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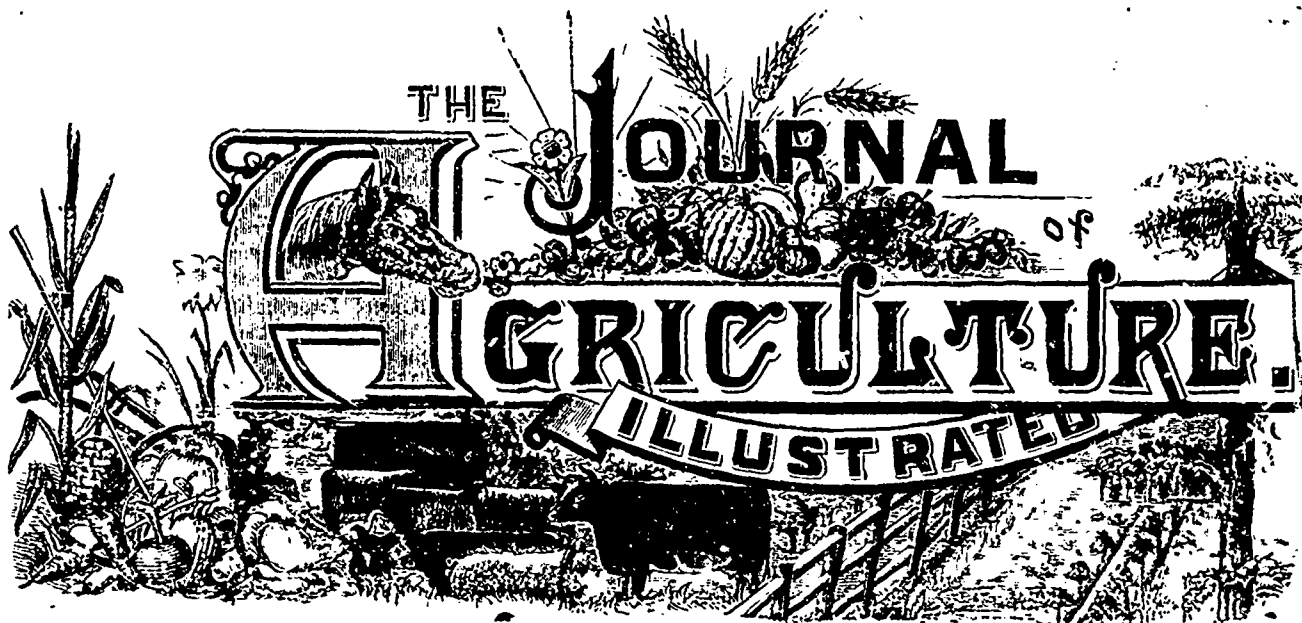
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## OFFICIAL PART.

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### Ottawa Meeting of the Dominion Dairymen's Association.

(Continued.)

Mr. E. A. Struthers, of Manitoba, said that, in his opinion, it was very important that the rule mentioned be modified, and that, because it was right and easy to do. He stated that the Moose-Jaw farmers were ready to guarantee the milk of 400 cows to any one who would establish there a cheese factory or a creamery. Mr. Carwell, of Qu'appelle, was also seeking for a good maker; and as regards all the people of those distant districts, the best means they could employ to satisfy their wants from the dairy point of view, was the agency of the Dominion Dairymen's Association.

Mr. John Ewing, of Richmond, thought this question ought to be discussed: Is the system of collecting the cream from the farm-houses preferable to that of skimming the milk at the creamery by means of the separator, or not?

Professor Robertson in reply to Mr. Ewing, said that skimming with the separator at the factory was the better plan. The yield of cream was much greater, the cream in better condition and of more uniform consistence, and the cost of carting milk was amply covered by these advantages.

M. J. de L. Taché, of Quebec, also spoke in favour of the separator, but did not consider all separators to be of equal value. It was easy enough to settle the difficulty as to the cost of carting milk to the creamery from very distant farms. A separator should be placed half way between the factory and the most distant farm, and the cream skimmed there could easily be taken to the factory.

Mr. Barnard, spoke of small separators, worked by hand, that would be found very useful in dairies of 20 cows and upwards.

Senator Recsor, at this point, wished to show his appreciation of the lectures and discussions he had heard at the present meeting. He complimented Messrs. Robertson and Barnard on the numerous attendance and on the useful information they had laid before the audience. He was as capable of judging of the value of this information as any one, for he had been engaged in the dairy-business for many years and still took great interest in it. His son, following in his father's footsteps, had devoted himself to this pursuit. The senator gave various details concerning farm-work as practised on the land cultivated by his son.

Mr. J. P. Dill, of Wolseley, N. W. T., said that in his country it would be necessary not only to develop the cooperative system of factories, but to teach the art of making good

butter to the private dairy-farmers, seeing that the distance between the neighbours was so great that it would hinder the establishment of cooperative factories in certain districts for many a long day. Teachers of good butter-making were, in his opinion, what was wanted.

Mr. Wright, of Carleton Place, said that this was just what he had done in his district. He had introduced a thoroughly competent butter maker, who gave lessons in the art to the farmers' wives in the neighbourhood. He thought a small manual of butter making, concise and so forth, should be published, and distributed gratuitously either by the government or the Dominion dairymen's association.

A lively and interesting discussion on the different questions just mentioned then arose, in which Messrs. Ewing, Robertson, Barnard, Senator Reesor, Bissell, Peters, Thompson, Wright, and Shuthers took part. Instructive details were given on butter-making in winter and for the English market, on the need of abandoning growing so many grain-crops, of increasing the number and improving the feeding of milch-cows. The utility of dairy-instructors and inspectors was insisted on, and the value of soiling and soiling-crops was discussed, including the effect of constant confinement of the cows in their stalls. This closed the session. Before rising, it was proposed by Mr. Robertson and resolved: That a committee be formed to select the officers and directors of the association, subject to such selection being ratified by the convention. The committee in question consisted of the following members:

Bissell, Jas	Algonquin,	} Ontario.
Robertson, prof. J. W.,	Ottawa,	
Sproule, Dr,	Grey, Est,	} Quebec.
Barnard, Ed. A.,	Quebec,	
Fisher, A.,	Brome,	
Black, P. C.,	Palmouth,	Nova Scotia.
Thorburn, A. G.,	Broadview,	N. W. T.

The session then closed.

#### EVENING SESSION.

The President took the chair at 8.30 P. M. and drew the attention of the meeting to the tables showing the comparative production of cheese and butter in, as well as the comparative quantities exported from, the different States of the Union and the provinces of the Dominion.

The Governor General, Lord Stanley of Preston, at a special invitation from the executive committee of the association, which he was good enough to accept, was present at the session, occupying a seat at the right hand of the president.

Mr. D. McPherson, the president, then gave the official opening address of the convention:

"Of all the branches of agriculture, the dairy-industry is one of the most important. On entering upon it, the farmer must make himself acquainted with all that regards the soil, the plants that grow on it, and the cattle that feed on them. To understand all these things thoroughly, not only is practice necessary, but a sound theoretical knowledge to guide that practice into the proper road. Hence, the need of a good agricultural course of study. And if we are surprised at being told that education is required to make a good farmer, the reply is that we have a proof of it in England, when princes, like Prince Albert formerly, are devoted to farming; and when we have among us one of those English noblemen who, distinguished and highly educated as they are, think they are doing right when they interest themselves in agriculture. And among the educated class of the Dominion, how many senators and members of parliament here present are there actively engaged in farming!

Education, then, is necessary to enable us to understand thoroughly the numerous problems that present themselves to the farmer. Chemistry informs the student of that science that an animal feeding on the plants furnished by the soil assimilates only one-tenth part of the nutriment they contain. The rest the beast voids in the form of manure, which is returned to the soil to enrich it anew. This truth is at the base of the assertion that the practice of dairying is that which of all the systems of farming least impoverishes the ground. The animal remains, as does the manure, and the milk alone, in the form of butter or cheese, leaves the farm, and gives the farmer his due profit without taking as much out of the land as would have been taken had the beast, or the hay and grain on which it was fed, been sold.

Formerly, Canada sold more butter than cheese; nowadays, the sales are reversed, and our cheese fetches the highest price on the English market. But our butter is of inferior quality, and we hardly export any. This must be remedied by the study of the cause of its inferiority. Our dairymen's association offers us the means, in its conventions, of studying and suggesting the reforms to be made, the progress to be worked out. We owe much to Mr. Lynch, of P. Q., for the efforts he made to establish this society. Complete success has crowned his exertions. If, in one year, we have succeeded in obtaining from the liberality of the government a grant of \$3,000 to promote the dairy-industry; if we have obtained the appointment of a Federal Dairy-commissioner to look after the interests of that industry; if, lastly, we have had the honour entrusted to us of inviting His Excellency the Governor General of the Dominion to be present at this numerous and distinguished meeting of the members of the New Dominion Dairymen's Association; it is to the zeal, the energy, and the practical knowledge of Mr. Lynch we are indebted; first, thanks to his initiative, and next to the love of agriculture professed by the Hon. John Carling the Minister of Agriculture in the Federal cabinet.

Progress, then, has been made, and we may now anticipate that farming will become prosperous and remunerative, thanks to the development which the dairy-industry, that has within the last few months found such active and powerful protectors, is about to take."

The president, in concluding, expressed a hope that his Excellency, the Governor General, would address the meeting:

Lord Stanley of Preston observed that he remarked in the programme that all speakers were limited to five minutes, but he hoped an exception to this rule would be made in his favor. He was happy to see so full an attendance. It was plain they understood the force of the saying: Union is strength, an axiom of peculiar power. But that union, cooperation, be efficacious, those who work together must be well informed on the subjects that concern them. He could, he was happy to say, call those here assembled his brothers in agriculture; for, as had been observed, he himself carried on farming on his property. At this meeting were present both masters and pupils; masters who were skilled in their business, experienced and able to afford instruction to those who sought it, pupils anxious to set to work. Meetings like this were the best means possessed by farmers who follow chiefly the dairy-business of obtaining the best information thereon. It is here they will learn that they ought constantly to try to improve their stock with a view to the improvement of their special business. Unfortunately, there were a great many inferior beasts about. Here, too, they will learn that the system of taking their milk to well managed cooperative factories is the best they can adopt. It was formerly said in England: If you want to have good cheese, marry a good dairy-maid; but now, and in this country, the saying must

be changed into: If you want to have good cheese and butter, establish good factories managed by first-rate makers. The cheese of the Dominion is good, and enjoys a high reputation. As to the butter, the same can hardly be said of it. You must try to improve it. Your aim should be to find a market, suit your goods to the market, and, when found, keep your market. Sufficient care has not up to the present been given to the manufacture of your products. Packing for market has not sufficiently been attended to. Another cause of failure has been the rates and means of transport. When he was a minister of the Crown in England, he was obliged to study this question, and he succeeded in improving the situation in this point. A convention of this kind would have great influence over the solution of all these problems. He thought the meeting would be interested in a view of the situation referring to the exportation of butter and cheese from the Dominion for the years 1868 and 1880, as compared with those of the year 1889:

BUTTER			
1880	Exported	18,000,000 lbs.	= \$3,000,000
1889	"	1,750,000 "	" 331,000
CHEESE.			
1868	Exported	6,000,000 lbs.	= \$ 620,000
1880	"	40,000,000 "	" 4,000,000
1889	"	88,000,000 "	" 9,000,000

He declared, in continuing, that the dairy-industry was the foundation of the regeneration of agriculture, which for some years had been in trouble. The government was doing all in its power to encourage the revival. It has established experiment-farms in different places in the Dominion, and had engaged the services of eminent agronomes, such as Messrs. Saunders and Robertson, to assist it in its work. The Hon. John Carling, the present minister of agriculture, had made this his pet project. There was, then, hope for the future, and they must labour without cessation to push forward all these elements of progress. There was still much to be done. In his numerous journeys across the Dominion, he had convinced himself that there existed many impoverished farms demanding improvement, and an immense extent of fertile soil demanding to be colonised. These things will be done, and the places, now deserts, will become, before long, rich centres of population.

The President addressed a few words of thanks to his Excellency, and invited Professor Roberts to address the meeting:

Mr. Roberts, director of the agricultural experiment-station of Cornell University, Ithaca, New-York, then gave a lecture entitled: Food for plants and for animals. He began by saying that the dairy-industry was prospering famously. His Excellency, Lord Stanley of Preston, had with an eagle's glance just measured the extent of that prosperity, and proclaimed that it was due to the union of science with practice. Eight years ago, the title of Professor, which he saw prefixed to his name on the programme, was hardly honoured with respect. He remembered having been *hissed*, not very long ago, when delivering a lecture on agriculture in the States. In those days, people seemed to wish, by the way in which they treated their cows, keeping them in cold stables and giving them icy-cold water to drink; they seemed, I say, to wish to get ready-made cream-ices from their cows.

He then showed that the plant is the foundation of the dairy-industry, seeing that upon it feeds the animal that produces milk. This fundamental point then must be attended to. To secure healthy vegetation, excellent in quality and abundant in quantity, plants must be grown in a suitable

soil, well manured, and in a climate suited to the species or variety, and, moreover, they must be harvested in good order. Here arise questions of the origin of the seed, whence it comes, which is a question of heredity, for bad plants cannot produce good seed; of fertilising or manuring, for all manures do not suit all plants; of temperature and meteorology, for certain plants are not indifferent as to climate, but give results differing in accordance with the conditions of moisture or drought in which they subsist.

What is true of the plant is true also of the animal, and the question may be thus condensed: the plant and the animal are to be selected from good stocks, well adapted to the object in view, and to be reared in the soil, the climate, and with the food, best suited to their wants. To gain a knowledge of all this, these wants, both of the animal and of the plant, must be studied. We must find out the best food for the plant and the best ration for the beast. When we have raised the best possible crop of the plant, we must seek to discover how to use it most profitably for the animal, and when we have caused the latter to yield its most plentiful product, we must seek to utilise it for the profit of the farmer. Herein lies the most concise enunciation of the principles that govern the dairy-industry.

After Prof. Roberts' lecture, a discussion arose on the enrichment of the land by manures, and the feeding of stock.

Prof. Saunders offered excuses on the part of the Hon. John Carling, minister of agriculture, for not being able to attend the session, and the session closed.

(To be continued)

A few Hints on Vegetable-growing.—(Continued.)

I forgot to mention last month, while speaking of pease, that the flavour of that pulse is greatly improved by boiling a sprig or two of mint with them. I have had such a lot of pease since they first came in that I am almost tired of them. The American Wonder was most prolific, and stood three pickings, which is unusual with that sort. The Stratagems I begin to-morrow—July 12th. (1)

Potatoes—Can there be anything new to be said about this tuber? I do not know, but we shall see.

And, first, let us talk of growing early potatoes. Of the very early kinds, of which I esteem Myatt's ashleaf-kidney to be the best, both as to precocity, flavour, and yield, I have spoken several times lately; but, as it is an important matter to the amateur to get the very forwardest crop—though, perhaps, it may not pay as far as profit goes—I will repeat in *extenso* what some of our subscribers may have passed over unread.

On or about the 15th of March, take your seed-tubers out of the cellar and place them in baskets or boxes in a bright, sunny, frost proof room. The tubers must be in a single layer, but packed as closely as you please. The buds or germs will soon begin to swell, and a sprinkling of water once a week, or so, will do them no harm, though it is not absolutely necessary. By the 15th or the 20th of April, the ground will be, in this part of the province, generally fit to be planted, and the germs will then be about  $\frac{3}{4}$  of an inch long, stubby, and of a dark-green colour, very different from the lengthy, white shoots of cellar-growth some people seem to admire.

How many of these germs shall we allow to the set? Now, several of my friends, to whom I have given ash-leaf kidneys, say they are fine in quality, but they do not yield, and I always find that they have planted them whole, with as many as five and even six germs to the tuber. This is, a great mistake; for, although I should not like to risk my chance of a

(1) And a wonderful crop there is of them.

crop on sets with only one germ, I am quite sure that the reason the ashleaf fails so often is, that too many germs are left, this potato being, probably, more fully supplied with eyes than any good sort we grow.

A fair allowance I conceive to be two eyes to the set, and the tuber may be either cut into sets at that rate, or, if it be thought desirable to plant whole tubers, the overplus of eyes may be cut out. Myself, I do not see any peculiar advantage in whole seed: I would as soon cut as not; and keeping the sets cool on a barn floor, by turning them over now and then, will prevent them from mildewing. This, of course, I speak of the main-crop on a large scale; our baskets of sprouted tubers can be cut in the field or garden just before planting.

As to the injury done by leaving too many eyes on each set, I may reason from the analogy of the damage done by leaving swedes, mangels, &c., too close together. The number of shoots starting from one or more plants on the same point must be limited, for if they become crowded, the crop will be less than the land is capable of producing. By limiting the growth we prevent crowding above ground, for where the tops are crowded, the tubers will not be crowded; a few strong vines, or haulms, with all their leaves exposed to air and light, are capable of supplying more vigour to the undergrowth than a larger number contending for the mastery with each other.

*Preparation of the land.*—Some people of high repute in the gardening world, among others Shirley Hibbard and Sutton, of Reading, the well known English seedsman, recommend either manuring in the fall, or planting the potato sets after some previous heavily manured crop. Mr. Hibbard grew his great crop of 800 bushels an acre after the latter fashion. But in this climate, where we find the ground so cold in spring, I should prefer applying the manure at that season, as thus: Having ploughed the land in autumn, as deep as the soil will allow it to be done with safety, I draw the grubber over it, along and across; harrow until the ground treads equally all over; draw out drills 2 feet apart; spread the dung, plant the sets 9 inches apart, and split the drills, passing the roller over them as a finishing operation.

I do not take the raw dung out of the yard, but prepare it before hand in this way: Three weeks before the probable planting time, I get together a good lot of mixed dung—cattle, horse, and pig,—which I throw up *lightly*, in a conical heap. In about ten days—more or less according to the weather—this will be found pretty hot, when I turn it over into a square flat-topped shape, and leave it till it is wanted. The outside should, in turning, be thrown into the middle. The dung when carted to the drills should be pretty warm, and the sets placed upon it will soon feel its genial influence. I should prefer drawing the dung to the field before the second turning if the state of the roads permitted, but so early in the season that is generally impossible.

My neighbour, M. Daignault, generally has the earliest new potatoes for sale of any farmer in this neighbourhood. He proceeds as follows: taking the sets from the cellar, he ploughs the land roughly; harrows it once or twice; spreads the dung on the flat surface; draws drills—and such drills!—plants the sets—3 feet between the drills and 6 inches in the drills—and splits the drills. The mess the piece is in after this work may be conceived! But that is nothing: when the potato-haulm begins to show above ground the weeds in the dung spring up with it, for the dung never having heated, but coming rough out of the yard, every seed is sound and ready to sprout. What follows? I dug potatoes on the 21st June; M. Daignault has no chance of getting any till the same day in July. (1) There can be no difference in the soil or

the exposure, as the two lots are only separated by a furrow!

What I have said about early potatoes applies, of course, to growing them on potato-soils. On heavy land we must necessarily manure the land in the fall, and the best way I think would be to plant the sets, after the ground has been well worked, in every third furrow of the common plough, the man holding as small a furrow as he can manage—say, 9 inches. This would give 27 inches between the rows, and the crop would be, I think, better and earlier than if planted in drills—I do not like drilling on heavy land for any root-crop.

*After treatment.*—As the principal object to be gained in planting early potatoes is *earliness*, the less they are disturbed the better. They must not be treated as a *cleaning-crop*, but “stand on their own bottom”; the turnips, or French-beans that succeed them can be hoed and grubbed as much as you please, but the potatoes must be let alone to bear their natural produce at their own time. And how about the weeds, if the potatoes are not to be harrowed two or three times, and horse hoed, and hand-hoed? Well, if your land has been properly farmed, and the dung has been properly heated—never mind what pure scientists tell you about the escape of ammonia; that is, bosh!—if the management has been correct, one harrowing, with the chain harrows, one deep horse-hoeing as soon as the tops appear above ground, and one light hand-hoeing, or properly “edge-hoeing,” will be enough, and the sooner these operations terminate, the earlier will the crop be. I never earth up anything; and, of course, I do not earth up early potatoes.

This year I put my potatoes in 40 inches apart, and planted scarlet-runners between the rows. Every body who passes wants to know “what those bright scarlet flowers are, where the potatoes grew?” The beans were kept pinched, and they promise to be ready for picking next week. Oh! for a shower, a good drenching shower!

*The potato beetle.*—Just as my potatoes were coming into flower—June 7th—I squashed about 100 pairs of old beetles that were in the act of procreation. They had laid a few eggs, and on the 27th June I Paris-greened the plants, since which time till to-day—July 24th—no beetles have appeared, and the haulm is as fresh and healthy as I ever saw it in a dripping season. (1) It is a thousand pities that most of our farmers— $\frac{9}{10}$  of them, at least—neglect the first appearance of the old beetles, and equally neglect to poison the last hatch. When the tubers have arrived at what is supposed to be their full growth, the Paris green pail is put by, no matter how many beetles are in egg on the under-side of the leaves, and they are left to furnish breeders for the next season. At this time, if they were picked or crushed—Paris-green nor London-purple would do any good, as the beetles no longer eat,—the brutes would eventually be universally expunged.

I have planted potatoes since I have been in Canada almost every year, from April 9th, and I have never had them injured by the frost. If I fancy frost is coming, I draw a little earth up to the tops, but as long as they are not through the ground I have no fear. My Early-roses are to-day—July 11th—quite mealy, in fact, nearly ripe.

As to the main crop, the process up to planting is about the same as for the earlier one, except the sprouting. Roll, and, when coming up, chain-harrow once or twice; horse-hoe as often as possible, particularly after rain has pounded the ground. Edge-hoe, the row being between the feet, and three strokes given at each step: one at each side, and a sharp stroke between the plants, from right to left and then from left to right. These latter strokes are important, as they loosen

(1) He began to *scrape out* some—July 27th. A. R. J. F.

(1) S raphin Gu vremon's crop at Sorel, whence I have just returned, is, at present, perfectly free from the beast. A. R. J. F.

the ground laterally, and give the roots great liberty of elongation. Don't earth-up, but if you must, do it with a flat-top.

*Manures for potatoes*—With a good dressing of well prepared dung—say, 30 loads of 1200 lbs. each—very little addition of artificials will be required. But, if the dung has been deeply ploughed down, or dug in, during the previous fall, or if the potatoes follow a heavily manured crop without any dung being added at planting, I should be inclined to give the land a broadcasting of 200 lbs. of sulphate of ammonia, harrowed in before making the drills. Potash, if I used it at all, I should apply in the fall, as it takes a long time to get itself cooked into readily assimilable plant-food. I never knew phosphoric acid do much for potatoes on land that was in good condition, and plaster, in defiance of M. Ville, I utterly abjure for this crop, except in soil that is a stranger to the dung cart.

Change your seed at least every four years.

Early sown potatoes are less heavily affected by the disease than late sown ones.

Follow your early potatoes with cabbage. Some of the forward small sorts, sown about May 10th in the open air, will be ready by the time the potatoes are dug, and will produce good food for the cows or sheep by the 1st November.

Before digging or ploughing out, pull the haulm and carry it off the piece. Never use a hoe as it spoils many of the largest tubers, and is a very slow tool to work with. A *brander* (gridiron), as the Scotch call it, attached to the double mouldboard plough is common enough now-a-days.

Sort the tubers as soon as you get them dry; picking out those affected by the disease or otherwise damaged, and giving them—*boiled*—to the pigs: potatoes, barley-meal, and milk make the best and tenderest small pork for the best houses in Montreal. For bacon-hogs, pease of course must be added.

At Sorel, I regret to say, they save all the small potatoes for seed! The best seed, in my opinion, is a moderately sized tuber cut in pieces, with two eyes to the piece. Dust the pieces with air-slaked lime if you like.

If the potatoe-bins are large, I have found it useful to place a bundle of dry brushwood, reaching from the ground to a few inches above the potatoes, in the heap about every 4 feet: it will act as a chimney to let foul air and moisture escape.

I cannot say what sorts of potatoes should be planted, but I am perfectly satisfied with Myatt's ashleaf kidney, Early-rose, Beauty of Hebron, and Garnet-Chili, though as to the latter I cannot say much in its favour; but after the roses are finished, I hardly ever touch potatoes until the new ones come in.

Our best English late potato—the York Regent—won't *boil*; it must be *steamed*, and I may say the same of the Garnet-Chili. Try the latter steamed, and you will find it very different from the hard ball it usually is when sent to table.

Change the land on which you plant potatoes every year. It is only onions that will stand perpetual recurrence on the same soil, and why they stand it I never could understand.

The potato-planter is nearly perfect in its work. The potato-separator sorts the tubers into sizes very correctly.

As long as farmers persist in taking large and small potatoes to market in the same bag, they will never get the best price for them. Our English potato growers make three sizes: *ware*, *mediums*, and *chats*; the last for the pigs, the second for seed.

Lastly, don't peel your potatoes before boiling them!

## DE OMNIBUS REBUS.

July 12th, 1890.

"*Fromage Itaffiné*," says the Vermont Watchman, "is the name of a Jersey cheese that hails from Canada. It is said to outrank the rankest Limberger ever made! If Dr. Hoskins were to taste the above named cheese, he would find it much about the same as ordinary soft cheeses, and not at all unlike the well known Camembert. It has positively no odour except a mild cheesy one, such as it ought to have.

*Sainfoin*.—A correspondent of the Country Gentleman writes as follow:

In your paper of June 19th I see an article on sainfoin and the difficulty in getting it to germinate when planted. It is true that the outer integument or covering of the seed is hard, which prevents the necessary moisture penetrating to start the germ. I have had experience in growing it in England but did not plant it in the husk. I got the hulled seed. I even tried it here last summer in Dakota; it started well and did fairly although it was a very dry summer. It is not like clover, wearing out year by year, but will improve until it has been 6 or 7 years planted, and I do not know of any pasture that will fatten a lamb for the market quicker than sainfoin.

Jamestown, N. D.

W. T. M.

All right; but with the hull on, sainfoin, like clover, will grow if properly covered. The grass-seed harrows do the job perfectly, but mere rolling or sush-harrowing the seed in will frequently end in failure. To thicken up the bottom the first year, trefoil, or hop clover, is often sown with the sainfoin; subsequent years leave little cause for complaint. I suspect, however, that the chief cause of the failure of this valuable plant in the States is, that the land is not suited to it. In England, it rarely succeeds except on the chalk sub soils, though a limestone district is not unsuitable to it; on clay or sand it, I may say, never answers. Four bushels of seed in the hull, or one of milled one, is the proper seeding for an acre. As it is clearly ready for the scythe ten days before red clover, it deserves a more extended trial than I have been able to give it.

*Harrowing*—Mr Barbard, in a late article in the French Journal, on the growing of wheat in this province, lays great stress on the necessity of harrowing the land until it is in perfect condition; I have, for several years, done my best to impress this necessity on the minds of all my farming friends, and, now, the Country Gentlemen insists upon the same thing, though it did not require the service of those wonderfully acute managers of the experiment stations to recommend a practice that any one who has ever visited England or Scotland at seed-time, must, have constantly seen observed. We shall be told next, that sheep, shorn in January, must be kept in warm quarters!

"The importance of the work which harrows have to perform, is but dimly appreciated by many cultivators. It has been proved by experiment stations that the best growth may be secured to cultivated crops by a finely pulverised soil extending down not more than two or three inches, and often less. This fine surface soil becomes a mulch, and retains a useful amount of moisture in seasons of drought. A farmer in this State, more than half a century ago, was well known among his neighbours for his uniform excellent sown crops. He was asked the secret of his success. The answer was "harrowing—harrowing."

*Crimson-clover*.—The following extract from the Country Gentlemen will be found interesting by all those who wish to

forward the introduction of new crops into this country. I should have sown some seed I imported from England last year, but the harvest was rather delayed owing to the wet season, and I preferred putting it off to another summer rather than run the risk of a complete failure. The trifolium *must* be in the ground by the 12th August, in this district, to get a chance of obtaining a good root-hold before winter. It *must* be sown on stubble, unploughed, but well harrowed, and rolled with a heavy roller, at the rate of 14 lbs. to the acre, broadcast. As for ploughing in the earliest of all our clovers, if that is a wise plan I am very stupid, for it seems to me to be the excess of folly. The only fault is that it only gives one cut; but, then, it is very early, and leaves plenty of time when consumed to prepare the land for roots or silage-corn. It strikes me that, if the crimson-clover succeeds here, it, with sainfoin and the perennial clover or cow-grass, will fill up the gap in *soiling* between rye and red-clover; as thus: rye, crimson-clover, sainfoin, perennial-red-clover, common red-clover. The introduction of lucerne would make the succession perfect, as that is fit to mow for green-meat, in the neighbourhood of Montreal, as early as May 30th, at least so says Mr. Stephens of St. Lambert; see Journal of Agriculture, vol. I, p. 47.

#### Crimson Clover.

EDS COUNTRY GENTLEMAN — There can be no doubt that this clover (*Trifolium incarnatum*) is one of the most valuable of crops in any climate and soil where it succeeds. Here in, Central Delaware, it is becoming very popular. Every one who gives it a trial increases his acreage of it largely the next season. Hundreds who have watched the success of their friends with it, will sow it this fall for the first time. We feel that it will go far towards solving the fertilizer question for us, and that it will keep in our pockets for other uses the hundreds of hard earned dollars which we have been in the habit of paying out every year for "phosphate."

I propose to give a few reasons *why* we think so highly of this plant, and state a few of its uses. As a crop for green manuring it seems to stand at the head of the list. We sow it in August in our orchards, in fields of growing corn, or in open ground after some other crop has been harvested. It germinates quickly, grows fast, and makes a thick green carpet by the time winter sets in, and not only this, but it *stays green* all winter, even when the ground is frozen, and starts growing every time the frost comes out during winter. It makes remarkably rapid growth in spring, and by the first week in May it stands two to three and a half feet high, and is in full bloom, ready to turn under as green manure in time for almost any spring crop. It makes grand ensilage, and comes just when the silo is getting empty of corn, thus furnishing ensilage the year round. Some of our most progressive dairymen have already adopted this plan with most satisfactory results. It may be cured for hay about as easily, as any clover, and is the earliest of all crops for this purpose.

One of our successful dairymen, who has raised it for years, and who this year had some seventy acres of it on his farm, told me he firmly believed that the growing of this clover would put more dollars into the hands of the farmers of Kent county during the next ten years than the peach crop had during the last ten years.

This clover roots deeply and firmly. Our Delaware experiment station has been investigating this plant very thoroughly this season, and Prof. Beckwith, our horticulturist, informs me that he has traced the roots very distinctly *over four feet*.

The chemical analysis of crimson clover also demonstrates

its great value. The one I have before me was made by the celebrated English chemist, Prof. Way. It has an analysis of red clover also for comparison; it is as follows of the green plant:

	Water.	Albuminoids.	Carbo-hydrates.	Woody Fibre.	Fat.	Mineral Matter or Ash.
Red clover.....	\$1.01	4.27	8.34	3.76	0.69	1.82
Crimson clover.....	82.14	2.96	6.70	5.78	6.67	1.75
Same dried at 212° F:						
Red clover.....	—	22.55	44.47	19.75	3.67	8.56
Crimson clover.....	—	16.60	37.50	32.39	3.73	9.78

The digestible nutrients in these analyses, in pounds are as follows:

Green State.	Alluminoids.	Carbo-hydrates.	Fat.
Red clover.....	2.81	7.21	0.44
Crimson clover.....	1.98	7.44	0.12
Dried at 212° F:			
Red clover.....	15.10	40.61	2.31
Crimson clover.....	12.28	42.79	2.35

Thus it will be seen that crimson clover is quite equal to red clover in all the digestible elements except albuminoids. The amount of mineral matter or ash also shows its great value for green manuring. We sow eight to ten pounds of seed per acre. Its habit is very branching. Without any great search I have pulled plants in my field this season, the product of one single seed, bearing forty-seven full-height flower stalks, besides numerous short ones. This plant certainly deserves extensive trial. P. G. PACKARD.

#### Curtis on Butter vs. Cheese.

Mr. Curtis' statement of the relative loss of plant food in selling cheese or butter off the farm will astonish many people. It is quite correct, however. As well as I can gather from the lectures and discussions at the meeting of the Dairy men's Association at Arthabaskville, last December, the usual make of butter in the province is one pound from 23½ to 25 lbs. of milk. This is precisely what we used to reckon it to be in my part of England, viz., 2½ gallons of milk should produce 1 quart of cream, and from that quantity of cream should be made 1 pound of butter.

"What causes the inequality in the price of butter and cheese, when it takes nearly three times as much milk to produce a pound of butter as a pound of cheese?" The supply and demand. It should not take more than two and a half times as much milk to make a pound of butter as one of cheese. The value of the skim milk must also be taken into the account, and the greatly diminished loss of nitrogen from the farm. In a ton of butter, 26 cents will cover the loss of fertility; while in a ton of cheese the amount of nitrogen, phosphoric acid and potash is equal to about \$21. With so many poor cows, it may take three times as much milk for butter as for cheese, but this should not be. It is this large amount of milk required to produce dairy products that loads down the business. We must base the dairying of the future on more economic conditions. Another thing which affects the butter market. In proportion, there is more poor butter than cheese, and this poor butter drags the market down. It is the poor butter that makes the market price. Buyers say, "We can get butter at such a price," way down; and the good butter is pulled down, not the poor butter pulled up.

*Butter.*—Butter seems cheap enough—not to us consumers though.—Best Townships' and some St. Hyacinthe creamery, I see quoted at 17 cts a pound. At Waterbury, Vermont, print butter is quoted in *The Watchman* at from 12 cts to 14 cts, and dressed hogs at 5 cts a pound! In Montreal and its vicinity very moderate butter indeed retails at 25 cts, and pork at 12½ cts, a pound.

*Live- and dead weight.*—The Montreal Gazette gives the following proportions of live- to dead weight in cattle, calculated by the quintal or gross owt. :

Average market beast	112 : 64
Prime-fat, as high as	112 : 72
Inferior, down to	112 : 60

I have seen butchers' cows slaughtered at Joliette that only yielded 52 lbs. to the 112 lbs, and at the Smithfield Club Show, a shorthorn, last year, gave nearly 80 lbs. to the 112 lbs.

*State of the crops.*—As far as my observation extends, the crops were not sown, on heavy land, till from a fortnight to three weeks after the usual time. Both grain and straw will be slight in bulk, and a great deal of the barley, having been laid by the gale of July 8th, will be thin and unfit for malting. Tomatoes, except those protected by a wall or fence, are looking as if they had been rolled, or as if a herd of cattle had trampled them down. Mine, by the bye, being firmly tied to stakes and backed by a closely boarded fence, are beginning to turn colour, but they will be small compared with my usual fruit. Garden pease are well podded, but the later sorts do not fill up well. Cabbage butterfly very busy, though not numerous, just now.

The Messrs. Dawes' root-crop looks healthier than it has done for the last four years. Mr. Tuck, the foreman, acknowledges the value of the roller after sowing. Their barley is splendid. Cut to-day, July 29th.

Hardly any new potatoes for sale, and those there are look small, and sell for 30 cts a gallon—small measure—equal to \$3.00 a bushel!

Hay crop medium in bulk, the second year's grass having, hardly any clover in it—the alternate frost, thaw, snow and rains work of last winter. By far the finest piece of new grass I have seen is the mixed perennial-rye grass, cow-grass (perennial red-clover), I got the Messrs. Dawes to sow for me.

ARTHUR R. JENNER FUST.

SELF-HELP.

The best things to improve a farmer's condition are the things he can do for himself. The worst and most vexatious things he can seek are the things he must wait for the government to do. The farmers are not united enough, not earnest enough, not skilled enough in politics, to bring the things to pass which they would like to have. They may, by sufficient and prolonged agitation, get laws enacted; but if these laws are such as the moneyed interests dislike, the farmers will find, in the majority of cases, that they were so drawn or amended as to amount to nothing practically.

But nobody can hinder a farmer from saving all his manure, liquid and solid. Nobody can hinder him from tilling his land in the best manner, nor from planting good seed, or buying good fertilizers at the lowest cash price. Nobody can prevent him from raising good stock, feeding them in the best and most economical way, caring for them, or turning their products, or the products of his fields, to the best purpose. In short, nobody can hinder him from being a good farmer. Ex.

MAKING FARMING PAY.

Is there any way to increase the wealth of a country, or section of country, except by increasing the effective industry of its people? Is not all that we call wealth the result of properly directed labor? If we are agreed to say yes to this question, then is not the next question that we should naturally be asked in this connection: "Is the industry of our farmers exercised in the most effective way?" If we should put this question to almost any farmer there is little doubt that he would answer it in the negative, and could name a large number, if not the majority of his neighbors, who are not even doing as well as they know in their farming. Pursuing the investigation, with the inquisitiveness of a census taker, we might then ask if all or many of the farmers are wasting, or otherwise unwisely losing, any part of the produce of their land, or of the money received from its sale. Of a certain part of them it would have to be said that they unaccountably do those very things in many instances.

There is a good deal of agitation now going on, with the view of bettering the condition of farmers by means of legislation. We are in favor of some of the measures proposed for that end—very strongly so, as our readers know. Yet we are not at all sanguine that such legislation can be had. The effort to pass the *oleo* law in Massachusetts has twice failed. We can see a great deal of hope in a coercive law to make New England railroads more intelligently liberal in their freight rates and facilities to New England farmers. We think these things should be pushed, but we do not build largely upon our hope that they will be. Meantime, can not farmers themselves take hold of the situation and make it perceptibly better by self-help—not remitting their efforts in other directions? We think they can. In the first place they can stop some wastes, especially the enormous waste of fertilizing material about our barns. They can improve their stock, in many cases merely by better care, and can get more money for what they produce by giving more care to its production. Some wastes may be cut off in narcotics and stimulants which cost a good deal, do no good, and often do harm. We do not believe in cutting down any innocent domestic indulgences—books, newspapers, friendly visiting, or attendance at fairs, grange meetings, lectures or whatever gives recreation to the body or enlargement to the mind.

Perhaps hard times are sent to us to make us think of all these things. They ought not to discourage us, for our forefathers certainly had at times far more hardships than now fall to the general lot. Yet they pulled through, and a great, powerful and wealthy nation has been built up. The responsibility rests upon us, as in their time it rested upon them, to push things, and "out of this nettle, danger, to pluck the flower, safety." We know that farming is paying some amongst us—and not always those who have had the best chance. Let us look ourselves over without partiality, realize our errors and mistakes, and make an earnest struggle to do the best possible in the discharge of every duty, as well as to demand and enforce every one of our rights as citizens and farmers. Ex.

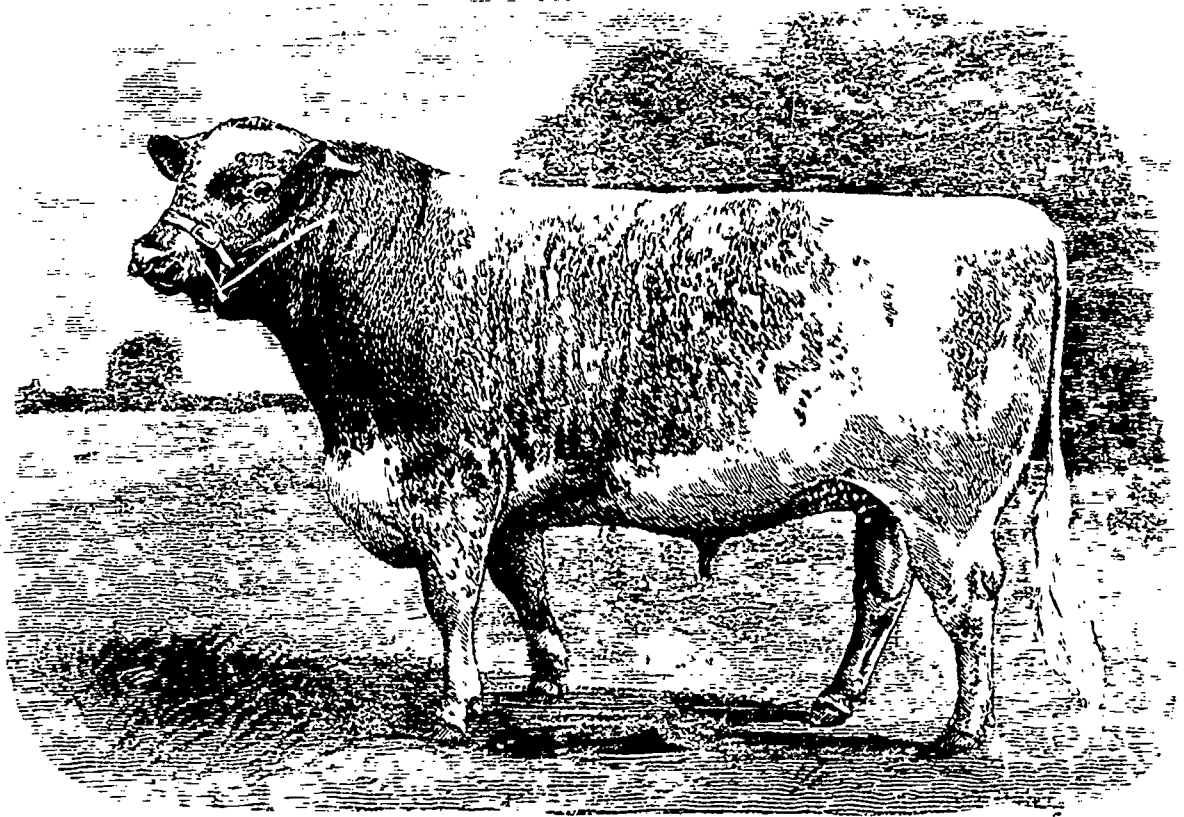
The Dairy Supply Company, of Museum Street, London, on Stand 32, show many important dairy novelties, and those visitors interested in dairying would do well to pay them a visit. The leading novelty on their stand is the instantaneous butter maker, the invention of Dr. de Laval, of Sweden, described in last week's issue. This machine is shown in operation in the working annex, where it is to be tested by the Society for the Silver medal. Another novelty is the new pattern *Délaiteuse*. The original machine has been to the front for some time, and received one of the Society's silver medals at Norwich, but a complaint having been made that the ca-



capacity was not large enough, the Dairy Supply Company are introducing one of much larger pattern, and which combines also improvements in the application of power, making it steady and better in actual working. For some time past it has been recognised as an important point for cheesemakers to be able to define the degree of acidity in milk, and the ordinary methods for this necessitate the use of buettes, standard solutions, and other preparations and instruments which are well known to chemists, but on this stand there is exhibited an invention of Mr. Alfred Stokes, F.C.S., the public analyst for several divisions of London. The apparatus, which, unfortunately, is of too recent a date to be entered for competition, consists of an ordinary tube which is filled with

#### THE REASON WHY.

The secret of good crops on light land is sheep keeping and corn feeding. As long as the sheep pay we may leave the rest to take care of itself. If the sheep pay for their cake the problem is solved, and of course this is an important question. Where flocks have been given up the farmers cannot reap the benefit of a return of genial weather, and it is sad to hear that over large tracts, well adapted for this husbandry, reduction of capital has produced a diminution in the number of sheep. Much of the chalk land of this country cannot be successfully cultivated except through the medium of sheep, and the low prices of cake and corn have greatly helped to accentuate



SHORTHORN BULL CHALLENGE CUP 57,029.

The Property of Mr. T. Deane Willis, Bapton Manor, Codford, Wilts. Winner of Champion Prize as best Bull at the Oxfordshire and Essex Shows 1890, and of numerous other honours.

the milk up to a certain point, then pellets of a pink colour are dropped in one by one, which dissolve when the milk is stirred, and as soon as a faint pink tint is manifest in the milk, it shows the degree of acidity, which is indicated by the number of pellets which have been put in, each pellet representing one-tenth of one per cent. of lactic acid. This most handy appliance takes a short time to operate, requires no skill, and we recommend it to the notice of every cheesemaker and dairyman. The process has been patented, and the Dairy Supply Company have secured the sole agency. We are accused of over hopefulness and complimented on our cheerfulness, but certainly a walk round to day was reassuring and seemed to justify the hope of a fruitful season.

*Eng. Ag. Gazette.*

this fact. The time is gone for looking for indirect profits from sheep through corn-growing. We must now clearly see the margin of profit from the sheep themselves, and trust to the corn as an aid or supplement only. JOHN WRIGHTSON.

On the 23rd of June the English papers spoke but hesitatingly about the coming harvest. The *Star's*—Montreal—special correspondent had no doubt about the absolute ruin of the crops in Britain. The news from Manitoba was that the wheat-crop there was positively safe from all danger, and would be the best reaped since the creation! What is the use, to any, except speculators, of these absurd prognostications? The English reporters know that the crop is never safe till it is in the stack, and they say so. The American reporters do

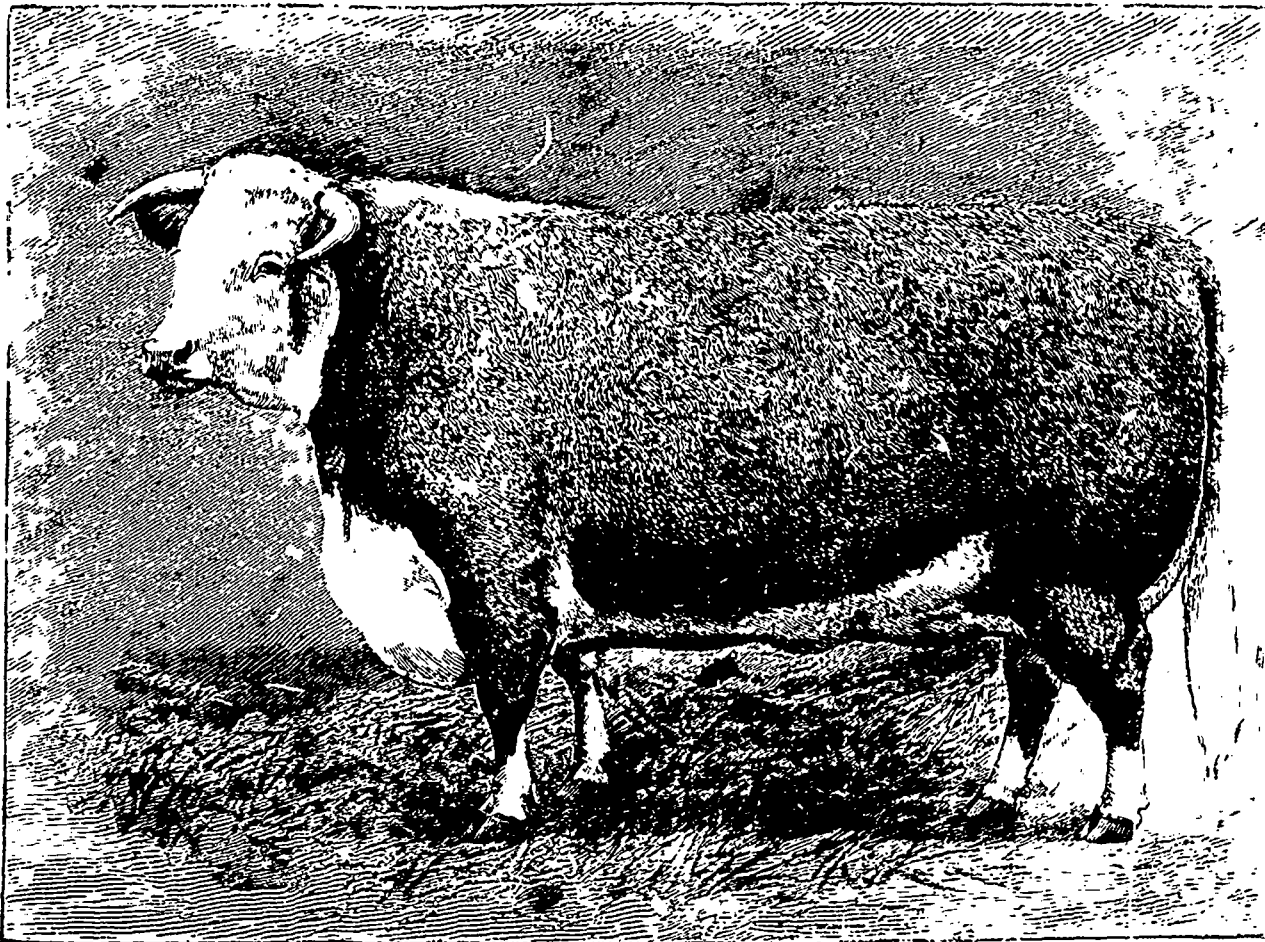
not seem to care for anything but crying down British prospects to raise the price of their own grain a few cents a bushel.

A. R. J. F.

June 23rd.—From The English Agricultural Gazette.

During the past week the weather has been of a rather more favourable character, the temperature having been higher, although somewhat variable, and the nights, as a rule, have been warmer. There has been less sunshine than could be desired, but the wheats are coming well into ear, and during the last few days a great change has taken place

Grain feeding for cows at pasture is becoming not unusual with our best dairymen. On this subject the editor of the *Maine Farmer*, who is a good dairyman, remarks that "the two prime factors involved in feeding stock are *cost* and *profit*. This applies to cows, as it does to all other stock kept. There is much written about 'theoretical rations,' especially by those who know little of any others, and 'balanced rations' by the same class of writers. The 'theoretical' ration is one in which the food nutrients of which it is made up exactly meet the wants of the animal fed, and by a 'balanced' ration is meant a ration in which the differing nutrients are so balanced one with the other as to exactly make



HEREFORD COW ROSEWATER.

The Property of the Earl of Coventry, Croome Court, Severn Stoke. Winner of many First and Champion Prizes in 1888, 1889, and 1890.

in the appearance of the crop, most of the earlier wheats being now fully in ear, and some of them showing blossom, but this will not be general until next week. The ears appear to be of good size, and *there is nothing in the situation, at present, which detracts from the possibilities of a good average crop*, which may be said to be already in sight. The oat crop, too, is earing well, and with a favourable July the corn crop would *probably* be big. Sunshine is now the one thing needed, and a more sustained summer temperature. Haymaking is now in full swing, but the meadow grasses have evidently lost much of their early promise.

up the theoretical standard. The theory is sound, without question, but it by no means follows that the farmer should always bring his practice up to it. The farmer cares nothing about theoretical rations or balancing his fodders, in the abstract, nor should he do so. His business is concerned with the factor, profit. To guard well this factor he must study well that other factor, cost. Dr Lawe took the ground some months since, that the compounding of rations by the farmer was more a question of cost of feeds than of balancing of nutrients. The position greatly astonished some of our scientific investigators, but from the stand-point of the important

factor of profit the proposition will stand unshaken. The farmer must always give the closest attention to cost of material, and what comes of feeding it. The balance he wants to make is a value of the product above the cost of producing it." Hear! Hear! say I, A. R. J. F.

#### Ensilage for Summer food.

Mr. C. D. Tylee, the progressive farmer and fruit-grower of Ste. Thérèse, near Montreal, wrote us some time ago mentioning his great success in feeding ensilage to his cows even at this late season. His cows are stall fed and receive cut grass and bran, but enjoy the ensilage twice daily, eating a bushel of it at each meal.

We have since seen Mr. Tylee's stock and found the cows particularly healthy and productive. Ensilage can therefore be counted upon as a *safe guard* against exceptional droughts, &c., in summer, as well as standard food for winter.

July, 1890. E. A. B.

#### Standing Raspberries in Winter.

Whilst on a visit to Mr. C. D. Tylee's, at Ste. Thérèse de Blainville, we saw a new way of wintering raspberries, which answers to perfection, without any need of laying down &c. A strong picket is placed at each end of the row, with such additional pickets between as may be necessary. A small steel wire is then tied round the pickets, from end to end, encircling the raspberries, at about two feet from the ground. Another similar wire goes around the raspberry bushes at about four feet from the ground. The effect, strange to say, is to melt or break any ice forming on the canes, which with the least move from wind or otherwise are kept entirely free from icicles, &c.

The raspberry bushes we saw had been treated thus for several years back and never before had we seen such profuse bearing and such strong healthy canes. E. A. B.

#### Permanent Meadows.

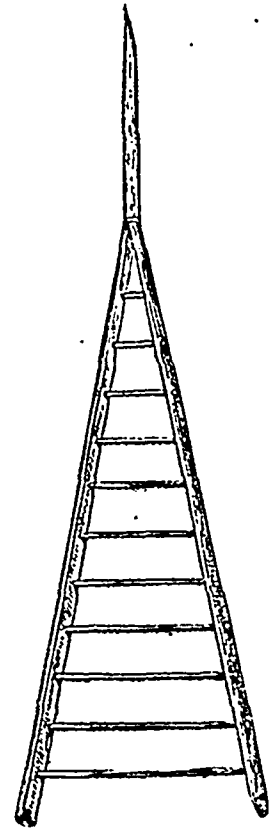
How long can timothy and alsike meadows last under full production, is a question which can be asked after visiting Mr. C. D. Tylee's little farm. Several years ago when the place was purchased it did not produce hay and grain enough to feed one horse and one cow later than the month of January. Yet an old meadow was there, in bare existence, for how long, even the oldest neighbour could not tell; manure was applied as a top dressing and now this same old meadow produces a full and, what is stranger, still a heavy, clean crop. How many meadows could be thus improved and preserved, after fall top-dressing and a good spring harrowing? Where hay is needed, this is probably the quickest and safest mode of securing a prompt, heavy crop. E. A. B.

#### A FRUIT LADDER.

There is scarcely a farmer who does not occasionally need a ladder in gathering his fruits; and I take pleasure in submitting a drawing and description of the best one I have ever seen. Take a pole of any desired length, but not of large diameter, sharpen it at the top to a slim point, and several feet from the top put a flat iron band about it, or in case a band is not at hand it may be securely wrapped with wire to keep

it from splitting. But the band should not be thick or with sharp edges, else it may cut or chafe the bark of the tree. If the grain is straight it may be split with wedges from the butt to this band, or it may be split with a rip-saw. Now spread it at the bottom to several feet in width, and if the ladder is to be quite tall this should be 5 or 6 feet or even more. Nail a brace temporarily across the butt ends to hold them apart, and bore holes at proper distances, and at proper angles; or if the spread is not too great they may be bored before the pole is split. Rounds of tough, strong material may now be inserted, beginning at the top, first removing the brace.

Such a ladder can be thrust upward into a tree and placed in a fork or against a branch without danger of falling or being unsteady, and it has the additional advantage of being very light at the top and easy to handle. If desired, a third leg or brace can be added by hinging it to the top round through a hole, thus making a step-ladder.



#### SOILING VS PERMANENT PASTURE.

BY HON. HIRAM SMITH, SHEBOYGAN FALLS, WIS.

INNOVATIONS IN METHODS.—I am well aware of the prejudice existing, and the suspicion felt, towards any innovation in the old established methods of farming. We have all been brought up to regard the pasturing of animals as the true way to keep them through the summer, cutting hay mainly on which to winter them, and many who do not figure very closely, or reason very logically, conclude that there is no better way of keeping animals than the way they were taught, but the competition existing in all branches of business and trade has forced many either to abandon the work they were engaged in, or devise some means by which they could increase the productions of their farms, and add to the animals from which they received their remuneration for their work.

MILK COWS REQUIRE NO EXERCISE.—It occurred to me some years ago that soiling cattle from the green crops that grew upon the land, could be done with less acres than to pasture the cattle. Of course, many will think that this is a poor way to keep cows, and we often hear the objection that they ought to have some exercise. It has been satisfactorily proved, by repeated experiments, that an animal that chews a cud requires but little of any exercise, and a cow that is producing milk does not require any exercise at all. I have tried it, and many others, and I think we are fully convinced that a cow that is giving milk does not need any exercise any more than a horse that works on a tread-power. The elaboration of milk is as great an exercise as the elaboration of power from the feed the horse consumes to apply to the tread-power. Therefore, the next question is a question of money. How much more stock can we keep? How much more food

can we get from an acre that is left to nearly mature in a proper soiling condition, than we can to let the cows roam over the land? He who has watched the habits and characteristics of cows knows very well that the cow will visit every rod of the field she is in, and if, say, one animal occupies two acres, every foot square of that soil is tread upon every day that they are in the pasture. It is well known by those who have observed closely that a cow, or any other animal, for that matter, that travels over the soil to get its own living from cropping the grass, fouls and treads down two-thirds of all the grass upon that acre, so that it is but a matter of economy to maintain our position. If we can keep three cows where we kept one, here comes in an opportunity to make our business more remunerative. If we have been working hard, living without many of the comforts and none of the luxuries of life, and found it difficult to meet our taxes, and if, by putting on three cows where we had one, certainly we can thus better our condition, and at the same time better our land, for the more stock we keep, the more fertilisers we shall have to raise larger crops.

**SOILING AND THE SILO.**—The history of soiling in this country is somewhat analogous to the history of the silo. It has been found that by raising a crop of fodder corn and putting it into the silo every acre will winter three cows, and there is hardly one acre of meadow in Wisconsin that will winter one cow. If we take into consideration how much we have gained by the silo, we shall be easily convinced by a little experimenting and observation how much we shall gain by soiling our cows instead of pasturing them. After I have been at this business some six or eight years, it seems as though it ought to have been thoroughly understood long before this. I get somewhat impatient sometimes at the slow progress that has been made. After experiments have repeatedly demonstrated, and the results of such experiments have been published, it seems almost superfluous to talk in favor of soiling cows.

**KEEPING CATTLE IN THE BARN.**—There is another consideration that we should look at. In the fore part of the season the ground is soft, mellow, physically all right to produce a crop. The frost has done its perfect work and left the soil in a loose condition, so that the crop may grow and flourish and have a chance to mature as nature intended; but if we put on every two acres a heavy animal weighing from ten to sixteen hundred pounds, trampling over that ground, treading it in its soft condition, packing it down closely, it gets it into a condition where the soil can flourish hardly more nourishment than a stone. It has been packed so that it will not give forth fertility or moisture. A plant to live must have moisture, must have room for the roots to grow. They will grow, as you know, very little after the first of July, and consequently we almost universally have dry, short pastures for the cattle, and they soon run down in their production and become of very little value after July or August, not so much because there is hot weather, but because the land is packed so closely that the plants cannot grow. There is not the slightest doubt that the crops will be in better shape, if the cattle are kept in the barn.

**EXPENSE OF THIS SYSTEM.**—Many urge sincerely and honestly the great expense of this system, but if you will take your pencil and figure the expense, it looks so small that you are almost ashamed of it. One boy, seventeen or eighteen years old, will take a team, and go into the field of clover, or corn, or millet, and get sufficient in for the night's feed and the next morning's feed, and clean out the stables, and get it all done in half a day. After the milking is done, there is actually only a quarter of a day spent with one man, and his wages amount to sixty cents a day, if hired by the month, so that it costs fifteen cents to soil one hundred head of cattle

every day in the year. I doubt if it takes any longer than it used to do when we drove the cows out to pasture, and had to go out and hunt them up and gave them nothing in the barn; they had no inclination to come to the barn, they had to be driven into the yard, and it took a good deal of time—quite as much, I think, as it now takes to soil the entire herd. If some wealthy man wanted his farm well taken care of, and should say to me: "If you will take this one hundred acres and twenty cows and take care of things properly, you may have all that grows on it," and another man with two hundred acres and eighty or one hundred cows, told me he would let me have the farm at halves, I would jump at the chance to take the dairy farm well equipped with a silo and everything rather than to take the small farm and have it all. I couldn't afford to do it. It would give me wages. An acre of land will produce more feed for summer feed than the best two acres of meadow in Wisconsin.

**TO DOUBLE THE FARM'S RECEIPTS.**—Here is an opportunity, with the system of the silo, to double the receipts of the farm. As many again cows can be kept at very little more expense, a few hired men more, but no increase of teams or farm machines—scarcely any additional expense except a little more hired help, and the vast increase in the production will warrant four times the expense it will cost. Corn put in the silo makes a great deal better feed than hay, and makes as good butter as ever was made in June, and the change from summer to winter dairying costs almost nothing. It may be done gradually, the cost is nothing, and there is all the time an increase of production.

Now, if you can, by adopting these methods, throw aside your old prejudices and quit reading accounts of the census reports of the grass crop, you will find it will pay; it will figure in your bank account. I have sometimes, in an early day, wintered in the lumber woods, taking a cow along and keeping her ten or twelve weeks, never out of the stall and never producing better. Prof. Daniels, at the University, has for years, put a new milch cow in the stable from November till May, and the experiments have proved that the cow does not need exercise; she will produce more without it than with it. There is a constant loss when cattle are traveling over the pasture looking for something to eat.

**ABOUT MY SILO.**—Sombody has asked about the silo. My first silo I filled with corn, and fed to ten cows in the barn. I filled the silo from less than three acres, and kept ten cows over the winter, and three cows until the last of August so as to see what the effect would be in the production of milk in the winter. They were confined in a small dry yard; there is a shed in the yard, and water from a spring, running through a pipe. They had plenty of water and all the ensilage they could eat, and eight pounds of bran. We fed a little hay, but they didn't care for it, therefore I fed the cows all winter until the last of August without any other feed, practically, but ensilage and wheat middlings or bran.

## DISCUSSION.

**MR. SHERMAN.**—Is it practicable to feed ensilage the year round?

**MR. SMITH.**—I am satisfied that it is practicable, although I would give a change—different kinds of ensilage, a little clover, and a little corn, and always a little dry hay, if they care for it. The milk from those cows was weighed and computed against the milk of three other cows running in the pasture, and they did equally well and only ate what grew on one acre, whereas the three in the pasture ate what grew on six acres. That is the practical result of the experiment.

**MR. SPEAR.**—Have you had my experience with clover ensilage?

MR. SMITH—I have put in a second crop of clover with good results. It is the cheapest way to handle a second crop of clover, and the first crop also.

### RAISING SHEEP FOR MUTTON.

BY GEO. MCKERROW, WAUKESHA WIS.

A WIDE RANGE IN PRICES.—If you have noticed the mutton markets for this past six or eight years, as I have done, you will notice that the range of prices quoted in Chicago, New York and other markets has been widening. During the past winter sheep have sold in the stock yards at Chicago, all the way from \$2.00 to \$7.00 per hundred.

Now, is it the Merino sheep that are bringing this seven dollars per hundred? I answer, no. The best lot of Merino wethers that I know of sold in Chicago at about five cents a pound, while I know of two at least, if not more, lots of grade mutton sheep that were sent in from the State of Wisconsin, that have sold for over six cents per pound on that same market. I believe in breeding to a purpose, but as a dairyman breeds up his herd to a Jersey or Guernsey or Holstein standard, so the sheepman can grade up his sheep toward a Down standard or a long wool standard.

SHEEP GIVING GOOD RESULTS.—I meet many sheepmen, and men who are following diversified farming, who have sheep and cows and horses and hogs, and they all tell me that the sheep are and have been giving them as good results for the past two or three years as any of their other stock. I know of but one experiment that has been tried on this side of the Atlantic to find out how cheaply mutton could be produced, and what profit there was in producing mutton, and that was carried on at the Ontario Experiment Farm, under the direction of Prof. Wood, for a period of five years. He experimented with all the pure-breeds; but to bring it down to the practical farmer of Canada, he took the common sheep of the country and gave them one cross with these pure bred animals, feeding them until they were a year old, pasturing them and soiling the carcasses. He did this for five years and then balanced accounts. Following is a summary of the accounts.

THE HALF-BLOOD SOUTHDOWN.—Cost six dollars for its keep, and this included all the items, the shepherd's care and the use of the mother, over and above what her fleece brought in for the year previous. Every item was reckoned in, so that this six dollars is the actual cost of keeping that sheep until he was sold, which was a little over a year old. It shorn six pounds of wool, bringing \$2.40. Its carcass weighed 147 pounds live weight, and sold at 6½ cents a pound, bringing \$10.20, and giving a total profit of \$6.60.

THE HALF BLOOD SHROPSHIRE.—Cost \$7.00 to keep, shorn nine pounds of wool, which sold at 38 cents a pound, bringing \$3.40. It weighed 160 pounds, live weight, which sold at 6 cents a pound, making a net profit of \$6.32.

THE HALF-BLOOD OXFORD.—Cost \$7.40 to keep, shorn eight pounds of wool, which sold at thirty five cents per pound, bringing \$2.80; weighed 177 pounds, which sold at six cents per pound, bringing \$10.62 or net profit of \$6.02.

THE HALF BLOOD LEICESTERSHIRE.—Cost \$8.10 to keep, shorn eight pounds of wool, which sold at twenty-eight cents, bringing \$2.24, weighed 198 pounds, which sold at five cents per pound, bringing \$9.90, or net profit of \$4.68.

THE HALF-BLOOD MERINO.—Cost \$5.50 to produce, shorn seven pounds of wool, which sold at thirty two cents per pound, bringing \$2.94; weighed 145 pounds, which sold at five cents a pound, bringing \$7.25, giving a net profit of \$4.04.

THE COMMON GRADE.—The native which was tried side by side with these, cost \$5.00 to keep; it shorn five pounds of

wool, which sold at twenty five cents per pound, bringing \$1.25, weighed 150 pounds, which sold at five cents per pound bringing \$7.50, a net profit of \$3.75.

THE HALF-BLOOD OUTSWOLD.—Cost \$9.31 to produce, shorn nine pounds of wool, which sold for twenty-eight cents per pound, bringing \$2.52, it weighed 199 pounds, which was sold at five cents per pound, bringing \$9.95, giving a net profit of \$3.17.

You see by these experiments that all these sheep paid a profit, and a handsome profit. You can draw your own conclusions regarding breeds. You will see it was not the heaviest shearing sheep that produced the most profit, as there are more things than the weight of the wool or the carcass to be taken into consideration in settling upon a sheep breed.

MUTTON PRODUCED AT A PROFIT.—On this side of the line we can produce mutton at a profit. If you will figure out the cost of some of this mutton, as I have done, you will find that the lowest cost at which any of this mutton was produced was two and two-tenths cents per pound. If we can raise mutton here in Wisconsin at that price, and sell it at six cents per pound, which it has readily brought in Chicago the last year, we are making a good profit.

I, for one, would just as soon try to raise wheat, oats and barley for the straw, as to endeavor to raise sheep for the wool, under existing conditions.

PROFIT IN EARLY LAMBS.—I have some Oxford lambs that were dropped the first week in March, averaging, I think, about twenty-three or twenty-four days old, which weighed, just before I came here, from thirty-two to thirty-three and a half pounds each. The Shropshire lambs are a week younger and weigh from twenty to twenty-two pounds; the Southdowns about the same. As to the breeding qualities of these sheep, I will say we have thirty-eight ewes, and beside them are fifty-four lambs doing well and thriving nicely. I don't know what these lambs are worth now, but lambs that will weigh forty pounds the latter part of March and the first of April have sold readily in our part of the country, other years, to Milwaukee butchers, at from \$3.50 to \$5.50, and sometimes even a little more.

MONEY IN RAISING MUTTON.—I believe it is possible for the farmers of Waukesha County to make some money out of raising mutton, but I believe that we must raise the standard of early maturity, just the same as beef producers and pork producers raise it. I believe we cannot do as we used to do, keep a wether until it is three years old and make his fleece pay for his keep, because every year that we keep him he is going in debt to us, and when we sell him we have to make that up, and it doesn't leave much; but if we will feed from two to fourteen months there is a profit in a well-bred and well-fed lamb.

### DISCUSSION.

MR. GORDON.—How can you make the American eat more mutton?

MR. MCKERROW.—Give him better mutton. There is a gentleman sitting in this room who told me he used to be a Merino man and he didn't like mutton. Last summer he got a taste of Down mutton, and he ordered the butcher to bring some more of that kind, and he said he couldn't there wasn't enough in the country.

MR. FLEMING.—Do you think washing wool on sheep practicable?

MR. MCKERROW.—No, sir, I think they should be shorn unwashed.

MR. CLINTON.—Is it possible to pursue sheep husbandry as a specialty on land worth \$100 an acre, and get a decent living, either for wool or mutton, or both?

MR. MCKERROW.—I think it is. These experiments I have just read show that there was clear profit of \$6.00 and over per head made on three of those half-bloods. Allowing six sheep to the cow, your profit at \$6.00 per head would be \$36.00, clear.

MR. HIRAM SMITH.—That was five years ago. At the price wool and mutton are selling for now, would it leave that margin?

MR. MCKERROW.—Good mutton is selling for more in our markets than it was six years ago.

MR. SMITH.—Could you get a living on an eighty-acre farm with sheep?

MR. MCKERROW.—I would be willing to try. I was speaking, however, of sheep raising with mixed husbandry.

QUESTION.—Do you let your sheep have access to salt at all times?

MR. MCKERROW.—Yes, always.

MR. AINSWORTH.—Which will cost the most and which will be worth the most, two Merino sheep that will shear twenty five pounds of wool, and weigh one hundred pounds a piece, or one course wool sheep that weighs two hundred pounds and shears eight or ten?

MR. MCKERROW.—Those two hundred pounds course-wool sheep generally shear more than that amount of wool, to begin with. I can show you flocks that will average over twelve pounds of wool. I believe I can make as much money out of the large sheep that will raise two good mutton lambs that will give me ten dollars, and if your Merino will raise one I think she is doing pretty well. *Country Gent.*

### IMPORTANCE OF SHEEP ON THE FARM.

BY S. A. PELTON, REEDSBURG, WIS.

GETTING OUT OF SHEEP.—The census of 1885 gives Sauk County 37,680 sheep and lambs, or 17-10 to a person, at a valuation of \$1.54 per head. Wisconsin has 1,429,137 sheep or less than one sheep to a person, at a valuation of \$1.64 per head. This surely is not an over production for the county or State; but, nevertheless, there was a general outcry all along the line that sheep did not pay. The city papers took up the cry, and flock after flock was sold in Chicago, and the proceeds used to purchase Minneapolis bran and shorts, to fatten pork and beef to a far greater loss than was imagined to have been read in the first transaction.

THE BRANCH OF FARMING TO PURSUE.—The farmers of Sauk County are engaged in mixed husbandry, and some are so badly mixed that they cannot tell which branch pays the best; but, judging from the experience of the past, that branch which for a term of years has yielded a fair profit above the general outlay is the one to hold fast to.

It is not absolutely necessary for a farmer to ape the methods of his neighbours. Location, soil, and liking for the occupation should in a measure, determine his drift. No special scientific education is an absolute guarantee of success in any line of farming. "Where there's a will there's a way," "business experience is an apt teacher," are maxims that will apply with full force in practice. I would not advise any one to quit dairying, fattening beef, pork, or breeding horses, when one has buildings and apparatus necessary to produce the requisite results. Occasionally changes must be made, but would it not be better to change methods than to change the line of farming?

SHEEP ON ROUGH LAND.—If a person has a rough and broken farm, and small capital, he can hardly strike a better opportunity than to secure a few sheep. They will be a nucleus around which will gather, under good management, a large flock in a short time; an investment that will pay interest

at shearing time at the rate of 100 per cent, and dividends from each lamb, besides leaving the pasture lot fertilized in the best possible manner for a crop of winter wheat.

MUTTON THE FIRST CONSIDERATION.—Mutton first and wool second should be the aim of every flockmaster. While opinions differ as to breed, the farmer can ill afford not to heed the fact that the market demands that certain conditions be fulfilled. Feed influences breed to a great extent, and care likewise leaves its ear-marks unmistakably prominent in every flock.

YARDING.—Many farmers have lost the increase of their flock by yarding sheep, horses, cattle and hogs together. Lambs do not thrive well with hogs, nor do sheep come up to the standard of expectation when trampled on by horses, or hooked by cattle. I would not advise any one to turn flock of sheep and lambs into a field in spring and leave them there until fall. The chances are that none will be found when the owner calls for them.—*Count. Gent.*

### CLOVER FOR FERTILITY AND FEED.

BY CHAS. V. GUY, RIVER FALLS, WIS.

BARNYARD MANURE THE BEST.—In the St. Croix Valley there are found all varieties of soil, from sand to clay, mixed often with vegetable mold, forming either a sandy or clayey loam. Each is adapted to the growing of a different class of crops, and each requires special treatment to increase or support its fertility. As barnyard manure contains in due proportions the essential elements of plant food, it is applicable alike to all soils—finely rotted as against green coarse, strawy manure, for dry, sandy land, while the reverse is suitable for clayey soils.

PLOWING UNDER GREEN CROPS.—The ordinary farmer finds, with all his care and pains-taking, the supply of manure, as obtained from the consumption of home-grown crops, quite too small to adequately fertilize his fields, and his only resort is commercial fertilizers, or plowing under green crops. The former, except gypsum and salt, are quite too expensive to repay the cost of \$25 to \$60 per ton in any field crop at present market prices. This leaves clover practically as our only remaining source of supply. How shall we apply it? is a serious question. The readiest answer is, feed it to stock and get a return in animal growth, and from two-thirds to three-fourths of its value in manure. But this requires more capital and labor, more pains and energy, than the average farmer can command. Then let the earth act as consumer and feed the whole crop at once by turning it under with the plow. The results will be in proportion of the growth of the crop plowed under.

If the year's growth is too expensive, a crop can be taken off at the first blossom and left until the second growth is in bloom in the following August when this may be plowed under. A large part of the value of the crop for fertilizing is in the root. This treatment leaves the ground in most excellent condition for any kind of crop. Land plaster has a very beneficial effect on the growth of clover on rather sandy or clayey land. An application of from one hundred to one hundred and fifty pounds per acre will increase the crop fifty to one hundred per cent, and its effects are quite noticeable for two or three years after sowing. It is not claimed that there is great manurial value in gypsum, but it is claimed by the highest chemical authority, that it acts directly in fixing the ammonia, which is an essential plant food, in the soil just where the plants can see it, while without the chemical influence of the plaster the ammonia would be evaporated by heat and lost to the soil. (1)

(1) A really wonderful assertion!

A. R. J. F.

**A VALUABLE EXPERIMENT.**—An experiment is reported where a quantity of clover plants was taken from the earth in May, about a year after planting, the earth being removed by a stream of water. The roots were set in small, or crushed rock, from which all plant food had been carefully removed, watered with distilled water for some two months, until the blossoms of the plants matured, and then analyzed. It was found that the organic elements had increased nearly three times and the ammonia nearly doubled. (1) This result was obtained from the air and water alone. The experiment goes to prove that clover will grow on our poorest sandy soils in a wet season and, by a system based on the result of the experiment, our poorest lands may be profitably cultivated.

**SOWING CLOVER SEED.**—It is claimed that a pound of clover seed contains nearly two hundred and sixty thousand grains. This estimate, I think, by an actual count of a weighed quantity, is very low. Twenty per cent, may be safely added to it. One pound, about a pint, gives, on this basis, six or more plants per square foot, if evenly distributed. This is quite as much as the land ordinarily shows one year after seeding. The practice of most farmers is to sow from four to eight quarts per acre, mixed with small grain at the time of spring seeding. Clover seed covered over one inch, it is said, will not germinate. If this is so, a great loss is sustained by too deep covering of all seed sown by mixing grass seed with small grain, and sowing with the ordinary drill or seeder.

**CUTTING AND CURING.**—Of cutting and curing clover for winter food there are almost as many methods as farmers. If the weather is favorable the process is very simple. Cut when dry of dew or rain, let it wilt, turn with a tedder and haul the same day (2), put in a tight bay or silo, keep covered from air and, though much discolored, its nutritive properties are well preserved. Clover free from external moisture will keep in a tight barn, if put in very green. A peck of salt to a ton of dry hay will tend to prevent dust, and makes it palatable to all kinds of stock. From a single year's experience with above ensilage, I should not recommend building a silo for green clover.

**FEEDING** Contrary to general opinion, I have found clover hay the best coarse food I have ever fed. I have fed it to all kinds of stock, and prefer it to any other hay for horses, except for driving horses, it being too relaxing for quick driving. But for the work on the farm, or even heavy hauling, it has been entirely satisfactory. A patch of clover for growing hogs provides a very cheap and nutritious food; but of dry clover hay, they will not eat enough to perceptibly effect their growth. For a pasture for all kinds of stock, it is of little value. (3) Being a biennial, (4) it makes its seed the second year and ordinarily dies out. Other grasses must be provided to take its place, and it is best to plant them at the first seeding. (5) Where clover winter-killed the winter after sowing, in two cases, I have dragged the ground and reseeded in early spring with excellent results.

Clover hay, fed with corn ensilage and a small ration of wheat bran, has produced with me excellent results, as a food to dairy cows. In one instance I fed clover hay with dry oats to a horse badly affected with the heaves, and never had him do so well on any other feed. (6)

**THE BEST FORAGE PLANT.**—In my experience, next to corn, I have found clover the best of all our forage plants. Its deep running roots obtain their food from a lower stratum of soil than most other plants, and it will remain green and vigorous when many of the grasses, and nearly all root crops, are more or less injured by drought. (1)

#### R. A. S. E. PLYMOUTH, (1890) MEETING.

##### THE DAIRY.

The machines exhibited in operation were all of them the latest of their kind. The chief novelty was the instantaneous Butter-maker, invented by Dr. De Laval, and introduced into this country by the Dairy Supply Company. It has already been described in detail in the *Agricultural Gazette*. It is an "attachment" to a separator, rather than an essential part of it, and it may therefore be obtained by those who already possess separators of a comparatively small extra expense. This is in itself a considerable advantage. The attachment is really very simple, and consists of a small refrigerator of a new design, and a small cylindrical metal "churn," about a foot or a foot and a half in length, and some three or four inches in diameter. As the cream comes from the churn it flows over the refrigerator, and is thereby cooled down to the proper temperature for churning. It passes thence into one end of the cylinder, and the thin stream comes into contact with a beater which revolves at from 2,500 to 3,000 revolutions per minute. By the time it reaches the exit end of the cylinder the cream has been churned into butter, and it has only then to be worked up in the ordinary way to expel the buttermilk, and it is ready for market. It will be seen that the principle of the machine is that the cream instead of being churned in bulk is churned in detail, so to speak. The simplicity of the idea is the best testimony of its ingenuity, and also the best guarantee of its permanent success. It is only necessary to add that having tasted the butter thus made, we can testify to its excellence. It was considered certain by most people that the Butter maker would get a silver medal. Had a similar machine not been distinguished at Windsor there might have been a disposition to defer official recognition, but in view of the precedent then established it is difficult to see on what grounds the honour was not withheld.

There were two butter-making competitions—one on Tuesday and the other on Wednesday. The former was for "dairy maids who have won a prize at any agricultural or dairy show." There were eight entries, but two competitors failed to present themselves. In the result Mrs. and Miss Williams added to their already long list of distinctions. One of the competitors used scalded cream, and made her butter on the Devonshire plan, "whipping" the cream in a tub with a wooden substitute for the hand. The true Devonshire system is to stir up the scalded cream with the fingers, but this practice, being contrary to all its teaching on the subject, the Society could not permit. There was some dissatisfaction on this account among the local competitors, and on Wednesday one of them, we believe, withdrew while these who competed no doubt thought themselves hardly dealt with. The most remarkable fact was that on Tuesday the competitor who used scalded cream got more than twice as much butter—14 lb. 7 oz.—than any other competitor. No doubt a considerable quantity of casein and water is taken up in the butter, but (2) even then the immense difference is hardly explicable, and

(1) A wonderful article to have found its way into the Country Gentleman!  
A. R. J. F.  
(2) Most of the nitrogenous matter is floated away with the water of washing.  
A. R. J. F.

(1) What can the writer mean?

A. R. J. F.

(2) If clover is lit to "haul" in less than 60 hours after cutting, it is a sure sign of its having stood too long.

(3) Oh!

A. R. J. F.

(4) It is an annual; but our way of sowing it with a grain-crop makes it a biennial.

A. R. J. F.

(5) Then why not sow the cow-grass or perennial clover?

(6) This is the usual food of hard-working horses in England.

A. R. J. F.

one is almost led to suspect some mistake in weighing out the cream. The quantity of cream allotted to each competitor was 20 lb. in the Tuesday's competition the judges—Messrs. T. Carrick and James Long—made the following awards, the weight of butter made being added to each name.

	lb. oz.
1st, Miss Ada Williams, Chewstoke, Bristol.....	6 8
2nd, Mrs. Horton, Northwich, Cheshire .....	6 2
3rd, Mrs. Williams, Winford, Bristol.....	6 4
4th, Miss Brown, Finland, Bristol.....	6 0
5th, Mrs. Burston, Bridgwater.....	6 3

The competition on Wednesday was for dairymaids who had not previously won a prize. There were originally nine entries, but three competitors did not present themselves. The names and weights of butter made by the six who competed, with the awards, were as follows :—

	lb. oz.
Equal 1st { Miss E. Farrant, Clyst Hydon, Exeter .....	5 13
{ Miss A. M. C. Perkins, Holmewood, Surrey .....	5 13
2nd, Miss J. Coad, Callington.....	5 14
Miss Darke, Lamerton, Tavistock .....	7 11
Mrs. Jeffery, Dowland, Yelverton .....	2 6
Mrs. Nosworthy, Wembury, Plymouth.....	6 11

The three last-named competitors, who were not noticed by the judges, all used scalded cream, and made their butter on the Devonshire system.

Mr. Rogers of Binghamton made the statement at the institute of Oswego this winter that they got 30 quarts more milk a day from their dairy of 100 cows when they fed them only twice a day, than they did when they fed them three times, feeding of course the same amount in either case. He said that a cow did not secrete milk while eating; that by feeding only twice a day cows ate quicker and were disturbed less, which made the difference. If this is true it makes another argument in favor of cutting feed that I have never seen brought out. A cow will eat her daily ration very much quicker if cut and prepared for her. Our cows will eat all their ration of mixed feed in twenty to thirty minutes. This, three times a day, will give the cows 22½ to 23 hours for rest and quiet, except the time taken for watering and milking. My experience this winter makes me think this is an important point. We raise the cream in the Cooley cans, and sell by the spaces. We find the same number of pounds of milk, secreted during the night and set in water of the same temperature, will produce more cream than the same amount secreted during the day.

**AMERICAN FORESTRY ASSOCIATION.**

(Formerly American Forestry Congress.)

FOUNDED AT CINCINNATI, APRIL, 1882.

Annual Dues, \$2 00.—Life Membership, \$50 00

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**Summer Meeting of the American Forestry Association.**

The American Forestry Association has gratefully accepted the invitation tendered by the Government of the Province of Quebec to meet, this autumn, at Quebec, in the Parliament Buildings, from the 2nd to the 5th day of September next.

The preservation of the forest and its judicious management are questions of vital importance for Canada, where nearly all the forest lands, with very few exceptions, are part of the Public Domain. It will be interesting to study the Canadian system on the spot, and every facility, for doing so will be afforded the Association. The result cannot fail to strengthen the hands of the American Forestry Association in its endeavours to protect the forest wealth of this Continent.

While the conditions under which the Association will meet, at Quebec, are a guarantee that earnest, and useful work shall be done there, in the cause of Forestry the historical character of the old City of Quebec, with its numerous points of interest and beautiful surroundings will be a further inducement to attend this meeting.

The time appointed, from Tuesday the 2nd September to Friday the 5th will enable the admirers of nature to see the St. Lawrence and its picturesque shores, in all their beauty, and that date has been especially chosen for the convenience of those, who, after the meeting, may wish to visit the far famed Saguenay region, before returning home.

Correspondence has been opened with the Trunk Line Association and arrangements are expected to be made for the return tickets at reduced rates. Members of the Association and others proposing to attend the meeting should therefore purchase their tickets to Quebec direct and obtain from the ticket agent a receipt for the money paid, stating the route for which the ticket was issued. On presentation of this receipt to Mr. H. G. Joly, at the hall of meeting, he will sign a Certificate (provided fifty such receipts are presented) that the holder has been in attendance at the meeting and is entitled to a ticket to his original starting point (or to the point where he entered the territory of the passenger associations) at one third the regular fare.

The members of the Forestry Association are requested to send the title of the papers they intend reading, at the meeting, addressed to Hon. H. G. Joly, 15 Buede St. Quebec, before the fifteenth August next, so as to allow the Committee time for proper classification, and preparing and printing of Programme. All papers presented at the meeting will belong to the American Forestry Association, and are to be referred to the Publication Committee for publication in such manner as the said Committee may deem advisable.

Every facility will be extended, to the newspaper Press for reporting the proceedings. All those who take an interest in Forestry, and wish to join the Association can do so by sending their name and address to Doctor Henry M. Fisher, Treasurer of the American Forestry Association 919, Walnut



St. Philadelphia, enclosing two Dollars, for one year's dues, or, if they prefer, they can join the association, at the meeting at Quebec.

H. M. FISHER, Acting Secretary.  
Philadelphia 12th July 1890. A. F. Ass.

#### POTASH.

Independent of the potash that wood ashes contain and which makes it such a valuable manure, an application of it renders the ground porous and keeps it cool and moist. Farmers cannot be too careful to save it and spread it over their lands. Upon sandy land we consider it equally as valuable, pound for pound, as guano. About one hundred bushels of wood ashes per acre is a fair proportion to apply on light soils.

I meet with a good many nonsensical passages in the U. S. agricultural papers, but the above is really perfect in its display of utter ignorance. And the curiousest thing about it is that the editor of the paper in which it appeared is by no means devoid of intellect!

A. R. J. F.

At the time of writing—Saturday morning—the weather of the past week has been brilliantly fine and hot, with local thunderstorms during the earlier part of the week; the atmosphere has been for the most part genial, and all vegetation has made good, sound progress. In the eastern and south-eastern districts wheats on the best clay lands are not quite so forward as they were at the corresponding period of last year, when a week of even higher temperature was experienced; but on the loams—and especially in the south western districts—they are forward, and on such soils there will be plenty of wheat fields in ear by the end of May. As a broad rule the wheat crop can scarcely be considered to be in early form, but it is in exceptionally good form, and in just such a position as would bring an early and abundant harvest with foreign weather from now forward. *What will happen is impossible to know now*, but to-day the stand of the wheat crop is something more than good; where colour was lost it is being rapidly regained, and the plant is healthy at root. *Eng. Ag. Gazette.*

#### SILOS AND SILAGE

J. F. HICKMAN, M. A. S. (pp. 73 88).

*Historical*.—In connection with a brief account of the first use of the silo in this country and abroad it is stated that—

The extravagant claims at first made by silo enthusiasts led practical farmers and chemists alike to denounce the method as both impracticable and unscientific, but farmers have discovered improvements in the methods of producing, preserving, and feeding silage, while chemists have demonstrated wide differences in the chemical composition, and consequently in the nutritive values of different forms of silage, so that the silo, which at one time seemed to be losing ground, is to-day generally recognized as a very useful adjunct to the equipment of every dairy farm, and to many farms where dairying is not the chief pursuit.

An auction sale of Guernsey cattle was held at the American Institute Building, New-York, May 6, under the direction of Messrs. PETER C. KELLOGG & Co. There was a fair attendance but low prices prevailed. Forty-three animals were disposed of for a little over \$3,000, \$70.00 each. The best prices were:

Hymen, heifer, S. W. Brown.....	\$902
Serenade 3643, 5 yrs., Francis Shaw.....	255
Dairy-Bud, heifer, M. Thompson.....	150
Lady of the Isles 1461, 10 yrs., G. McMillan....	135
Divana, heifer, S. C. Kent.....	125
Fancy's Golden Girl 3081, 4 yrs., S. McMillan....	120
Seraph, heifer, M. Thompson.....	100
The Diva 1898, 5 yrs., E. D. Mulford.....	100
Coy, cow, H. C. Seward.....	85
Autumn Rose 1371, 6 yrs., H. C. Seward.....	75

#### NON-OFFICIAL PART.

##### Conservatism vs. The Rage for Novelties.

The Seed Annual for 1890, issued by D. M. Ferry & Co., of Detroit, Michigan, has reached our table. Its cover this year is especially artistic and attractive, and its contents as usual, interesting and instructive. Ferry's seeds are thoroughly reliable, and always come true. The directions given in the Annual for the cultivation of both flowers and vegetables are so full and explicit that no one can fail of success who uses their seeds and follows the instructions.

D. M. Ferry & Co. are very conservative, both in offering new sorts and in their claims for them when offered, but they take pains to inform themselves as to the true character of all new varieties, so if some much lauded novelties are not found in the Annual, the probability is they have tested them and found them of no value.

A request sent to the firm at Detroit, Michigan will bring you a copy of the Seed Annual for 1890 by return mail.

##### Death Dealing Drugs

Such as Calomel, Morphine, &c., are remedies better left alone. They often weaken even strong constitutions. This Burdock Blood Bitters never does, it contains no mineral or other poison, and cures all diseases of the stomach, liver, kidneys, bowels, and blood by unlocking the secretions and removing all impurities.

##### CONSUMPTION CURED

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and a Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all who wish it, the recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W A NOYES 320 Powers' Block, Rochester, N. Y.

##### ADVICE TO MOTHERS

Mrs WINSLOW'S SOOTHING SYRUP, for children teething, is the prescription of one of the best female nurses and physicians in the United States, and has been used for forty years with never-failing success by millions of mothers for their children. During the process of teething its value is incalculable. It relieves the child from pain, cure dysentery and diarrhoea, griping in the bowels, and wind-colic. By giving health to the child it rests the mother. Price 25c. a bottle.

##### Make no Delay!

Is a perfect cure for croup and colds, and I can recommend Hagar's Yellow Oil—one bottle of which cured me of a very bad cold. I would say to all sufferers, make no delay in using it as it gives quick relief.

W. J. KENNY, Stittsville, Ont.

**FOR SALE.**—Norman cattle, Ayrshire cattle, Chester-white and Berkshire pigs, Plymouth-Rock poultry. Apply: Honble Louis Beaubien, 30 St. James Street, Montreal.

#### THE "HARAS NATIONAL" COMPANY

40 Acclimated Normans and Percherons Stallions.

Most favorable terms, a small amount only asked for in cash.  
Stalls at Outremont, Offices: 30 St. James St.,  
near Montreal, Montréal.  
J.S. BEAUBIEN, President. R. AUZIAS TURENNE, Director.

##### A New Element

Must be infused into the blood of the weak and debilitated, who suffer from disease of the stomach, liver, bowels, kidneys or blood. This revitalizing constituent is supplied by Burdock Blood Bitters which repairs waste, drives out all impurities and restores health to the entire system.