the Dutch cow. The only calf I have lost in the year out of 41, was lost about a week ago by drinking so fast that he threw it down his windpipe. I have a German bull now, and I am inclined to think that you gentlemen represent a class of cattle that has not so many fool calves.

Dr. Patterson—We perhaps have the most docile and gentle class of cattle in the world. The people of Friesland and Holland are in the habit of keeping their cattle in their houses. They live in one room, and the cattle occupy the next; they are all under one cover. The climate is so severe that the cattle are shut up from November until May (2) They are not even taken out to water. They are turned out in the spring. All the fences are canals, and so soon as an animal is vicious or attempts to walk through the water, he is sold. If a cow becomes bad, she is disposed of. They live among them. They do not do anything else. They do not plow, and sow, and reap, as we do. They have nothing of that sort to do. On the farm of Mr. Kuperus, for instance, there was not an implement of any kind for digging into the ground. There was not a space as large as this table dug up for a v purpose. It is all in grass. They live by their cattle. The consequence is, that by selection, and breeding, and care, and living with their animals, docility has become natural. It comes to the calf. This occupation has been followed by these people for hundreds of years in this way. Our calves, as soon as they are born, seem to be instinctively kind.

Mr. C. R. Paine—I want to give you a method which I have heard of being followed by a neighbor of mine. He fed them during the summer on a little water and grass, and toward the fall he took off the grass, and gave them cold

water. (1) The calves began to improve. In the winter he fed them a little hay and corn cobs. The way he did it was thus: He took a cob and a nubbin of corn, and the calf opened its mouth for the corn, and he gave it a cob. (2)

Prof. Johnson—The methods that have been suggested, I think we all concede, are desirable, except possibly the one last mentioned. I apprehend that the successful raising of calves does not depend so much on any one method or treatment, as it does on regularity and discretion on the part of the feeder. I have no question that good calves can be raised by any of the methods that have been named, if the feeder has the discretion and the judgment and feeds, with regularity and thought. The use of oil meal has been mentioned—the new process, I think it was stated, had been used. We have found that the old process meal is more desirable than the new and especially is this true for calves. We have found that oil meal with the skim milk comes the nearest to the new milk of any feed that we are able to give our calves. We have been successful in treating them that way, taking a small portion of the oil meal cake and mixing the sour milk with it.

Mr. Curtis—It would be preferable to use with whey, on account of the excess of fat.

Prof. Johnson.—Yes, sir.

Mr. Campbell—Would not flax seed be preferable to either?

Prof. Johnson.—I am rather inclined to think it would be, judiciously fed. (3)

Mr. Phillips—I have had some little experience with feeding skimmed milk. I like to feed a young calf new milk at least two weeks, and then commence with the skim milk, and add the old process oil cake. I am not at all pleased with the new process. I like to teach a calf as soon as possible to use different kinds of food. By the time the calf is six months old, he will eat almost anything that is put before him in the shape of straw, cornstalks and hay. I believe in a great variety of food. I have a calf now that has been fed oil cake, oat meal bran, beets, carrots and turnips, not all at once, but with different kinds of food at different times, liberally. At 270 days old he weighed 842 pounds, an averaged gain of 2 pounds and 12½ ounces per day from his birth.

A. R. Jenner Fust, Esq.

DEAR SIR,—I read with much profit and pleasure your articles in the *Journal of Agriculture*, especially the last on the Cow Question. It is up hill work farming in this country amongst certain class of settlers, as Mr. Campbell, of St. Hilaire, wrote you respecting horses. In 1880 I bought a Guernsey Bull—imported. My next neighbour brought a cow which was to be a nominal sum say \$1.00, he took the cow away and we were hardly on speaking terms since; only once in a while. I immediately sent him back, when I saw how things were, to my brothers in Arundel where he has had the advantage for stock purposes. I had him brought out in the fall of '83 and kept him last year for my own stock, and only had 9 served by him, same neighbour keeping a scrub which would jump the fences and serve my cows. Even a thorough bred Ayrshire (1) when I was up at Ottawa Exhibition. I only had 7 cows brought to him and not paid for yet; such is the class of people, I am going to dispose of him; if not for stock purposes for beef. I thought I would write you,

(1) What does this mean?

(2) What a sell for the calf! Professor Johnson is quite right. v infra.
A. R. J. F.

(3) No doubt about it, if the meal is fine so that the husks do not irritate the bowels.
A. R. J. F.

(4) Some omission here. E.L.

(1) I should like to know if the calf was very large in the hocks and knees after so much skim-milk.
A. R. J. F.

(2) Not turned out to shiver in the yard, as in the Eastern Townships!
A. R. J. F.

have not advertised him, could have got \$80 for him last spring but kept him for my own stock. Will weigh from 14 to 1500 lbs, if you should know of any one who would like such an animal for stock purposes can be seen at my place, LaChute, easy of access by Railroad. Will enclose you pedigree. Please return if you do not know any one who wants such an animal. I want \$100 for him, reliable parties can have him at once, pay in the fall if such is an advantage. Thank you for information respecting Ayrshire cow. Could not squeeze out the piece at end of teat about size of pea, so let her go. Wishing you every success in your college labours, as well as farming in Sorel Valley. Believe, me, yours respectfully.

JOSEPH STANFORTH.

P. S.—Have a Southdown (2) ram from imported stock to part with as I have used him 2 years. Bought from Hon. J. J. C. Abbott. Perhaps we might exchange.

Colds and Roup in Fowls.

EDS. COUNTRY GENTLEMAN—The question asked by A. L. S., in your issue of Feb. 19th, p. 149, gives me an opportunity of sending a letter on roup, the disease from which, in its incipient stage, his chickens were evidently suffering. This is the worst enemy which British poultry keepers have to contend with, though gapes and diphtheria make good running for the leading position. We have, therefore, special opportunities for studying this disease, and there are few who have not had it at one time or another in their yard. It is very insidious in its nature, and does not depend upon any one special condition for its development.

Roup generally begins with a cold. Generally, the first symptom is a running or obstruction at the nostrils, but this is not always easy to see, especially where there is a large number of birds. Thus the necessity for a sharp lookout being kept. Very often, fowls with just as light cold show no other symptom, for the general health of the subject is not affected. Of course, this makes it all the more necessary that there should be a careful watch kept, especially at those seasons of the year when the changes in temperature are so many and so varied. When the disease is roup a different state of affairs exists. Then, the whole system is influenced, and in addition to the obstruction or running at the nostrils, there is a puffing up of the eyes or a swelling of the face, and the bird hangs moping about, showing clearly that it is all "out of sorts." But, as we have already said, these indications are not to be found with a common cold, though under certain conditions they may ensue if the cold is neglected. When a bird is seen to have a running at the nostrils, it should be examined at once, and if the breath is not offensive, then the affection may be regarded as merely a cold, for with roup the breath is always tainted. In either case, the bird should be isolated at once, for even colds, especially of the influenza type, that is when the discharge is excessive, the eyes constantly watering and the bird sneezing, are very infectious, and the other birds will soon get the same complaint if the affected one is left near them.

The bird so separated should be put into a warm, draftless place. It may have first a dose of castor oil, and be fed for a day or two on bread soaked in warm ale. The face, eyes and mouth should be washed two or three times a day with vinegar and water, or what is better, with a weak solution of chlorinated soda, which any chemist can supply. In this country, there are many roup pills sold, and I believe there

are others in America. Of ours, the best are Walton's and Guest's; or homœopathic remedies may be tried, and with these I have been most successful in treating poultry. *Arsenicum* and *Aconitum napellus* would be the right medicines to use, either separately or in alternation, according to the special symptoms of the disease—the arsenicum when the discharge from the nostrils is copious and excoriating, and the aconite when the body appears in a high state of fever, or when there is a stoppage of the nostrils, with a constant effort of the patient to get rid of the obstruction by sneezing. The best way to administer the medicine is to use a ball syringe, and having filled this with the medicine (one drop of the No. 3 tincture to a dessertspoonful of water), put about a teaspoonful down the throat of the bird, holding up the head until the act of swallowing is over. I have given it with a spoon, but it is difficult and uncertain.

As already mentioned, roup is indicated by the offensive breath, and by the swelling of the face, as well as the discharge from the nostrils. It is really two diseases in one. There is some internal complaint, generally scrofula—the result of bad feeding, bad housing, or bad ventilation—and the cold. It is this complication that makes the complaint so difficult to battle with, for unless both complaints are treated, there is very little prospect of successfully dealing with roup. Here, too, perfect isolation must be the first step. Roup is very contagious, and the discharge from the nostrils mixing with the water or the food, as it will certainly do when all are feeding or drinking together, is quite sufficient to communicate the disease all round. The bird may be treated as already prescribed for cold, but it will also be necessary to get the scrofula out of the blood. For this purpose there is nothing better than powdered charcoal, which can either be made with butter into finger pieces, or be mixed with the soft food. No one with roup in his yard should, however, rest content with this treatment. The disease may be taken as a sign that there is something generally wrong with the whole of the birds, and though it may not declare itself, the powdered charcoal had better be mixed with all the soft food two or three times a week. Attention should at once be paid to such matters as ventilation, cleanliness and diet, to see whether there is no contributory cause. A general white-washing of the houses, renewing or digging over the house floors and runs, if they be earth or sand, is also advisable.

Returning to the roup bird, if it has to be saved, confessedly in most cases a very difficult matter, more must be done. The face, eyes, nostrils, mouth and throat should be washed twice a day with strong vinegar and water, or what is infinitely better, the solution of chlorinated soda. Where the nostrils and eyes are closed, this is not enough, and the bird will soon die of suffocation, as the mucus clogs up the passages completely. In this case I have obtained what is known as a toothache pencil, which is a fine glass tube, at one end bent, and a small ball syringe at the other end.

This is charged with the solution of chlorinated soda. The bent arm is inserted in the slit, which will be forced in the roof of every fowl's mouth, and when there the ball is squeezed, forcing the solution through the nostrils and under the eye lids. The effect is that the passages are cleared, as the solution eats the mucus without injuring any of the organs of the fowl. I have sometimes saved birds in this way, which must have died but for it. When necessary, the process should be repeated, but after clearing, except in very bad cases, this will not be necessary for some hours. And if proper attention is paid, there will be very few instances where such extreme measures are necessary.

In conclusion, I must just give a word of advice as to the returning of cured birds to the poultry yard. This should not be done until every trace of the disease is gone, and then

a fine, warm day should be selected as the occasion—a relapse is nearly always worse than the first attack, and a too early exposure is sufficient to induce such a relapse.

STEPHEN BEALE.

H—, England, March 6.

THE DAIRY DEPARTMENT.

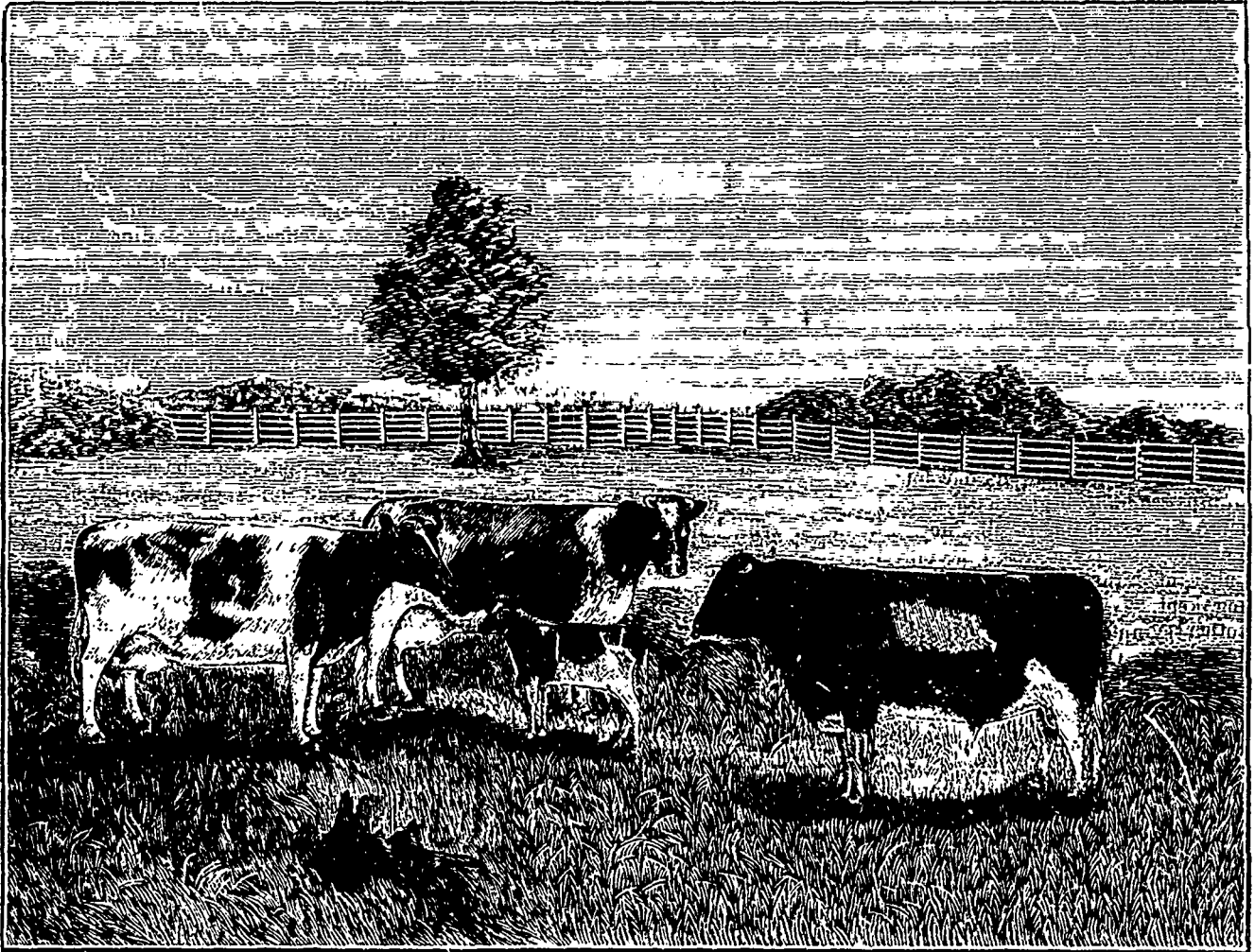
OBSERVATIONS IN THE JERSEY MARKET.

Eds. Country Gentleman—In answer to my advertisement in your paper for a Jersey bull, two years old, from a cow good for at least two pounds of butter per day on grass only,

a correspondence with a large number of men asking farther information, and that might be extended over a considerable period of time, I have preferred to lay aside by far the larger number of these communications, and make my selection from those who have taken pains to go into detail and give full particulars in the first instance, from which some sort of judgment might be formed.

The result has been the purchase of Rex Vermont 6924 A. J. C. O., whose dam is said to have made 17½ pounds of butter per week on grass only.

As to cows, those that have been offered, and that the owners were willing to say had made, or would make, 14 lbs. of butter per week on grass only, the number is exceedingly



HOLSTEINS.

and for cows guaranteed to make 14 pounds of butter or more per week on grass, I have had offered me nearly 100 bulls. They vary in age from 7 months to 7 years, and in price, from \$50 up to \$2,000. Many are too young for my use, and some older than I care to purchase. Many are undoubtedly well bred and valuable animals, but very few from the whole number are from dams good for 14 pounds per week on grass or on any other feed.

Some of the gentlemen who have written me have been particular in giving full information as to their stock, from which I could form some opinion as to the probable merits of their animals. Some have simply said they had such stock for sale, and would give particulars if desired. Most have fixed prices and some have solicited offers. Rather than open

small, and may be counted on the fingers of one hand.

Many calves and heifers have been offered, and some cows whose sisters and cousins and aunts, mothers, grandmothers, great grandmothers, and other more remote and distant kindred, are known to have been of considerable value as dairy animals.

For my use, I prefer a good cow without distinguished and noted ancestry, to a poor one that can ascend its "family thread" "without finding it waxed on the farther end," or anywhere else along the line, by some plebeian relation. It may be true that the good qualities of famous ancestors may reappear in remote descendants away down in the ages; but to one who can only expect to live long enough to observe im-

mediate results, this is less interesting in a business way than as a philosophic truth.

The prices at which 14-lb. cows are valued, are, as it seems to me, much above their real-worth to those who can only hope to use them for the ordinary purpose of the dairy. In the immediate vicinity of the large cities, where there is great accumulation of wealth, and where the demand for family cows is considerable, prices may do that which in strictly rural districts would be entirely inadmissible.

The very few cows that have been offered me, and the very high prices demanded, lead me to the belief that the number of such animals in the country is quite limited, and that the average farmer must be content with the slower process of development and growth in the dairy qualities of his herd, by the introduction of the best butter sires to be had, and that the more speedy collection of a choice number of dairy animals, by purchase, is practically out of the question.

G. W. W. Oshkosh, Wis.

THE PRICE OF MEAT.

It seem that Canada is not the only place where the butcher comes between the consumer and producer and levies an enormous tax on both. The following is from the (Dublin) *Farmers' Gazette*:—

The Dublin daily papers have been much exercised during the week on the subject of the price of meat. The experience of consumers in the city is that no matter how farmers may suffer from low prices, or what may be the depression in the wholesale supply markets of the country, the retail prices do not fail. Briefly, the argument, as the *Freeman* puts it, is that the price which butchers have been charging for meat throughout the summer and autumn are grossly unfair, and that if they desire to be regarded as fair traders, and not as extortioners, they will lower those prices at least 2d. per lb.

We wrote as follows in this column some weeks ago: "The butcher has for some time been buying mutton at 2d. to 3d. less price than he has been retailing it at to the public, and on a sheep of 60 lbs. weight this amounts to 10s. or 15s., in addition to the skin and other offal, which may be worth 8s. more. This is a total of 17s. to 24s. for killing and marketing a single sheep; surely out of all proportion to the profits that fall to the breeder and the feeder. But it is the same in the cattle trade. The butcher buys beef at 8s. and sells it at 12s. per imperial stone. Here, again, he has the offal over and above the additional price charged on the meat. So that on a 50 stone beast the butcher's profit of 3s. per imperial stone amounts to £7 10s., and with offal at, say, £2, makes a total of £9 10s."

The *Irish Times* of Tuesday last quotes these figures literally word for word, but omits to say they are ours. The *Freeman*, in its article on the same subject, takes a survey of the prices of beef and mutton in the metropolitan market during the various weeks in August and September, and brings out figures which agree identically with those given above. It is high time the farmer looked into this for himself. Not only is he deprived of the full market value of his produce, but the public are made to pay more than a fair price for the meat. Cannot the farmers combine and establish a central meat depot which will bring them into direct contact with the consumer?

But it is one thing to fatten stock for market and another to know when and how to market. There are cattle feeders who, year after year, market their stock at such a time and in such condition as to realise prices which pay them well, while some of their neighbours can only realise at a loss. Thousands of pound are lost annually by cattle feeders who

do not pay sufficient attention to the details of the business and to watching the markets. (1) *The Canadian Breeder*:

"H. S. W., Burlington, Vt., writes: "I have one and one-half tons of bone that was burnt first, and then ground as fine as flour. It was then dissolved with acid. I know burning takes away some of the goodness from it. Now what ought I to mix with this to make it suitable for small fruits, corn and grass?"

REPLY.—It requires something to give it about three per cent of nitrogen, and about the same of potash, say, at a guess, twelve quarts of sulphate or muriate of potash, and eight quarts of sulphate of ammonia (both made fine and sifted) to a barrel, to be well mixed by shoveling. This will make a complete and very strong fertilizer of it—at least fifty per cent stronger than an ordinary superphosphate."

Spring and Summer Management.

The following is an abridged extract from an excellent lecture delivered by Mr. Gilbert Murray before Lord Vernon's Dairy School at Sudbury, England:

We are now on the threshold of April, several of the cows have already calved, and others are daily expected, the milk is sent to the factory, and you are already in full swing of butter-making. The cow-house must be kept as near as possible at a uniform temperature of 60°; the cows may be turned into the fold-yard daily, for half an hour, about noon. The fact must not be overlooked that large quantities of cold water taken into the system is positively injurious, as it lowers the temperature of the body, which is maintained in a normal state at the expense of the food. For cows in full milk, cooked food is much preferable to raw, entailing less labor on the organs of digestion and assimilation. The mixture of chop, meal, roots and grain, may either be boiled in the ordinary cast-iron boiler or steamed. On large occupations where a steam engine is employed, the work can be economically done by the waste steam from the boiler. To obtain the most effective results, the food should be given to the animals in a sloppy state, and at a temperature of 55° to 60°. Regularity of feeding and milking must be strictly observed. The morning meal should be given before milking commences, and the dung removed from the beds and gutter. As milkers, women are preferable, the hands being soft and pliable compared with the horny hand of man. The quantity of food necessary to supply the wants of individual animals is governed by their weight. A cow in full profit consumes daily three per cent. of her live weight. During April, a cow in full milk should have, in addition to boiled or steamed roots and hay or straw chaff, 2 lbs. of bean- or pea-meal, 2 lbs. of wheat meal, 2 lbs. of ground oats, and 2 lbs. of bran. If these cannot be grown on the farm or purchased at moderate cost, 2 lbs. of linseed, barley, or Indian corn meal may be substituted for the wheat meal. If the aim is quality, it is essential that bean- or pea-meal be used. Care must be exercised in regulating the quantity of food to meet the wants of the different animals, and not, as is too often the practice, of serving a uniform quantity to each. In one case the appetite is cloyed, whilst the next is stinted. In every case the mangers should be cleanly swept out before feeding. By far the best kind of hay for milking cows is well-saved clover, cut just before coming into full flower. Dusty or highly heated hay injures the health and deteriorates the quality of the produce. As a rule, a large quantity of hay is wasted in the ordinary

(1) At this very time my son-in-law is paying 15c a pound for roasting beef in Montreal—here, at Soré, I am paying the amiable Mr. Proulx only 10c for the same quality of meat!!! A. R. J. F.

practice of the farm. The chief part of the hay and straw should be cut and mixed with the meal and boiled roots. Only a small quantity of long hay should be given twice a day in order to excite rumination. Raw roots are only admissible when given as a mid-day meal. (1) As in the case of the steam boiler, a quantity of fuel is wasted in raising the temperature of the water from the freezing to the boiling point. So it is in the animal system; the fat producers, which, under favourable conditions would increase the quality of the milk, are expended in bringing a large quantity of water to the heat of the body. Brewers' grains, which are largely used in the district, are highly charged with water and consequently open to a similar objection.

The pastures, if saved during the spring months, will be ready for stocking from the first to the middle of May. With the first bite of spring grass the food must be changed; the boiled roots should now be gradually discontinued; the same quantity of meals cooked and mixed with chopped hay as before, fed in a less sloppy state, in order to counteract the loosening tendency of the young succulent grasses. This regime may be continued to the middle of June, when the quantity of meal may be reduced one-half, or, if the pastures are good, discontinued till the autumn. So long as the artificial feeding is continued, they must be fed in the stalls twice a day. By the beginning or middle of September, the early cabbage should be ready for use; this will increase the standard. the use of meals and chop must again be continued, commencing with two pounds per day, with a gradual increase, arriving at the standard allowance by the first of November, which will be maintained throughout the winter and following spring months.

The cost of keeping a dairy cow in full profit during the winter months will, including labor of milking and attendance, be not less than one shilling per day, charging the home-grown produce at market prices. Under the old fashioned system of management, unprepared food was largely used in the wintering of dairy cows, and large waste was often entailed.

I cannot resist the temptation of a word on the saving of the hay crop. Green hay is greatly to be preferred for milking cows, tending to enhance the value of the produce. A very common error is to allow the grasses to stand till over-ripe, causing the soluble matters to become converted into indigestible woody fibre, and then it is often slovenly saved. The use of machinery, and the prospect of settled weather, induce men to cut down more than their limited staff of hands can successfully deal with. It is a great mistake to imagine that hay can be well saved without sufficient labor; it should be constantly stirred from the time it is cut until it is placed in the stack, unless, meantime, showery weather should intervene.

Trials of Separators at Paris.

DAIRY APPLIANCES.—With this part of the show I was somewhat disappointed. It is true there was a working dairy, but it was by no means equal to those which are to be seen at some of our English exhibitions. The Danish machines were here to be seen at work, and the De Laval was the separator in use. A new cooler was shown. It was shaped like a shoe, and the milk ran down the incline, but I failed to see any advantage it had over the ordinary perpendicular cooler. I do not think it would cool as much as the other. M. Pilter of Paris received the *Prix d'honneur* for his collection of dairy utensils, beside several medals. Here were several churns

of a very simple pattern—octagonal in form, and with a cork bung. Inside was a single dashboard, and that was all. These were made small enough for a couple of gallons of milk, and at very low prices.

There was a competition of cream separators, in which the Danish and the De Laval were the opponents. The latter has been very largely used in France, where the former is comparatively unknown. It will be remembered that at the Dairy Show (London) last October the De Laval won, but in the trial at Paris, victory fell to the Danish.

The annual report of the U. S. Department of Agriculture, now in press, makes the record of corn production for the year 1884, 1,795,000,000 bushels; that of wheat nearly 513,000,000, and of oats 583,000,000. These aggregates are the largest ever recorded. The rate of yield is 25.8 bushels for corn, 13 for wheat and 27.4 for oats. These are the figures for permanent record.

QUERIES, REPLIES, &c.

DR. HOSKINS.

"SUBSCRIBER," Cambridgeport, Massachusetts, asks our opinion as to the value of a material for fertilizing purposes that has the following analysis:

Moisture, per cent.....	4.16
Phosphoric acid, per cent.....	6.52
Bone phosphate of lime, per cent.....	14.23
Nitrogen, per cent.....	6.67
Ammonia, per cent.....	8.10

Also its value compared with other fertilizers, what it is best adapted for, &c."

REPLY.—The above is a specimen of the analysis often put forth by fertilizer makers, and affixed to their packages, with no conceivable purpose other than to deceive purchasers who are ignorant of chemistry. The third and the fifth items of the analysis are mere repetitions in another form of the second and fourth items, and the true and honest way of stating it would be:

Moisture, per cent.....	4.16
Phosphoric acid, per cent.....	6.52
Nitrogen, per cent.....	6.67

The other items, if inserted at all, should be stated thus. Bone phosphate of lime, per cent 14.23, equivalent to phosphoric acid, per cent 6.52; and ammonia, per cent 8.10, equivalent to nitrogen, per cent 6.67. But as it is stated the uninformed reader is (no doubt purposely) led to believe that this fertilizer contains both phosphoric acid and phosphate of lime in the percentages named, and the same in regard to nitrogen and ammonia. A wise purchaser would steer clear of a manufacturer who thus tried to mislead him. (1)

But there are other matters in connection with this analysis which need explanation. Nothing is said about the form and condition in which the phosphoric acid, or the nitrogen, exists in this fertilizer. The phosphoric acid may be in ground apatite rock, in South Carolina phosphate rock, in ground bone, or it may be an acid phosphate. In an honest analysis it is customary to give the phosphoric acid under separate items, as "soluble," "reverted," and "inso-

(1) *Nego*: roots, particularly turnips, should be, and are invariably, given the moment milking is done.
A. R. J. F.

(1) What a floorer for the rogue who sent out such a rascally piece of humbug!
A. R. J. F.

lable." In this fertilizer it *may* be in the most insoluble form. As to the nitrogen, it *may* be there in ground leather, which is worthless for plant-food, or it *may* be any one of a dozen nitrogenous substances, of varying or uncertain value.

Still further, even if made of the best materials, in the most available condition, this is an incomplete and ill-balanced fertilizer. It has no potash, and the phosphoric acid and nitrogen are not in the proper proportions for economical use. The probabilities are that it is a fish or a meat and bone fertilizer—at least the proportions of the analysis lead to such a supposition. If this is so, it ought to have added to each ton about half a ton of plain acid phosphate, and a quarter of a ton of sulphate or muriate of potash. Thus prepared (assuming it to be really a fish or a meat and bone fertilizer), it would closely resemble the ordinary superphosphates sold in our markets.

De Omnibus Rebus.

Sorel, May 17th, 1885.

A very pretty contrast exists between the two opposite sides of the river St. Lawrence in this neighbourhood. Whereas, Sorel is a bed of unmitigated sand, Berthier is about as favoured a soil as need be. And, I am told there are one or two good farmers at work there. One of these, a Mr. Taylor, from traditions brought by his father from the south of Scotland, is cultivating a far of 280 acres as land should be cultivated. He has a herd of 25 Ayrshire cows, which, from what he tells me, I suspect he has been breeding in and in too closely, as he complains of their loss of size and constitution. Mr. Taylor, to obviate this, proposes to cross his cows with a Shorthorn bull, and, if he selects this male animal with care and judgment, the cross will probably "nick." But Mr. Taylor must not, if he will excuse my offering him advice, be too much guided in his selection by the eye. *Like produces like*, is a very true saying; but there is always a danger of some ancestral defect cropping out in the offspring. Hence the necessity of regarding the pedigree as of equal if not superior importance to the build of the male selected for the cross. In 1879, Mr. Mousseau, of Berthier, if I remember rightly, failed to raise good stock from a cross between the Shorthorn and the Canadian cow. I never could find out what sort of a Shorthorn bull he employed for the purpose; but I am pretty sure that it was not one descended from a carefully bred line of blood. There are lots of Shorthorns in the Eastern Townships which are the product of *vague* families, and from which it would be vain to look for the peculiar impressive power innate in males descended from *fixed* families. As I have often pointed out, animals seen at shows and at Shorthorn sales, though good in themselves, and, it may be, descended by several crosses from purely bred and perhaps well formed Shorthorns, rarely in their progeny meet the expectations of their purchasers. If you look into the Herd-book and examine the pedigree of these animals, you will almost invariably find in them recent *new* crosses—that is, recent crosses of animals of different families not related in blood: and this is what I mean by *vague* families. The get of such crosses, when good, I can never consider otherwise than as *good only by accident*; for, however excellent the parents may have been, I believe that the chance of their producing good animals was in proportion, not so much to their own apparent excellence, or even to the number and qualities of their ancestors of different families, as to the number of recent good crosses they may have had of the same blood or family: and this is what I mean by *fixed* families.

If it be true that breeding from a good sire and dam does

not necessarily ensure a good progeny, can the saying that "like begets like" be true? I reply, it is true in a certain sense, but it is undoubtedly not true in the sense in which it is popularly used, and I believe it has led many a young breeder astray, by inducing him to believe that when he had purchased a good-looking sire he had secured all the necessary conditions for a good progeny. There is no more prevalent error among young breeders, and there can scarcely be a more fatal one. An animal has certain qualities apparent to the hand and eye; it has also hidden qualities that neither hand nor eye can detect, but which latent qualities descend to the offspring, and, when the animal has been crossed with another of different blood, will produce new combinations palpable and unexpected. The above maxim is true then in this sense, that, though the offspring may appear unlike either parent, yet the peculiar properties of the parents are not lost in the offspring—they are inherited, but in combination may have produced effects that probably had not, and could not with any degree of certainty, have been foreseen. That these qualities are not lost would appear evident, as it is found that peculiarities of even remote ancestors will from time to time, more or less frequently, according to the skill and perseverance of the breeder, show themselves.

The law of crossing, as laid down by Walker in his work on inter-marriage, is: That when each parent is of a different breed, and when both are of equal age and vigour, the male gives the back-head and locomotive organs, the female the face and nutritive organs. Hence, in the cross of the Shorthorn bull and the Ayrshire cow, the general form of the progeny should resemble the male parent, while it retains the milk-giving properties of the female parent. I don't suppose that madness itself would put an Ayrshire bull to a Shorthorn cow. Of course, what I have said of crossing applies equally to all sorts of breeds. *V. Journal vol. 1, p. 85.*

Mr. Taylor tells me that, for his own use, he would grow no other seeds but clover. He finds it the most profitable of all hay for all sorts of stock. As the wise people of Sorel won't look at it, he is obliged to grow timothy for that market; but if I stay here much longer, I hope to educate the consumers as well as the producers up to a better standard. Some few farmers are going to sow a mixture of orchard-grass and red-clover.

It will be no news to my readers to hear that the season is, and has been, terribly backward. As I predicted in the February number, hay has gone up in price: just one hundred per cent. in this market, as hay that could have been bought in March for five dollars a hundred bundles, is now fetching ten dollars! No feed yet, and hardly any signs of growth in the meadows. The most forward grass I have seen is on the common, near the old Government-house. A fact worth noticing, as it goes to prove my favourite theory: that permanent pasture of a certain age, kept well fed down, is as sure to last in Canada as it is in England. On the spot in question, the sown grasses—if there ever were any sown—have long died out, and the natural grasses have asserted their undoubted right to the possession of the soil, the bottom is thick, the clovers are abundant, and the moment a shower falls, the growth is almost immediate, in spite of the original poverty of the soil.

Messrs. Brodie and Harvie have sent me two bags of their artificial manures. The analysis of both kinds will be found on another page of this number. The price does not seem out of the way, though perhaps a shade high; but, then, as these gentlemen remark in their letter, sales of manures are so few in this country that prices must be proportionably higher

than in the States. It is perfectly true that sulphate of ammonia is cheaper at Liverpool than at Montreal. The "complete potato fertiliser" is priced at \$40 00 a ton, and the "Standard" a high grade superphosphate, with nitrogen and potash, at \$35.00. I wish the potash were left out of this latter mixture, as it adds to the cost, and I do not place much confidence in it for any other crop but potatoes. In fact, unless potash, in any form, is applied to the land in the autumn—and then there is the danger of its being washed away—it does very little good to the crop of the year. In England, when it is used, it is always spread in February or early in March; but here, the earliest time we could hope for would be the first week in May, and that would be much too late. I see some of the experimental crops of potatoes grown at the Ohio Experimental Station have been treated with ten thousand pounds of hen-manure per acre! The yield was not anything out of the way, as may be seen below; but, if the analysis of the Connecticut Experimental Station is worth anything, I wonder at there being any potatoes at all, for at 3.25 0/0, there would be 325 pounds of nitrogen—equal to 394 pounds of ammonia—sown to the acre! Which is rather too much to swallow.

REPLY.—The analysis of fowl manure shows it to be a complete fertilizer, needing no addition to make it suitable for any crop. The following is an analysis from the Connecticut Experiment Station's Report for 1882.

Nitrogen.....	3.25
Potash	2.12
Phosphoric acid.	2.83
Estimated value per ton.....	\$19.43
Cost	27.00

Though it is a *complete* fertilizer, nevertheless it is not well balanced. It has nitrogen enough for twice as much potash, and four or five times as much phosphoric acid. It has so much nitrogen in the form of ammonia, or in a form easily converted into ammonia, that if ashes is mixed with it and the mass allowed to heat, the potash of the ashes will set a good deal of the ammonia free. The above is the analysis of but a single sample, and it should be remembered that fowl manure varies greatly with the feed of the fowls.

A speaker at a farmers' meeting at the New England Agricultural Society's Hall, Mr. James P. King of Peabody, claimed to have found by careful experiment that, as compared with commercial fertilizers, hen manure was worth thirty cents a bushel and no more. It is barely possible that the popular estimate of the manurial value of this material is too high.—*Maine Farmer*.

That is our own idea of average hen manure. The clearings of our hen-house are always thrown into the manure-shed with the other dung.
DR. HOSKINS.

TABLE V.—CONTINUED

No. of plot.	How treated.	Bushels of large tubers.	Bushels of small tubers.	Total bushels.	Per cent. of large.	Per cent. of small.	Average size.
							Above medium.
26	Unfertilized	115.3	7.6	122.9	75	25	
27	Hen manure, 5 tons per acre	120.5	6.1	126.6	70	30	
28	" " "	140.9	13.2	154.1	65	35	
29	Unfertilized	101.6	8.5	110.1	67	33	
30	Bone meal, 800 pounds per acre	94.5	6.6	101.1	83	17	
31	" " 600 "	61.4	12.3	73.7	59	41	
32	" " 400 "	104.0	10.9	114.9	63	57	

C. E. J., Waitsfield, Vt., asks: "Will ashes and hen manure make a good compost for the garden, and if so, in what proportion? I have some way got the impression that it would not be as beneficial for that purpose as would be desirable, so I ask for information."

ANALYSES OF FERTILIZERS.

COST AND ESTIMATED VALUE.

Following is the schedule of trade values for the constituents of manures, agreed upon for the year 1884 by the chemists of the Connecticut and New-Jersey experiment stations; the figures indicate so many cents per pound:

Nitrogen :	
in ammonia salts.....	22
in nitrates	18
Organic nitrogen :	
in dried and ground fish.....	20
in guanos, dried and ground blood and meat.	18
in cottonseed, linseed meal and in castor pomace....	18
in fine ground bone.....	18
in fine medium bone.....	16
in medium bone	14
in coarse medium bone....	12
in coarse bone, horn shavings, hair and fish scrap....	10
Phosphoric acid :	
soluble in water.....	10
soluble in ammonium citrate*	9
insoluble in dry, fine ground fish, and in fine bone...	6
in fine medium bone	5½
in medium bone.....	5
in coarse medium bone	4½
in coarse bone	4
in fine ground rock phosphate.	2½
Potash :	
as high grade sulphate.....	7½
as kainit	4½
as muriate.....	4½

* Commonly called reverted phosphoric acid.

The annexed table of the value of commercial fertilisers will be found useful. My readers will please to bear in mind

that nitrogen varies in value from 22 cents a pound to nothing! Ground leather is often mixed in fertilisers to deceive the unwary; the manure if analysed will seem all right, but the nitrogen in leather is almost useless, so many years elapse before it becomes soluble.

Will those who are going to sow swedes take my advice and use never so little a portion of artificials with their dung? A couple of cwts. of ground bones, not necessarily in fine powder, would not cost much, and would add greatly to the crop, in quality as well as in quantity. Ten tons of dung and two cwt. of bones would bring as good a crop of swedes as twenty tons of dung. I am not sure, but I think I should add a bushel of plaster on light soils. Really, it was proved long ago that very heavy dressings of dung were ineffective. Mr. Pusey grew eleven tons of mangels an acre more with 14 tons of dung and 3 cwt. of guano, than with 28 tons of dung. And the superfluity might, with great advantage, be given to the young seeds, producing not only a great yield of hay, but a far greater yield of grain when breaking up time comes.

ARTHUR R. JENNER FOSTER.

Trotting Stallions in Canada, being sired by the famous horse "Kentucky Prince," and his dam "Patchem" by "Mambrino Patchem" and through her some of the richest thoroughbred strains ever imported into America.

The horse himself is individually an animal of considerable merit, being a rich chestnut, measuring sixteen hands and weighing 1200 lbs. He answers well the description given in the pamphlet by which he is advertised, and is fairly represented by the out in the same.

In my opinion, farmers and others who have good mares of such well known Canadian Trotting families as "St. Laurent" "Black Hawk" "Jean Baptiste," "Bayard," &c., of which there are many in the province, would find it a very profitable investment to cross them with such a horse as this.

Yours very truly,

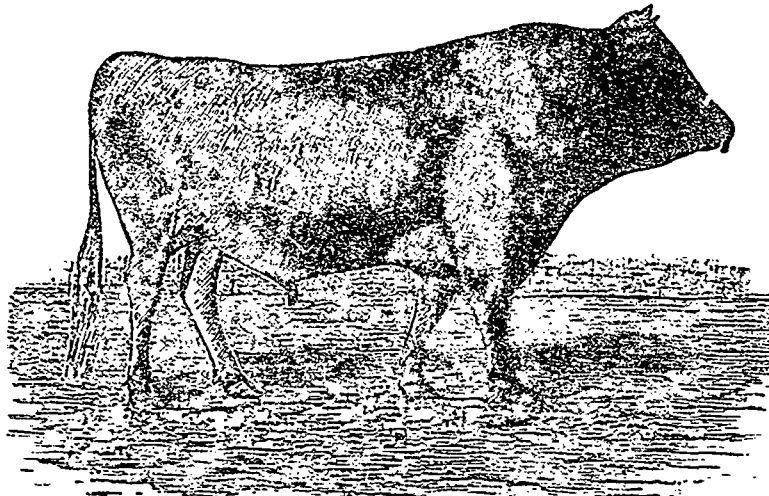
D. McEACHRAN.

P. S.—Mr. Love submitted his letters and pedigrees and I believe them to be correct.

He has left a cut of the horse which you can use if you like in the *Journal of Agriculture*.

I expect to be in Quebec on Saturday when I hope to see you. Yours truly,

D. McE.



BONAIR.

OUR ENGRAVINGS.

Holsteins.—A very pretty sketch of these famous milch-cows and stock. Will no one try a cross with a Holstein bull and a Guernsey cow?

Bonair.—A Jersey bull, with the useful points as a getter of butter-stock fully developed. As to beef, he would yield little else but neck-beef, and that is not worth much. The Jersey never will be the "farmers' cow."

Niagara Grape.—This new grape, brought out by Messrs Hoag and Clark, of Lockport, N. G., is a hybrid between the Concord and the Cassady. It is very hardy, and of marvellously vigorous growth. Many of the bunches weigh from a pound to a pound and a quarter. It ripens with the Hartford, but, unlike that grape, adheres firmly to the bunch up to frost without wrinkling or shrinking.

Montreal, 8th April, 1885.

Dear Mr. Barnard,—As requested by you, I visited the Trotting Stallion, Kentucky Prince Junior, and by the kind permission of his owner, Mr. T. H. Love, I have carefully examined his pedigree. I find that he is one of the best bred

The effects of Improved Farming.

Mr. Editor.—Some remarks in Mr. Barnard's article on Agricultural Schools, in the February number of the *Journal*, suggested a few thoughts to my mind. First, in regard to the advanced value of farm property where dairying was successfully carried on.

I had an illustration of this lately, in visiting a locality in the County of Perth, for the purpose of addressing a meeting of farmers on cheese dairying. The business had been prosecuted to some extent for a number of years, with not very encouraging results. I was astonished to find that 28 dollars per cow was the highest average any farmers had received from the factory.

In the locality where I live 50 to 55 dollars is no uncommon thing. The consequence is, good farms, with good buildings, in the one section of country sell for about 6000 dollars, whilst in the other section of country, similar farms sell for 38000. How true then is Mr. Barnard's remark: "It represents more millions of money than either you or I can mention." I cannot help thinking that every 100 acres in the locality where I live, and much of the county of Oxford, has been increased from 1000 to 2000 dollars. Land is just like bank stock: rising or falling in value, just as the income from it, rises or

falls. Second, the best method of instruction. He says: "Where the farms of skilled European agriculturists offer models of instruction to every passer by." That is the best kind of model schools: men, like children, are imitative, and learn what is best for them by the practice of others. At the meeting above referred to I stated, that what was wanted was some one to try a different system of dairy farming; some one to prove that it would pay to feed cows. That instead of selling oats and barley, to grind them into meal, and mix with wheat bran, and market them through the cows, thereby taking five or six thousand pounds of milk per cow instead of two or three thousand, and so cheapen the cost of milk collecting, and add to the fertility of the farm. The purpose of agricultural schools is to produce such men, but they do so only to a very small extent. More depends on the man than the school he has attended. I know men that are models, that are almost destitute of education, in the technical sense. I do not wish to be understood as saying anything against agricultural schools, but rather against the idea that any very large percentage of those attending them will ever be model farmers. Good farmers, like successful men in any other business, are born, not made. Energy, intelligence, perseverance, with a good physical constitution, are qualities of first importance. With them, a course at an Agricultural College will be a benefit. Without them little, or nothing can be done. It seems to me therefore that Mr. Barnard hints in the right direction when he says: "It seems to me that pupils supported by public funds at an agricultural school should be what the active, intelligent and earnest son of a farmer is." The effort to raise agriculture to a higher plane is a tedious and slow process, costing a great deal of money, talking, and writing; but when we know that a very little improvement is worth a great deal, it is satisfactory.

F. MALCOLM, Innerkip, Ontario.

Our excellent correspondent will please excuse us for the delay in the publication of his practical paper, which, unfortunately, was mislaid.

E. A. B.

Woodland, Kirkdale, P. Q., 15th April 1885.

Dear Sir,—As a new comer to this country I read your contributions to the *Journal of Agriculture* with much interest. I would be much obliged if you would give me your experience of rape (for feeding off with sheep) in Canada. (1) It was a favourite crop with me in Ireland.

I wish you would impress on the readers of the *Journal* the great importance of the turnip. It is hardly grown at all in this Township (Durham). I only entered on this farm in June, but managed to get in about 1½ acres of swedes, which did remarkably well, though they got but poor treatment. I pitted about 150 bushels, and to-day opened them, and to my surprise and gratification found them as fresh and sound as the day I put them in.

Why on earth do the societies not give good prizes for the best crop of turnips, mangolds &c., instead of for "the best bushel of small crab apples!" (vide Drummond Agric. Show 84). What earthly skill is there in raising "small crabs," &c.

Show the humbug of it up, and try and get farmers to grow roots. Yours very truly,

THOS S. BLACKWELL.

A. R. JENNER FUST Esq.

(1) I fed off ¼ acres of rape with sheep last year. In spite of it being so old when begun, the sheep did wonders on it, and surprised my friend M Proulx, the butcher, whose the sheep were, so much that he hardly would believe that six weeks had really ripened them so thoroughly.

A. R. J. F.

Mr. Blackwell expresses himself strongly; he does not know how valuable "small crabs" are in some of our sandy districts.

A. R. J. F.

Montreal, April 14th 1885.

A. R. JENNER FUST, ESQ., SOREL, QUE

Dear Sir,—We have your post card of the 11th inst. Circulars have been sent to you but we send you more.

We guarantee the analysis of our Fertilizers as follows:

	Am. soluble.	Phos. acid soluble.	Potash.
"Standard,"	3 to 4 0/10	8 to 9 0/10	2 to 3
"Potato,"	4 to 5 0/10	6 to 7 0/10	6½ to 7½

The actual analysis will run near the higher figures and in the case of the phos. acid should go over; besides there is so much reverted and insoluble phosphate.

Our prices you will perceive are fully 10 0/10 lower than similar goods sell for in the U. States notwithstanding the fact that nitrates, or ammonia, as the case may be, cost more here, as also does the potash salts. You are quite aware that sulph. ammonia, even that shipped from this side, can be bought to-day cheaper in Liverpool than in Montreal, and of course nitrate of soda is dearer by at least the freight and charges. Nor can plain superphosphate at present be manufactured as cheaply here as either in U. S. or Britain, from the fact that the plant and machinery is employed for only a short time during the year and all incidental charges are greater. All these disadvantages will of course be somewhat lessened as the trade increases, but they affect the cost of manufacturing at present, so that estimates of cost that would be fair in Britain or U. S. are not fair for Canada for the time being.

We make only the two kinds of Fertilisers mentioned in the circular. In the present state of knowledge of artificial manures amongst farmers generally in Canada a greater variety would be certain to lead to confusion. (1) We have even thought best to say nothing about plain superphosphate as the name superphosphate as understood on this side is very indefinite.

We intend sending you a bag of for each experiment by the first boat. Yours &c., The Standard Fertilizer and Chemical Co., Limited, per

BRODIE & HARVIE.

CREAM SEPARATORS.

The following letter is sent us for publication by Mr. Wilson. We are not prepared to say how far Mr. Walton's experience may be valued. Yet from what was said at the Dairymen's Convention held at Quebec in March last, we are under the impression that the Laval Centrifugal machine will best suit us, and we have therefore ordered one for our experimental farm. The results of our experiments will appear in this journal at a future date.

FRANK WILSON, Esq.

General Manager DeLaval Cream Separator Company of Canada.

DEAR SIR:—I having bought and used the first Centrifugal Cream Separator in Ontario take much pleasure in giving you the following facts.

I first bought a Burmeister and Wain Machine which is the same as the Danish Weston. It did good work for a time but before the end of the first year it had cost me over (\$200.00) TWO HUNDRED DOLLARS for repairs and would not work satisfactorily, so I put in a DeLaval and have given it a thorough trial, and find it does its work to

(1) Quite true I fear. It is a great misfortune, as buying potash, which is, probably, quite valueless on most if not all our heavy land, and which actually does harm on some of our hot sands, is an unnecessary expense. The analysis above given indicates a well balanced general manure, and I can cordially recommend it. I will give both kinds a fair trial on wheat and potatoes.

A. R. J. F.

perfection, I will recommend it to all, as any boy or girl can run it, and I must state that nothing short of a first class machinist can manage the Burmeister and Wain.

I have seen the DeLaval running now the second year and it has not cost (\$200) TWO DOLLARS for repairs the whole time, and is doing as perfect work as ever.

I also find that the DeLaval will work at its best by setting it level on any ordinary floor and the Burmeister and Wain requires a solid stone foundation. The foundation for my Burmeister and Wain cost me over (50 00) fifty dollars.

I do the largest cream trade in Canada as well as manufacture Butter and Cheese, and I can with the DeLaval Separator make a better sample of cream for a city trade than can possibly be done with the Burmeister and Wain, and equally good for Butter.

All parties wishing to buy Separators are invited to come to my place in the centre of the City of Hamilton, and see the Burmeister and Wain and the DeLaval working side by side, and draw their own conclusions. Yours truly,

W. G. WALTON.

NOTE.

It is a well known fact that as an engineer and machinist Mr. W. G. Walton stands second to none. He is also manager of the Farmers Dairy Company of Hamilton and his opinion is well worth the careful consideration of all intending purchasers of Cream Separators. FRANK WILSON.

Experiments on Potatoes.

In a statement of some experiments with fertilizers on potatoes, a contemporary states that twelve rows running parallel were staked off of equal length, and eleven of them were treated with fertilizers and the twelfth unmanured. Experiments performed in this way are liable to considerable error, as the roots of adjoining rows three feet apart meet and cross each other early in the season and long before tubers are formed of any size. The plants in each row may therefore easily feed on the manure given to their neighbors, and a true result not be obtained. Taking the results, however, for what they are worth and with this liability to some error, we observe that the largest return above mentioned was obtained from dry ashes and plaster; next, from dry ashes and hen compost; third, from bran and plaster, and from stable droppings; fourth, from hen compost; fifth, from leached ashes; and from the unmanured row just half as much as from the ashes and plaster. The fertilizer was given at the same cash value to each row. There is no doubt that different returns would come from these fertilizers in other localities with soils of unlike character.

JUDGING HEAVY CART-HORSES.

It is a custom adopted by some societies, but a very bad custom, we consider, to submit all the animals to the veterinary inspector, who thus acts as a grand jury, and must necessarily make a cursory and hasty examination. The examinations should be limited to the prize and reserved horses alone, and should invariably take place before the awards are affixed, and the results relegated to the judges to determine thereon. From the non-observance of this rule—that is, the invariable examination by the veterinary inspector—serious errors have sometimes been made, particularly with light horses, hunters, and hacks. I have known a first prize given to a brood mare with a cataract, and to a hunting stallion with a spavin, which should not be. In both cases the tendency is hereditary, and the common excuse of the former, a blow, is all moonshine.

How many judges should there be? I have acted alone, also with one and with two others, and I certainly prefer the latter; and I think one judge preferable to two, provided he

is duly informed of his duties beforehand. Of all animals to be judged, the most difficult are the foals, which are sometimes shown by themselves, and sometimes with their dams. "You stop to the dinner, I suppose?" was asked of a judge. "Well, no, I will get home. Those confounded foals have made me feel quite ill." I have given the preference to three judges acting together, which lessens responsibility, the judge who is in the minority yielding, of course, if he cannot persuade the others that they are wrong; whilst, with two only, the strongest minded or most obstinate man prevails, rather than the merits of the animals.

It is almost unnecessary to point out that at all shows the managers or stewards should secure a free and proper space for the judge or judges to perform their duties with comfort and satisfaction. This is such a truism that we should not mention it had it not occurred at more than one county show that the greatest physical exertion was required on the part of the judge to secure room to breathe and examine his horses properly—Norfolk and Dorsetshire to wit. And now, having relieved our mind of these necessary preliminaries, let us endeavour to classify some of the points we are called upon to judge. The horses brought before us, having been weeded out in the manner we have suggested, we direct our attention almost at a glance to the size, general shape, and aspect. Is he high and big enough for his class? has he barrel sufficient with a good broad back, for unless he has these he has no chance of a prize? He should be thick through the heart, with plenty of room for the digestive organs. He should be 16 hands and upwards in height, but not an unwieldy giant. The best position to see these points is behind the horse on the near side, which gives us a three-quarter likeness, as we should say of a picture. This is the best position in which we can see most of the horse and his best points at one and the same time. It is by no means essential to girth the horse, except for close comparison, but he should be as near eight feet as possible—if in a big class. The ribs of such a horse should spring out horizontally from the spine, as this will secure plenty of space for the muscles of the back, for it should be borne in mind that, though length gives speed, it is breadth that gives strength. It is needless to point out that all movements of the limbs are effected by a contraction of the muscular fibres acting on the bones which the joints permit to be brought nearer together. The tendons or snaws possess no power in themselves, but only serve the purpose of transmitting motion or power between the muscles and the bones like the ropes in pulling up a hod of mortar. Well, if we were in a ring, we should have judged these points, and others too, in less time than it has taken to discuss them, for we should have taken in the buttocks, so essential to strength, and the shoulders, so often discussed; whilst the carcass should be altogether neither too long nor too short, but just midway between the two extremes. It used to be considered that low upright shoulders, with a low setting-on of the head, enabled a horse to throw more weight into the collar. This may be true, and may be condoned, but such horses will seldom get a prize in a show-yard, because there are so many with good, deep, oblique shoulders, strong, rounded muscular necks, sufficient to support a muscular head, and strong enough for anything required, that can easily walk away from such lowly competitors.

After looking from the position referred to, it is well to view the horse in front, from which we judge if he has a wide, fleshy, and ample chest, with plenty of room for the collar, with withers not too high or lean; and, while in this position, it is convenient to examine the eyes, the ears, and the teeth, and the head generally, and to pass the fingers under the jaws. The eyes should, of course, be clear and free from disease, and sufficiently large and projecting, but not too

much so. The teeth require examination on account of the age, and, at the same time, will inform us if there is any defect or disease. If the neck is too thin and straight, or if the curvature is in front, and he has thrown up his head during examination, there is danger of poll evil occurring, and such animal should be rejected. This used to be a fault of many of the Suffolks, but they were then generally kept back from the shows. The legs—fore-limbs will next engage our attention. The elbows must not be too closely pinned to the sides, as that usually gives faulty action; the fore-arm should be muscular, both flexors and extensors, and the sinews below the knee will usually be found to correspond. Shoulders that may be condemned in a hack as being too heavy, may very well pass muster in a cart horse. The knee, which corresponds to our wrist, should be broad, and flat, and fairly projecting behind. The legs should be flat, and free from superfluous matter, so that the bone, the ligament, and the sinew may each be separately felt and seen to be free from splints and other enlargements. The fetlocks should be at the proper angle, not too long or oblique, or too straight or upright, the pasterns and cartilages tolerably free from ossifications, and the feet covered with sound horn, the crust being at about an angle of 45, and free from rings and cracks or seedy toes, and flat or pumiced soles.

All these points, if not looked at separately by the judges, should, at any rate, be noted separately in the book with which each judge is provided, who will then pass round the horse to examine the hindquarters, and will notice whether the tail is set on well, and not too drooping, a fault, at any rate, against symmetry which used to prevail very much with the old pack-horse breed. The angle, whose point is the stifle, should be filled up with abundance of muscle, which should project well on each side. This projection is very noticeable in all animals of speed—the race-horse, the hunter, and the greyhound, in whom it is of still greater importance than in the cart-horse; it corresponds to the calf of the human leg. This brings us to what we may call the most important joints in the body—the hocks—both as regards strength and speed, for all the weight of the body, the load, or the rider, are thrown upon these joints as on a pivot. Therefore, they should be broad, and clean, and free from the slightest semblance of curb and spavin, and by all means at the proper angle. The inspection of the parts below the hock require the same attention as in the fore-legs. Now, all these that we have noticed may justly be considered as important points, and the absence of any, or their great inferiority, can scarcely be overlooked in a prize horse; but they are not all of equal importance. The size, girth, barrel, back, and general symmetry must stand first; but they are all of more consequence than what we may regard as the minor points—the colour, the ears, the eyes (in other matters than soundness), the face, or Roman nose. But now an important question comes to the fore. Should the judges be informed of the pedigree, or should they regard it if they know? To the last question we reply, *Certainly not*. They should judge on what they see before them, not on what they don't see. If an animal has a good pedigree, the greater is his chance; if he has no pedigree, the greater is his merit.

The judges having separately noted the points we have noticed, they compare their books, and then frequently comes the tug of war. The advantage of having three judges is seen, for if there is a difference, there is also an umpire in the third judge. The minor points, and the action also for convenience, are often taken collectively. Does the horse walk well and trot sound? He must be a fast as well as a good walker. If his fore-legs are carried too wide, he may be slow or a stumbler; if too close, he may cut his fetlocks. If the hind-legs are wide apart he may, in ploughing, tread

on the land, and not in the furrow, a matter of much importance.

We remember the late Prince Consort asking us, at the first show he visited in this country, whether the horses were tried in harness? We, of course, replied in the negative. The staunchness of the horses—and, to a certain extent, their temper—must be taken on trust. With regard to colour, dark colours, and particularly dark legs, are considered the best. When the colour is white, the skin is usually thin, and there is more danger of cracked heels and grease; but there is more truth in the saying that a good horse may be of any colour; and certainly the white heels of Honest Tom and the Norfolk Wonder, and some others, support this idea. Although "the wind" is not overlooked by the judges, it, as well as the eyes, is rather relegated to the veterinary inspector. I find my critique has assumed a rather wandering and conversational form, but its length is a warning to close. *Ag. Gazette.*

W. SPOONER, F. R. V. C. (1)

(1) Mr Spooner, long retired from business, is about as good a judge of horses as they make them. A. R. J. F.

NON-OFFICIAL PART.

KNOW THYSELF, by reading the "SCIENCE OF LIFE," the best medical work ever published, for young and middle-aged men.

NEWSPAPERS OF TO-DAY.

People generally, and even those who may be termed steady readers and close observers, have but a faint conception of the magnitude and influence the press of this country has attained. From a careful examination of the advance pages of the 1885 edition of the AMERICAN NEWSPAPER DIRECTORY, issued May 1st, by Geo. P. Rowell & Co., New York, it appears that there are 14,147 newspapers and periodicals published in the United States and Canada; of these the United States has 12,973, an average of one paper for every 3,867 persons. In 1884 the total number of newspapers was less by 823 than at present, and while the gain this year is not so marked as in some previous years, it is still considerable. Kansas shows the greatest increase, the number being 78, while Illinois follows with a gain of 77. It is curious to notice that New York, the scene of so much political activity during the last campaign, should have only about one-third as many new papers as the State of Pennsylvania. As an index to the comparative growth and prosperity of different sections of the country, especially the Territories, the number of new papers forms an interesting study, and may well occupy the attention of the curious.

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