

FARMER'S ADVOCATE

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Subscribers for the FARMERS' ADVOCATE for 1875 holding the Numbers for Volume X., can easily detach the Contents from this number, and add to the last Volume, which, when bound together, will make a valuable work for future reference and information to the Farmer.

For the grand PRIZE LIST for getting up Clubs for 1876. see December Number.

For some time as arrangements as large the FARMER perfected, and it handsome number This has entailed great popularity in farmers, has war smaller types, on handsome cover, improved, present and most attractive. It has year. We hope and no expense w illustrations for i

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THE FARMER'S ADVOCATE.

"PERSEVERE AND SUCCEED."

VOL. X. { WILLIAM WELD, Editor & Proprietor. }

LONDON, ONT., JANUARY, 1875.

{ \$1 Per Annum, Postage Prepaid. } NO. 1
{ Office—Dundas-St., Opp. City Hotel. }

A Word to Our Readers.

For some time past we had determined, so soon as arrangements could be completed, to again enlarge the FARMER'S ADVOCATE. These are now perfected, and it is with pleasure we place this handsome number in the hands of its readers. This has entailed a heavy expenditure, but the great popularity it is rapidly attaining among the farmers, has warranted us in doing so.

The FARMER'S ADVOCATE is now printed from smaller types, on good paper, well illustrated, with handsome cover, and otherwise typographically improved, presenting in appearance the neatest and most attractive agricultural paper now published. It has steadily improved each successive year. We hope to make still greater additions, and no expense will be spared in securing suitable illustrations for its pages for 1875.

Being now enlarged to twenty pages, we are enabled to give four pages more reading matter than heretofore (16 pages in all), thus presenting to subscribers the most comprehensive farmer's paper in the Dominion.

The several departments of the FARMER'S ADVOCATE will be kept up to the times, and from the increased sources at our command for acquiring information, our readers can rely on receiving accurate intelligence upon Agricultural, Horticultural, Stock and Dairy, and other topics affecting their interests and welfare. The Fireside, and Ladies' and Youths' Departments will be well maintained, affording amusement for the young, and interesting and useful items for the ladies. The whole paper forms an unequalled budget of news, and places it first in the rank of agricultural papers.

The ablest writers in the United States and Canada now contribute to its columns, and some of the best written articles on agricultural subjects appears in its pages.

The ADVOCATE is ever first in the field to notify farmers concerning new seeds, implements, &c., and what to purchase and what to reject. That it is true to its name, *advocating* only the interests of the farmers—assailing fearlessly all impostors—is evident from the encouragement it is receiving from the farming community.

Its circulation amounts to over 11,000 copies, and during the present year we expect to reach 15,000.

While thanking you for your support in the past, we would again solicit your assistance. Hand this copy to your friends, or any one likely to become a subscriber, and thus help to roll up the circulation of the FARMER'S ADVOCATE.

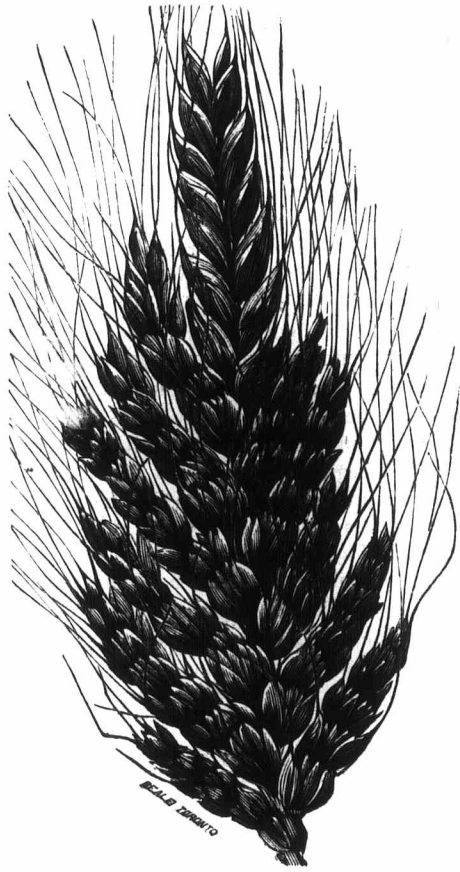
Mr. Stephen White.

We hear this gentleman is to be brought out to represent Kent, in the Ontario Legislature. We wish him success; he is a plain farmer, one of the best practical farmers that sits on the Board of Agriculture and Arts, of which board he was an active and efficient President.

We believe this gentleman has done more good to the farmers of Canada than any other farmer we know; he was foremost in introducing the Scott Wheat to us and aided in the first importation of it. That wheat has been worth hundreds of thousands of dollars to our county. If we had a vote in Kent, we would give it to Mr. White even though John A. or Mackenzie were his opponents.

The Egyptian Wheat.

There appears to be an attempt to get up an excitement in regard to this wheat. After hearing some accounts about it, we saw the following extract:



COSTLY WHEAT.

At the late Provincial Exhibition, an American gentleman got a sight of a few heads of a new kind of wheat, said to be grown in Collingwood township; and seeing a chance for a speculation, he obtained the assistance of Chas. Grant, who was attending the fair, to search up the grower and secure the wheat, promising and afterwards paying him \$50 for his services. On returning home, Mr. Grant was fortunate enough to find the man, and at once informed his keen-sighted American friend, who came along promptly, and bought up 200 bushels at \$5.50 per bushel! The lucky grower had promised 25 bushels to a local dealer, but the American was determined to secure the whole, and thus monopolize the sale of the wheat for seed; and he paid for the 25 bushels \$350! Is all this true? the reader will ask. So at least Mr. Grant assures us. He saw the wheat threshed, helped to bag it up, and saw the money paid for it. What kind of wheat is it, and who is the lucky grower? will be asked. The wheat has a double head (so much we have seen), is very like, if not actually the Egyptian variety, and was grown by Mr. Donald Smith, on the eastern slope of the mountain. The difference between the Egyptian and this Smith wheat is that the former is a fall wheat, while the latter is a spring variety. The appearance of the grain is precisely like fall wheat, but we are assured that it was both sown and reaped this season.—*Meaford Monitor*.

Since then we have written and made enquiries regarding it. It appears to be not quite such a novelty as some might imagine; there were accounts of it in the old *Genesee Farmer* between 10 and 20 years ago; we have had a head of it in our office for the past six years, the grain of which is small and shrunk. We have also heard several accounts about it, but none to warrant us in commending it as much as we can two other varieties.

We give you the above illustration of it; we took the head from which this cut is taken to one of our engravers, and gave him instructions to make an exact copy in regard to size. The short, branching heads set closer to the parent stem than is represented, but to enable the artist to make a distinct drawing, he separated them a little to show the light through the short heads.

We will on no account recommend this wheat as equal to some varieties. We have now our artist at work on a wheat that we feel more confident in recommending than any spring wheat that has been introduced for many years.

We shall give small quantities as prizes for getting up subscribers for the ADVOCATE. We shall not send out wheat till next month, as we are extremely busy with our books at the present time.

More Pay for Jurors.

W. R. Meredith, Esq., M. P. P. of this city, introduced a bill in Parliament to pay jurors at a higher rate than what they formerly received.— This we consider a step in the right direction. It has often surprised us that such an insult should be offered to the farmers as summoning them from their work to attend a court. After travelling many miles, they might wait round a court house a day or two, perhaps, and have one case to sit on—perhaps nothing to do. If they should be called, they might draw 10 cents per case. At the higher courts, \$1 per day has been their pay, and perhaps they might be compelled to pay \$1 for a man to fill their place at home, and feed him, and have to purchase their own board and lodging, which would cost them nearly as much as they would receive. All other retainers round the court are in receipt of good pay, taken from the very farmers who are actually compelled to give their service for nothing.

It has long been our impression that the Grand Jury and many of the petit jurors might be left at home, as the work now done could as well be done at half the expense to the farmers.

Mr. Meredith has opened the business of law reform, and we hope he will follow it up. Although a lawyer, we do not look on him as antagonistic to the farmer's interests, but as being able and willing to advance good measures.

The Dairy Interest.

Canada possesses, perhaps, the best part of the American continent for this branch of industry, our climate and soil being more suitable for grasses than the greater part of the States. At the present time Canadian cheese is holding a good position in the markets of the world, but there is a danger looming up in which we may lose the good name we now have.

An article will be found in this paper under the heading of "A new Department in Cheese Making." This practice of taking the cream from milk and then adding grease to the curd to strengthen the body of the cheese, will, we have no doubt, be much practiced, as much more money might be made by the door now opened to adulteration of cheese. This manner of using purified tallow with the curd may next descend, perhaps, as low as the filthiest grease; it is possible that a passable

cheese may be made by adding either or both to the skim milk curd. Thus we shall have cheese of a vile, unwholesome, and even poisonous nature thrown on the market. The good name we now have may be lost, and the profits of this great interest materially damaged by the use of adulterating substances.

We would suggest that this subject be taken up at the next meeting of the Dairymen's Association as a matter of the greatest importance to the dairy interest, and some remedy or preventative measure be devised.

Every package of butter or cheese offered for sale should be branded by an inspector duly appointed for the purpose, and the quality branded by him as first, second or third; and if any be offered for sale made wholly or in part of any extraneous article (as, for instance in the case referred to), that it be branded as such, thereby to prevent a spurious or adulterated article being imposed on the purchaser for a genuine commodity.

The cheese that is sold at most of our groceries is such as should rank only as third class. It generally consists of culls or rejected lots—those that shippers will not take; while the charge that is made for it is such as should command a first-class quality. The inspection and branding would also do good to our Canadian cheese consumers, and would create a greater demand for a good cheese.

England Again.

Mr. Hunter, of Dorchester, says, "I want to hear more of your trip to England." Well, we will try to satisfy him.

While there we took a trip over the farm of Mr. E. Hilder, of Tenterden, in Kent, one of the most energetic and successful farmers in that part of the country; he occupies over 1,000 acres, rather more than half of which is rented. It requires about \$50 per acre to carry on a rented farm there. Mr. H. informed us that for many years he farmed and made nothing. In good years they think they do well if they can make eight or ten per cent. on money invested. The average farming will not pay over five per cent.; many farmers do not hold their own; it must be with skilled management that money is not lost.

We drove down to the marsh or low lands to see his cattle, which are principally of the Sussex class. They are fine-boned, sleek, red-colored, medium sized animals, and good thrivers, making beef that commands a much higher price than the beef of the Durham or any other class of animals. We inquired his opinion of the Durhams; there are hardly any to be found in this part of England. He considered the Sussex cattle paid them best. He said some had tried Durhams, but they had not spread there, and that the price of Durhams was inflated and would not stand.

On very many of the farms in England we noticed the distinctive marks of the Ayrshires, which are so plain that we thought they would, if here, carry off the first prizes in that class, still they thought them only common cattle there.

After viewing the cattle, we were taken to the sheep. We had, while in Canada, a strong inclination to import some of the Romney Marsh sheep, but on viewing them, after 20 years absence, we concluded that some of our Cotswolds, Lincolns and Leicesters were about as good as we could get. On going through the field where Mr. H. kept his rams, we saw between forty and fifty, from shearlings to three-year olds. He said he would require between thirty and forty of them for his flock. They were about as good as our prize sheep. When going through the pasture fields we said we expected to see better farming in England, as rushes were growing luxuriantly, oc-

cupping about as much ground as the grass. Mr. H. informed us that he had seen no attempt to destroy them. We thought English farming at rather a low ebb, but our impression somewhat altered when we passed to the arable land, as everything is found highly cultivated. Hops, hops, hops, with lots of flies on them; this is the most precarious time. The fly is thick on the leaves, and would destroy the crop in a few days, but the syringe is kept at work. Some of these grounds will cost \$25 per acre to destroy the fly. We should call this farming.

We go to the grain fields. We do not raise such crops of wheat in Canada—63 bushels per acre; one field bids fair for 72, and another for 50 bushels. We walk through the fields; the grain is out in head, standing near shoulder high. We say "Do not walk across the fields; let us go around. We do so much damage by trampling down the grain." "That does it no harm," was the reply; "you could not find the track to-morrow." A Scotch farmer in Canada would make a fuss about it. An Australian wheat was looking better than any other variety; it had been recently procured. In one field the heads had a velvety appearance; this was called the Velvet wheat. We have tried this wheat in Canada, but it rusted so badly with us that we only tried it one year. In one field a winter oat was growing; these were sown last autumn. The crop appeared excellent.

The turnip grounds were in good order; the turnips were just beginning to show. The lime was ordered to be put on at once. On the summer fallows the horses had no easy task; large, solid clay lumps, half as large as a person's body, were turned up; the soil was a hard, tenacious clay, the farm being dry; the horses have enough to do to break up the land. The plow we thought superior to any of our plows; it was a double plow, which turned the land all in one way, thus leaving no ridges. Only one plow worked at a time. By a slight pull of the handles at the end of each furrow, the plows would revolve, the lower plow being on the top of the beam, bottom up, while the other did the work.

We next go into the hay field. The mowing machine is at work, a rather heavier machine than is generally used with us. It did no better work. Here might be found the old crooked-handled, long-headed, heavy rakes, about three times as heavy as they ought to be. The hay forks are also heavy, clumsy affairs. We inquired why they did not improve in their implements. Mr. H. said he had procured some American forks, but the men did not like them; they would bend. The men liked something that would not bend. The wagons were great, massive, clumsy affairs, enough timber being used in one to make three. We do not see why they cannot improve them, but their implements and vehicles last about four times as long as they will with us, the climate is so different: there is not so much hurry and drive as there is here.

We find Mr. H. is grubbing up some of the old hedges, and making larger fields. He considers there is too much loss by having the fields too small.

Implements.

We would call the attention of our readers to Mr. John Watson's advertisement in this paper. We have procured many implements from him, all of which have proved satisfactory. No manufacturer takes more pains to procure the best patterns, or turns out implements better finished. He spares neither pains nor expense to satisfy his customers.

All persons not paying their subscription in advance will in future be charged \$1.25.

Written for the Farmer's Advocate.

Three Prize Essays.

No. 1.—FENCE OR NO FENCE.

SIR,—I see by your last issue that you wish your subscribers' opinion on fences or no fences. I am sorry to tell you I cannot find words strong enough to advocate the former or to condemn the latter, but I would make some allowance if it was all prairie—then it would be better for being fenced. I suppose in places such as France, where you say this system of no fences is carried out, sheep must be kept in herds. I have not been a great traveller, but, as far as I have seen, I feel bound to say the system of no fences could not be carried out even in the most favorable circumstances and localities; but this being such a wide-spread country it is, you will say, presumption in one to pass an opinion on the different modes of fencing, and also the materials it is composed of, put this much I will say, that whatever mode is the best in any country, climate or locality, let that be your choice, and see that it is done properly, and it will be a good fence a long time. The best fences I have seen in this province are split cedar, both rails and posts. Two men and a boy can put up from 250 to 300 yards per day, thus in a few days a large farm will be fenced. Now, what on a farm looks nicer than to see it well fenced? and let it be from end to end as straight as a line, then go to bed in good season and sleep as a man should that has done his duty on his farm, and, most assuredly, he will find his cattle in the same pasture he left them; or, if, by chance, anything should be wrong, as is sometimes the case, he will soon detect it and correct it. But your question is Fences or no Fences? not What Makes the Best Fences? I leave that to the discretion of the farmer, but I have taken the liberty to tell you of the most approved plan in this section. I have been in a brown study for a quarter of an hour past trying if I could find anything favorable to say on the other side of the question, but I am sorry to say I falter at every step and give up in despair, and shall leave its advocacy in better hands, and wait in anxiety your next issue to hear what can be said in its favor. Some will say after a few years we shall run short of wood fencing, but in a few years we shall have to get quick fences. I am confident that many of our native woods will make good thick set hedges. It will cost something in the first place to throw up the bank of earth (say 4 ft. high) and plant it with all kinds of hard wood, but in no case set the plants upright or plumb. Set them in two rows, one row leaning one way, the other the reverse. In about two years you will have a hedge fit to steep, as the hedgers term it, that is cut them with a bill hook about half through to enable them to be easily bent, then lay thorn so in succession, secure them with a crooked stick, and they will grow so very thick that cattle or sheep will not attempt to go over or through. It is not half the job to throw up a bank as you would imagine, and you have an effectual fence for ever. The ditches that are dug to form this bank or hedge will carry off the surplus water and save a deal of draining, and that is a matter of the greatest importance. You say in a late paper that the farmers in France bring their cattle to the villages at night, and I hope you will not think for a moment I doubt your assertion, but, I am sorry to tell you, I have not penetrated enough to see how they are to be fed every night. For instance, myself and three immediate neighbors have about one hundred head of cattle, besides sheep and horses, and how we would have got fodder for them at the village is what I am at a loss to know, or where can the profit or convenience of such a system be I am equally at a loss to see. I suppose you will say I cling to the old practices of my grandsire. I say yes, until I can find anything better or there is really an improvement! We are now speaking of the fences. Now, my opinion of farming is this:—1st. Put up good fences. 2nd. Keep off all surplus water. 3rd. Plough and harrow thoroughly, and in proper season. 4th. Grow as much green crop as you can get manure for, and keep it clean of weeds. 5th. See no dung goes to waste, and, if you can keep it all in one heap, all the better, and everything you can do to it, let it be rough or smooth, you will find your account in it in the long run. And now, sir, one word with you. What makes you offer a cash prize for those essays? Although more in value, I suppose, I would be better pleased with one of Vick's beautiful crows than the cash, for it would be something to put it in remembrance of our friends, and to raise a debate on the merits and demerits of the essay for the better information of all parties.

When I first cont above caption, I int System, being fully culty of persuading th established customs tagueous a change m given the question a tion, I became so full venience and econon that I concluded to

Take, for instance require 910 rods of fields, with a lane farm. In most plac less than \$40 per t places the farmer ha after having paid f would bring them delivered on the grou per thousand, delive ing labor, with boar 75 cents per rod to kind we have. Thi \$682.50. The comp principal, for thirty last), at 6 per cent., \$130.64 annually. annual rent for th stands, \$5; the two by men and team in the 5 days lost pu down (labor and bu annual cost of keepi not considered on t the most favorable rivers or creeks to s

We will now loo tion. In advocatin fences, I will disc pasture system, a known as the soiling tem that has com must be more use system pay, as past mer on account of falls off in her sup yield the same su aware, from prac soiled a part of the able system of soil jority of our farm profit than when a acre farmer kept 30 be required for pas acres for pasture soiling will be all it be rich. Thus at \$2.50 per ac The annual cost of was considered at this the cost of cul \$25; cost of seed, \$ at \$25 per month have entire cost o ing, \$200.

Now, Mr. Edit under the Fence "No fence", \$32, a the saving in land from this the \$200 &c., and we hav annually. But th for soiling and a n cattle, we expect, increase in the qu under the pasturi with the above p Thus we will hav Total saved and g

We have not The former shoul time of birth until should run in a more profitable t or 10 months old lowing year. Of dition for killing, and well fed. E better to keep t will take a quar wasted. If you will require as n let run without enough to pay fo regard to sheep dairy business ha be kept with pro To a person that

No. 2.—FENCE OR NO FENCE.

When I first contemplated writing under the above caption, I intended to advocate the Fence System, being fully aware of the very great difficulty of persuading the public to discountenance long established customs and usages, however advantageous a change might seem. But, after having given the question a calm and impartial consideration, I became so fully convinced of the utility, convenience and economy of the No Fence System, that I concluded to advocate it.

Take, for instance, a hundred acre farm. It will require 910 rods of fencing to divide it into eight fields, with a lane two-thirds the length of the farm. In most places rails cannot be procured for less than \$40 per thousand in the bush. Some places the farmer has to draw them 12 or 15 miles, after having paid for them at this rate, which would bring them to about \$50 per thousand, delivered on the ground—but we will put it at \$45 per thousand, delivered on the ground. Considering labor, with board, at \$1.20 per day, it will cost 75 cents per rod to put up rail fence, the cheapest kind we have. This 910 rods of fencing will cost \$682.50. The compound interest on this sum, with principal, for thirty years (the time the fence will last), at 6 per cent., will amount to \$3,918.50; or, \$130.64 annually. Add to this sum one half the annual rent for the ground on which the fence stands, \$5; the two days that will be lost annually by men and team in opening and closing fences, \$6; the 5 days lost putting up fences that have blown down (labor and board), \$5; and we will have the annual cost of keeping up fences \$146.61—interest not considered on the last \$16, and considered in the most favorable situations—where there are no rivers or creeks to sweep away fences.

We will now look at the other side of the question. In advocating the almost entire abolition of fences, I will discard to a very great extent the pasture system, and adopt the one commonly known as the soiling or green fodder system, a system that has come into use to some extent, but must be more used if we want to make the dairy system pay, as pasture only lasts a part of the summer on account of the severe droughts. If a cow falls off in her supply of milk she cannot be got to yield the same supply however well fed. I am aware, from practical observations, that cows soiled a part of the season only, and by the miserable system of soiling usually adopted by the majority of our farmers, will yield one-third more profit than when not soiled. Suppose a hundred acre farmer kept 30 cows, seventy-five acres would be required for pasture. By the soiling system 20 acres for pasture and 15 for raising material for soiling will be all that will be required if a part of it be rich. Thus 40 acres will be saved, which, at \$2.50 per acre, will be \$100 annually. The annual cost of a fence, at the same rate the other was considered at, will be \$32 annually. Add to this the cost of cultivating this 15 acres for soiling, \$25; cost of seed, \$25; man for tending, six months, at \$25 per month (board included), \$1.50; and you have entire cost of soiling, \$232; or, without fencing, \$200.

Now, Mr. Editor, we have the cost of fencing under the Fence System, \$146.60. Under the "No fence", \$32, a saving of \$114.60, which, with the saving in land, \$100, will be \$214.60. Deduct from this the \$200 for man, cultivating land, seed, &c., and we have the entire saving so far \$14.90 annually. But then where we allow so much land for soiling and a man's whole time, with 30 head of cattle, we expect, and quite properly, too, a large increase in the quantity of milk. Suppose a cow, under the pasturing system, is worth \$20 a year, with the above privileges, she will be worth \$30. Thus we will have on the 30 acres a gain of \$300. Total saved and gained \$324.60.

We have not yet considered hogs and sheep. The former should be kept in the pens from the time of birth until death, except brood sows, which should run in a yard. It is found to be vastly more profitable to keep them up and kill when 9 or 10 months old, than to keep them until the following year. Of course, in order to be in a fit condition for killing at this age, they must be kept up and well fed. Even if you keep them over it is better to keep them up, as by running about it will take a quantity of food to supply the flesh wasted. If you feed them while on pasture they will require as much as when in the pen, and, if let run without extra food, they will not improve enough to pay for the pasture they destroy. With regard to sheep, many farmers who are in the dairy business have discarded them, as they cannot be kept with profit on the same portion with cows. To a person that wishes to keep them we will allow

them 20 acres for 20 sheep, which will cost \$32 annually for fencing, and which will bring down our saving to \$282.60.

There are many other advantages that I might enumerate did time and space admit, such as no fence corners to harbor thistles and other noxious weeds, the road would not become drifted up, and others, but I fear that I have taken too much of your valuable space already.

N. DICKEY.

Essay on Grass and Root Crop.

Written for the Farmer's Advocate and Read before the North Middlesex Agricultural Society.

A very brief glance at the vegetable kingdom, will convince us of the importance of the grasses to the whole family of man, and a more minute and careful survey of this great field of observation will make us wonder that the agricultural world has been content for so many generations to remain in so much ignorance of their nature and properties, as we know they have always been. We all, without exception, derive a great deal of pleasure from contemplating the beauty of the grass; "a thing of beauty is a joy forever." While many of the fruit trees and other productions of the vegetable kingdom are restricted to narrow belts of latitude, the grasses flourish in every region of the earth. The importance of the grasses is shown in the relation which they bear numerically to the total vegetation of the earth; at least one-sixth of the plants that grow belong to this family. Two hundred and fifteen different grasses are capable of being cultivated in Great Britain, and 133 species are proved to be indigenous to that Island. This wide diffusion of the grasses is due, in some degree, to the care which nature takes for their production and protection. The seeds of some varieties are provided with hooks, by which they attach themselves to the hair and wool of grazing animals, and to the clothes of men, and are thus transported to regions widely remote from their origin, and some of their seeds form the favorite food of many birds, are retained in their stomachs, and are carried many hundreds of miles before they are voided. They then germinate under favorable circumstances, and thus the grasses of widely remote regions are interchanged, many of them are furnished with creeping roots, which send forth many creeping shoots, and rapidly cover the ground where a single stem has once effected a lodgment. Nature has also provided for their protection in various ways. A large proportion of them are perennials; they are not injured by the cropping of their herbage. The creeping roots, though bruised by the tread of cattle, are not injured.

The remark has often been made, that he who makes two blades of grass grow where only one grew before, is a great public benefactor. The influence of grass culture on the growth of cereals, is very strikingly exemplified by a comparison of the agricultural statistics of France and England. France has 53 per cent. of its cultivated lands under cereal cultivation, while England has only 25 per cent. Those who hear the statement made for the first time will be surprised, to find that, notwithstanding this disparity between the areas of the grain lands of the two countries, England produces five and one-ninth bushels of grain for every individual of her population; while France only produces five and one-half bushels for every individual of her's. Thus, with less than half the proportional area under cultivation, England produces within seven-eighths of a bushel per head of what France does.

She is enabled to accomplish this result solely in consequence of the manure furnished by her grass lands. Every acre of English grain land receives the manure from three acres of grass land; while in France, the manure from every acre of grass land is spread over two-and-a-half acres of grain land; or in other words, one acre of grain land in England gets fifteen times more manure than an acre of grain land in France. This statement tells the whole story, and assures us that a like increase of manure would produce a like increase of crops with us. It may be said, and it doubtless will be said by very many farmers, that to talk of doubling our grass crops may be very well to point amoral to adorn a tale, but that it is quite impossible to accomplish it practically; they will assert that the idea is a "castle in the air," a product of Utopia, which will only lead to bewilder and dazzle the blind.

We believe, on the contrary, that it is perfectly practicable not only to double but to treble our present production of grass. Every Canadian will

admit that what has been done once may be done again, when the circumstances under which it is done are similar. They believe that like causes produce like effects, and that what one man has done, another man can also accomplish, if he brings to the task the same tact, energy and skill. But we know that many farmers cut two or three tons of hay from each acre of meadow, while others have cut four or five tons from each acre. If other men bring the same set of causes into operation, why should they not obtain similar results. We can see from what we have said, that nature offers the most magnificent premiums for efforts to improve the production of our grasses. It is therefore clearly our interest to search for the causes of our admitted deficiencies, and to learn the conditions which nature imposes upon the winners of her magnificent prizes. The main reason of the inferior condition of our meadows is, that very few farmers try to improve them. It will not be denied that farmers, in general, bestow much less care upon their meadows, than they do upon their grain lands. Not one farmer in a thousand knows the names of the grasses growing on his farm, or can discriminate between them; grass is grass, and that is all they trouble themselves to know. Like Wordsworth's Peter Bell.

A primrose by the river's brim,
A yellow primrose is to him,
And nothing more.

When forming the meadows after tillage, there are thousands of farmers who never sow any grass seed but timothy and clover; and in New England it is very common to sow Red Top, and in Pennsylvania, Blue Grass is sometimes sown; but those who have done so, congratulate themselves on having done some virtuous thing, forgetting that in the fine old meadows of England, which are the envy of farmers and the admiration of the world, not less than thirty different species are found growing in one field. From what we have said, it will be inferred that we make no high pretensions to very extensive knowledge of this great subject. We cannot teach, for the knowledge we seek is yet to be acquired. If we succeed in impressing readers with an adequate sense of their own ignorance, and in pointing them to the path in which they might obtain light and knowledge, our utmost hopes will have been fulfilled. Also, as regards root culture, we need awakening to the fact that by judiciously growing more root crops, such as carrots, turnips, mangolds and other root crops, we can greatly improve our lands by cleaning them of the weeds and wild grass that grow in abundance, and also improve our stock by having nutritious food for them in the long winter, along with the dry hay or straw that we too often feed to our stock without any other nourishing food whatever. If each farmer, having 100 acres of land, were to raise one acre each of turnips, carrots, and mangolds each year, and feed to his farm stock, see how much better cows would milk, how much more butter he would make, and how much better all the stock would be in the spring, as well as improving the land. Then calculate how much that 3 acres of roots would benefit each farmer, and if each farmer were benefited, how much benefit would it be to the country.
L. E. SHIPLEY.

Dunncrief.

Notice.

During the past month we have received five letters containing money, but no name, place or instruction given. We have, by writing to postmasters, been able to find out two of the parties. One, not found out, has Wroxeter post mark; another post mark begins with a C, no more being legible; another has no post mark on it, not a line or scratch of any kind, except a scratch on the stamp. One letter from Stratford contains one dollar, but no name is given; it says "pay to July next." The persons having sent these letters would oblige by sending their names and address.

Luke Weatherstone sends \$1 for the ADVOCATE; he has omitted to name his P. O. The Postmaster has not stamped the letter. John Morton gives no Post Office.

Be sure and state the exact date of posting the letters, and we can rectify it.

ERRATA.—A slight error occurred in the last number of the ADVOCATE. It appeared as Volume X instead of Volume IX, the letter "I" having fallen out while the "form" was going to press.

Correspondence.

Telegraph Versus Farmer's.

I have planted maple trees in front of my farm, inside of my fence. The Telegraph Company are preparing to put up a wire. I do not know which has a right to the space on the road, the trees, or the wire, if the company cut the trees they will spoil their appearance and make the trees lop-sided. Please inform me which has the right of way.
Maple Hill P. O. R. B. CLEMENT.

[As the law now reads, we believe the Telegraph Company has the power. We do not consider this right. We have seen beautiful rows of trees very badly damaged by the company. They should be compelled either to purchase the right of way through farms where trees prevent them from using the road without injuring farmer's property, or they should lay the wire under ground, in a proper tube. Farmers are not yet sufficiently united to secure their rights against large companies. We say the farmer's trees have the first claim, although the law may now give it to the wire.

Complaint.

Mr. Ed.—I am vexed because you did not insert the account I sent you regarding the Scott Wheat. I now pay my \$1, but you need not expect another unless you insert my reports, which are as good as any other person's. I have taken your paper from its commencement, and like it still, but I do not like to be slighted, you can insert this now or afterwards as you think best. I purchased 7 lbs. of Scott wheat, from you in 1873 the seven pounds yielded three bushels.

I sowed 20 acres of Tredwell and Soles wheat last year, and had to plow the whole of it up, and resow. I also sowed the Scott wheat; it stood the winter well. It is an excellent wheat, the best I know of. It is the easiest wheat to thresh I ever raised; it wants to be cut when on the green side. The flour is of the best quality.
McGillivray. JOHN SIMPSON.

On Pork Raising.

The following communication only came to hand as we were setting up the paper. However, we put aside other copy that we might give it insertion. The communications of our subscribers are always inserted first:—

SIR,—I was glad to see a statement in the Oct. number of the FARMER'S ADVOCATE on pork raising, by, as I should judge, a very practical man. If there were more of those accounts published, it would lead to better results in feeding pigs. Mr. B. made a clear profit of five dollars a pig, which is certainly very satisfactory, but thinks it might have been otherwise if feed had been higher and pork lower. He says, "He would be glad to hear from any one that has a better way of pork making." Whether there be a better way or not, might be questioned; but one thing is certain, most farmers do not practice as good. I have raised five white pigs this summer, and wish I could give as exact an account of them as Mr. B. does of his. They came, on the 26th of March, from a large white sow; I think a cross between the Yorkshire and Chester white, and sired by a thorough-bred Suffolk boar. They were weaned at five weeks and then fed them on slops, made principally of dish water and pea meal. There was no attempt at forcing—simply to keep them growing what was wanted. Tender weeds, in early summer, were gathered almost daily and thrown in the pen. Then came fallen apples. I think those things serve a purpose aside from the amount of nourishment they contain—on the same principle that a man prefers a variety of diet, rather than be tied to ginger bread and plum pudding at every meal. Here is where I think probably Mr. B. made a mistake in confining his pigs entirely to corn meal. When about four month old, I began to feed heavier with pea meal made into a thick slop, wishing to make them about 200 lbs. of meat at eight months. Since I began to husk corn in the latter half of September, they have been fed principally on corn in the ear. A very good farmer remarked the other day, "It seems a wasteful practice." I answered "That I did not think they wasted the toll." He said, "Perhaps not." I think it better

to feed in the ear than shelled, except it is ground, or peas scattered thinly on the hard ground better than in a trough. While they are shelling or picking up they are also grinding, and the mill does not get clogged by too fast feeding. Well, I killed one of those pigs at six months and twenty-four days, and it dressed 168 lbs. I weighed another at seven months and twenty-three days; it stood 240 lbs. alive, and this is pork of the finest quality. I would here remark that I am highly satisfied with this result, perhaps because I do not know how much they have eaten.

I would conclude by saying a few words on the manure. I think it worth more than the trouble. I cleaned out the pen frequently, and mixed it with the rakings of the yard and lane where the cattle were every day going, sometimes throwing a quantity of dry dust into the pen to absorb the liquid and keep them dry. By this means I collected a large pile of excellent manure, and used it for top-dressing a piece of land seeded with timothy grass. I think Mr. B. values the manure too low. However, it depends on how it is saved. Pens are constructed frequently on a bad principle. I was asked by a very careful German to take a look at his pigs. First I noticed the pen; it was built on a side hill, with the low side or back down hill, the floor inclining the same way, and otherwise constructed with considerable ingenuity. I remarked, "I do not like you pen." "Why?" "You can't help wasting the manure." "Yes," he said, "a good deal was wasted, and I need it bad enough too." "Your hogs work it off the floor with their feet on to the side hill, then the water from the roof washes it down hill in a place where you don't want it." "Yes, that is so; it is not good."

If pigs were fed with the idea of making manure instead of pork they would pay better. It would be like taking care of the pennies, the pounds taking care of themselves.
F. MALCOLM.
Innerkip, Ont., Nov. 25, 1874.

To Our Subscribers.

We thank our subscribers for their punctuality in remitting their subscriptions for 1875. There are some on our list who, through neglectfulness, have not yet paid. We wish to hear from them this month, as we intend hereafter to strike off all names far in arrears.

Those who gain one or more of those beautiful Chromos, have them sent at once. Should they not arrive within a week after the subscription is received acquaint us of the fact. The grain for prizes will not be sent out till the last of January, or beginning of February. The names of those gaining prizes have been entered in our books.

Any person can get up a club in their own vicinity with very little exertion. A commission of 25 cents will be allowed in each dollar to those sending us four or more new subscribers. It requires a little time to talk to farmers, and we do not wish any one to loose while working for us.

We do not hold ourselves responsible for the acts of persons who are not duly authorized agents. If any one attempts to take a subscription from you be sure you are right before paying money; if you have doubt, you can enquire of the parties; if they are strangers to you they should show their authority. Persons acting in their own neighborhood do not require any written authority; if they are nor responsible do not pay them the money.

Persons wishing to procure or dispose of land in the western section of Canada, would do well to apply to G. B. Harris & Co., of this city, as they are reliable and responsible, and are doing a larger business in that line than any other firm we are acquainted with. See advertisement in this paper.

THE LATEST BY TELEGRAPH.—The Local Flour Market was dull to-day. The only change in quotations were a decline of 5c. on Extra Superfine. The grain market continues dull and nominal in quotations. Provisions are quiet and unchanged. Ashes have fallen off again and First Pots are now at \$6.00 and First Pearls at \$6.90.

Replies to Correspondents.

To J. R., WESTMINSTER.—The best kind of potatoes for a general crop depends partly on the quality of soil in which they are to be planted.—Our correspondent's opinion agrees with our own, that we have no better for an early crop than the Early Rose. They are early, productive and good for table use.

To A SUBSCRIBER, MISSOURI.—That we have not made hops a subject of consideration in the ADVOCATE was owing to the fact that very few farmers were engaged in their cultivation, and that subject would be of interest to few of our readers.—We give elsewhere an estimate of the hop crop of 1874, and the expected prices, from the *Brewer's Guardian*, London. We purpose to give an article on hop culture in an early number.

To A FARMER OF HURON DISTRICT.—In commencing the soiling system, it is necessary to have sown some crop in the fall for feeding in May and early in June. The best that we know for the purpose in this country is fall rye. It stands the winter well, comes in very early and produces heavy crops for soiling. As we judge from your letter, you have not yet made any provision for the early soiling of your stock, we fear you will have some difficulty in providing green food for earlier than June. As soon as the weather permits in the earliest days of spring, sow some rye, even if it be a small quantity. In the February number of the ADVOCATE you will have the subject of soiling fully treated.

To PATRON OF HUSBANDRY.—We hope at all times to have full details of the progress of the Granges. You will see by this issue of the ADVOCATE that there is a continued increase of the members. You are right when you say that by discussing agricultural subjects at their meetings they will serve all the purposes of Farmers' Clubs, besides forming a bond of union to the farmers.—If in Grange—there be such discussions or essays, a report of them from you will be taken as a favor.

Cattle Fairs in Britain.

The feeding of stock for beef and dairy products is certainly one of great importance to the farmer; and we may add to all classes of society, and it commands the attention of every agriculturist. The best grasses for the pasture, the food for winter, the most profitable cattle to feed are the subjects of anxious thought and careful consideration of farmers and agricultural writers; but the subject of stock fairs as known in Great Britain has been strangely overlooked. These have been of the greatest good to persons having to sell or buy stock. It would be almost impossible for the great feeders of cattle or sheep, especially the latter to carry on their business to the same extent or with equal success, had he not the opportunity offered by these fairs of purchasing on so large a scale, laying it out it may be in our day from \$500 to \$2,000 on those cattle or sheep. The *New York Tribune* gives the following account of the stock fairs—no less than in Ireland—the great annual fair of Ballinasloe:

On the first Tuesday in October begins each year the great Stock Fair at Ballinasloe, in the west of Ireland, and it continues during the week. The first and second days are devoted to sheep, and the day before the opening thousands of animals from every direction are headed toward Garbally Park, where they are placed on exhibition. Here the shepherds pitch their camps, and at night the blazing of hundreds of fires, the tall trees casting deep shadows over hundreds of flocks quietly grazing or uneasily bleating, the barking of hundreds of "colley dogs," which, with their owners, are variously employed in gathering stragglers,

making new acco- form, in combinatio During daylight the animated. It is a in this country regular attendant place year after yo broken in upon, at tered beneath the wordly war, a fight

But by noon of change hands and at the "ustom ga not without the national "buckth crooks of the Irish the sheep are disp offered for sale, a In 1871 over \$3 brought to the P horses are coming culmination of the famous stone wall the hapless riders mud upon the oth stone and four fe

There are horse The streets of the as the Park, and in their stalls at owners here this and whiskey flow the crowd, which scrimmages, and horse, the sole pro and killed by the himself, so that t the question.

Friday comes, Horned cattle are and horses which ses clear their wa Park, and as each from without, an charge of its new dened bulls and neither are equa many times more in the thick of t parody of Pander the day is over; and \$1,000,000 e Fair, Saturday "the colors of the improve upo the display of hats, a dresses of the co fun, fast and fur is the sole occup for the aristocrat in the tents for t and night, and t rather than its l revelers.

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making new acquaintances among themselves, form, in combination, a weird and remarkable scene. During daylight the scene is scarcely less strange and animated. It is a custom from "time immemorial" in this country of conservative habit, for each regular attendant at the fair to occupy the same place year after year. But this rule is sometimes broken in upon, and an interloper is found sheltered beneath the favorite elms. Then comes a wordy war, a fight, an ejection.

But by noon of the first day, 60,000 sheep often change hands and make their way out of the Park at the "custom gap" in single file without loss, but not without the usual passage of arms with the national "buckthorns," "shillalahs," and sheep-crooks of the Irish shepherds. The second day all the sheep are disposed of. This year 63,739 were offered for sale, and 58,280 changed ownership. In 1871 over 83,000, and in 1866, 85,000 were brought to the Park. As the sheep go out the horses are coming in, and Tuesday is the grand culmination of the fair. This is "lep" over the famous stone wall and to enjoy the discomfort of the hapless riders who come to grief in the soft mud upon the other side. This wall is of loose stone and four feet high.

There are horses everywhere—led and mounted. The streets of the old town are full of them as well as the Park, and many valuable hunters are sold in their stalls at the hotels. Nearly 600 changed owners here this year. Money flows like water, and whiskey flows, too, as well as the "spirits" of the crowd, which led them into all sorts of scrapes, scrimmages, and accidents. This year a valuable horse, the sole property of a poor man was run into and killed by the "car" of another man, as poor as himself, so that the recovery of damages is out of the question.

Friday comes, and with it another change. Horned cattle are now everywhere instead of sheep and horses which have disappeared. Surging masses clear their way through the town towards the Park, and as each drove passes the custom gap from without, another comes up from within, in charge of its new owners, outward bound. Mad-dened bulls and excited oxen are not wanting, neither are equally maddened and excited and many times more drovers, who yield huge strikes in the thick of the struggle. At 3 o'clock this parody of Pandemonium ceases and the business of the day is over; 18,000 cattle were sold and bought, and \$1,000,000 changed hands on this day of the Fair. Saturday is the "Country Fair," and all "the colors of the rainbow," and many more which improve upon the old standard, are seen in the display of hats, and bonnets, feathers, ribbons, and dresses of the country girls. Work is over, and fun, fast and furious, until the new week dawns is the sole occupation. Dinner parties and balls for the aristocratic, and hops upon the green and in the tents for the "plebs," occupy the afternoon and night, and the width of the road homeward, rather than its length trouble the soberest of the revelers.

The Inventors of the Reaping Machine.

To Americans—made us as America is of the peoples of all countries under the sun—it seems strange to listen to the discussion about the native country of distinguished men. In England and Ireland they have been discussing recently whether McCormick and Hussey, the inventors of the reaper and mower, are English, Irish, Scotch or American. An Irish paper has taken the trouble to go to the bottom of the matter, and, after patient labor, triumphantly announces that both these gentlemen were "born Irish;" indeed, are "Irish gentlemen who emigrated to America at an early age." "They gained their reputations as machinists, however, in America."—*Farmy's Weekly Press.*

Prize Essays.

In this issue will be seen three prize essays, all of which will be read with interest. The prize essay on soiling will appear in our next issue.

Two prizes are offered this month. One for the best article on the "Destruction of Wild Mustard," the other is offered by a reader of this paper, the subject to be, "Is co-operation beneficial to farmers." The articles not to exceed a column and a half in length, and to be in this office by the 20th of January.

Patrons of Husbandry.

We wish success to any enterprise that we deem of benefit to farmers. New Granges are forming daily, and the old ones are adding scores to their membership. There are now 76 Granges, and probably before another issue of the *Advocate* there will be one hundred. This will make an organization of considerable strength. We have always taken the ground that intelligence was the basis upon which all undertakings must rest, and that our brother farmers should take such steps as would be to their advantage. By farmers organizing, good measures for their benefit may be discussed. The organization, so far as Canada is concerned, is still in an immature and crude state. While the organization is in its infancy, every step should be well considered before it is taken. The Executive Committee at their meetings should consult what will be best for the interests of the country. Some wish to drive the Order rather too fast.

How can we turn this organization to advantage? Some plan must be devised that will give greater returns for the labor expended on the farm, and for the money expended on the Grange. Everyone admits that fact. Every member in the Order should try to answer this question; bring it up at your Grange meeting and discuss it. We must not sit down expecting that our connection with an organization is to lead us on to fortune. There is work for every member. Our plan of establishing an Agricultural Emporium for introducing and testing seed, trying implements, carrying on a farm, a ware-room and a paper for the benefit of farmers, managed and conducted by them, is what we believe to be as good and object to centre our plans on as anything. This petty-fogging grocery trade is, or ought to be, below our sphere of action. General information regarding agricultural plans and interests should absorb our attention. This journal is not tied to party or politics. Agricultural interests is our plank. If any farmer has any good plan to suggest, the pages of this paper are open to him. There has not yet been much good done by our order, but we hope to have account of good suggestions to report soon. We believe much of the formality and expense may with advantage be abandoned. In electing officers we believe an annual change should take place.

There have been losses in some of the Granges in the States through agents, and some publications have failed that espoused their cause, but the losses do not appear to affect them much, as their gains appear greatly in excess of the losses sustained.

Pelham Grange, No. 17, has re-elected S. W. Hill, Master, and W. Pemberton Page, Secretary, for the year 1875. The Grange is in a prosperous condition, numbers sixty members, and an experience of six months has added much to our faith in the Order. The principles upon which the Grange is founded are good, and supplies a long felt want among us farmers for the interchange of ideas.

W. PEMBERTON PAGE, Sec.

Union Grange, No. 34, re-elected David Peterson, Master, and M. C. L. Kitchen, Secretary. The Grange now numbers 50 members.

OFFICERS OF DOMINION GRANGE.

Master—S. W. Hill, Ridgeville, Ontario.
Secretary—T. W. Dyas, Toronto, Ontario.

The Use of Salt for the Feeding of Cattle.

TRANSLATED FROM LE JOURNAL D'AGRICULTURE PRATIQUE, FOR THE MARK LANE EXPRESS.

Much has been written on this subject and much advice given, without having, in my opinion, resolved the question in a practical point of view. First—I cannot admit that we can determine a ration, a certain quantity of salt to be given each day, or at each repast, to an animal of such or such a breed, because it is evident that that ration ought to vary in accordance with a number of circumstances. For example, the size of the animal, its age, its condition of fatness or leanness, of health or disease, the medium on which it lives, the season in which we find it—warm and dry, or cold and moist, the tonic or debilitating nature of the food it receives, &c., &c. Experience has proved, and many farmers have acknowledged that to enforce salt upon animals is to commit a fault of which we have often reason to regret the effects. In our establishment, without reckoning milk cows and young stock, we keep eighteen or twenty draught oxen, accustomed in all seasons to rough work, and who receive of necessity an abundance of food,

sufficient to repair the force expended, and which, after a time, are rapidly fattened. These animals, I may say, experience afterwards those gastric disorders so common amongst oxen which we harness almost immediately they have finished their meal, and whose rumination ought to be going on at the same time they are making the necessary efforts for the accomplishment of their work, a condition we know is most unfavorable to the functions of digestion. It is necessary, therefore, to introduce in the feeding of our cattle a condiment favorable to their digestion without exposing them to the more injurious effect (which is not generally believed) of the immoderate use of salt in giving it under improper conditions. In the distribution of salt we leave the cattle to themselves and their own judgment as to quantity, and they have never deceived us.

We simply place in the manger and at the door of each of them a lump of rock salt, which contains, mixed with common kitchen salt, in suitable proportions, sulphate of soda (Glauber's salt) and sulphate of magnesia (Epsom salt), substances digestive and slightly laxative, and very favorable to the functions of the stomach, and very important for ruminants. When an animal feels the effects of indigestion painful, he licks at discretion his morsel of salt, and recurs to this means of relief every time he feels the need of it. I have very often seen animals whose digestion operated painfully, rise, lick the salt for a time, longer or shorter, according to the need they feel, and, surely guided by their instinct, then lie down, and again rise, lick the salt again, and so continue till the rumination takes place again, and thus administer themselves the remedy for the disorder.

The good effects of this mode of distributing salt to animals have been proved to us many years ago in a manner which has led us to attach still more importance to it. In consequence of the inundation of the mines from whence the salt is procured that we make use of, they have been deprived of it for some time; and every week we have had to treat some of them for disordered digestions, of which the least consequences were the loss of labor of the oxen, of milk of the cows, and their falling away in condition. But as soon as we have been enabled to give them this condiment, the indigestion has been removed. In absence of rock salt we could always incorporate with the rock salt employed sulphate of soda crystallized (Glauber's salt), which is sold at low price, and which all salts contain in the proportion of from 3 to 4 per cent. We consider it to be the best reactive, and perhaps the only one against the inconvenience of an excessive consumption of salt.

The farmers act upon routine (I hope they will excuse me for speaking the truth), and because they profit largely from the advantages it presents, it is necessary that the administration of the indirect contributions should facilitate the means of application, by authorizing in all the communes depots of salt for the use of cattle, in order that the cultivator may be able to procure it as readily, without loss of time, and in proportion with his wants and resources, so that destined for his own consumption, and in order that there will soon be in France not a single head of cattle deprived of salt; then we shall no longer, in this respect, have to envy other countries in which the beauty of the farm animals is almost always in proportion to the low price of salt.

The employment of salt in cattle feeding, when even it is subject to the duty, and still more when that is remitted, does not involve an expense without compensation; for by its action upon the digestive organs it produces a better and stronger assimilation of the food, and consequently a saving, the nutrition being not in proportion with the quantity consumed, but rather of that digested; a part also is found in the dung, which will acquire an extra value by it; the milk also being of a better quality, and it imparts to the butcher's meat a very appreciable flavor. That of sheep said to be pre-salted has no other cause.

In a few words, do not force the salt upon the cattle, but place it within their reach; they will then consume it in quantities varying with their real wants, which their instincts will teach them to know much better than we can, and they will never abuse it.

We may congratulate the Canadian farmers that they have an abundant supply of the commodity, so invaluable for the fertilization of their fields and for their stock. We append a brief account of the salt beds in Huron and Bruce—sufficient to furnish an inexhaustible supply for all purposes.

The Horse.

The Horse and his Treatment.

At a meeting of the Boxford Farmer's Club, on Tuesday evening, Nov. 19, a lecture was delivered by David Stiles of Middletown, on "The Horse, His Needs and Treatment." The lecture opened with an apostrophe to the horse, or a statement of his qualities, powers and uses; also his condition in various countries, and especially in our own. The history of the domestication of the horse, and the development of his powers for the uses of mankind was clearly stated, and the changes wrought in the horse, and the society, both good and evil, were duly noticed, particularly regarding diseases incident to horses in our times. Several rules were given for the treatment of the horse in the stable and on the road.

The duty of the farrier, or horse shoer, was treated in a strictly technical manner. The suggestions upon this subject seem to have been born of the blacksmith's anvil, so intensely practical were they, and so eminently adapted to the consideration of the shoer of horses. To an innate love of the horse, the lecturer has added nearly a half century of study, and familiar acquaintance with horses, in the intimacies of furnishing their feet with the iron shoes. These garnered observations, experiences the results, and keep lively his interest in the noble animal he prizes so highly and loves so much. At the same time it appears to elevate his trade into a great art, and a commanding science. A long procession of horses pass before him, suffering from elongated hoofs, or corns, or contractions of ringbones or spavins, or sprained tendons, or interfering, or all these combined, the result of bad shoeing. Take up the foot of one of these injured horses, and it is seen that the frog has almost disappeared between the contracted heels; the bars have been cut away; the sole and crest scooped out with the buttress to a thin edge, while the toe is barely touched. So many of these injuries are due to bad shoeing, that the lecturer is a reformer, and he takes the working tools of his profession to the audience and explains the whole.

When the foot is unshod and the horse at liberty, the growth of the hoof is barely sufficient to provide for a constant wear and tear of the sole and toe, and consequently no part is wanting or superabundant. But when the horse is put to work on hard roads, and to stand in dry stables, the foot becomes inadequate to the wear, and to save it the iron shoe is put on. This shoe prevents the wear, without checking the growth of the hoof; and to compensate for this, every time the shoe is off, the hoof should be brought as near as possible to the form and size that nature gave it. To prepare the hoof for shoeing, the crust should be levelled, the toe made as short as will admit of, and the bars and frogs left full.

Very full directions were given regarding the art of shoeing. In this connection there was a pointed criticism upon articles upon the horse often found in the issues of the printing press, but which possess little merit, and much false science.

Good advice was given to all owners of horses as to the driving of their animals. A horse with the natural capacity of trotting five miles an hour, would probably be able to work well until thirty or forty years old, if driven within his capacity. But by the application of a whip or urging, the horse be forced to go eight miles an hour, he soon is worn out and goes "where the good horses go."

The lecture was listened to with rapt attention. At the close many questions were proposed and promptly answered. The club unanimously voted thanks for the interest and instruction furnished.—*From the Massachusetts Ploughman.*

Harness Chafing.

Harness that is much used generally become rough on the inside surface, particularly at the edges, with a collection of moisture, perspiration, dust, and dandruff, which, if not removed, may very soon roughen up and wear off the hair and chafe the skin, making it very sore. Although it may have the appearance of a fresh gall, it is very tender and painful, and may be found to be composed of a number of small, watery pimples. Great care should be taken, in currying, not to come across these soars. "Prevention of cruelty" being our motto, we will suggest that the harness be kept soft and from this accumulation of dirt,

by scraping and washing often, and by shifting the harness so that it will not come in contact with these tender spots.

Rules for Purchasing Horses.

1. Examine the eyes in the stable, then in the street; if they are in any way defective, reject.
2. Examine the teeth to determine the age.
3. Examine the poll, or crown of the head and the withers or top of the shoulders, as the former is the seat of poll evil and the latter that of fistula.
4. Examine the front foot, and if the frog has fallen or settled down between the heels of the shoe, and the heels are contracted, reject him; as he, if not already lame, is liable to become so at any moment.

Next observe the knees and the ankles of the horse you desire to purchase, and if cocked, you may be sure that it is the result of the dispensations of the internal organs of food, a consequence of neglect of the form of the foot and injudicious shoeing.

5. Examine for interfering, from the ankle to the knees, and if it proves that he cuts the knee, or the leg between the knee and the ankle, or the latter badly, reject.

Speedy cuts of the knees and legs are most serious in their effects.

Many trotting horses which would be of great value were it not for this single defect, are by it rendered valueless.

6. Carefully examine the hoofs for cracks, as jockeys have acquired great skill in concealing cracks in the hoof.

If cracks are observed in any degree, reject. Also both look and feel for ring bones, which are callouses on the bones of the pastern near the foot; if apparent, reject.

Examine the hind feet for the same defects of the foot and ankle that we have named in connection with the front foot. Then proceed to the hock, which is the seat of the curb, and both bone and blood spavins.

The former is a bone enlargement of the posterior and lower portions of the hock-joint; the second is a bony excrescence in the lower, inner and rather interior portion of the hock, and the latter is a soft enlargement of the synovial membrane on the inner and upper portion of the back. They are either of them sufficient reason for rejecting.

8. See that the horse stands with his feet well under him, and observe both the heels of the foot and shoes, to see if he forges or overreaches, and in case he does the toes of the fore feet are low, and the heels high, and the heels of the front shoes a good thickness, and the toes of the hind feet are of no proper length, reject him; for if he still overreaches with his feet in the condition described, he is incurable. If he props out both front feet, or points them alternately, reject him.

9. In testing the driving qualities, take the reins while on the ground, invite the owner to get into the vehicle first, then drive yourself. Avoid the display or the use of the whip, and if he has not sufficient spirit to exhibit his best spirit without it, reject. Should he drive satisfactory without, it will be proper to test his amiability, and the extent of his training, in the use of the whip.

Thoroughly test his working qualities first, as that gift is more important in the horse of all work than great trotting speed. The value of a horse, safe for all purposes without blinds, is greatly enhanced thereby.

10. Always purchase of the breeder of the horse, if practicable; the reasons are obvious.—*Maryland Farmer.*

Rubber Overshoes for Horses.

Rubber overshoes for horses are a recent invention, which promises to be a boon to the equine inhabitants of the paved cities. The shoe is made and lined in precisely similar manner to the articles of apparel worn by the human race, and, in fact, presents no points of difference save in its shape and its manufacture of the best quality of India-rubber. It is designed as a substitute for the iron shoe, and as a means of preventing the many maladies to which horses' feet are subject. Horses suffering with cracked or contracted hoof, and similar painful hurts, it is said, are quickly cured by the substitution of the rubber covering for the unyielding metal shoe. The elasticity of the former allows the hoof to remain in its natural shape, while protected from abrasion against pavements by the heavy rubber sole beneath. The device is easily

removed from or put on the hoof, and hence, while standing in a stall or turned out to pasture, the horse may be left barefooted. In winter time the covering serves as a protection against illness due to the common practice of mingling salt with the ice and snow in city streets, while the roughened surface of the rubber beneath serves to the animal a foothold in slippery weather. As compared with iron shoes, the cost of the rubber ones is about one-third more, and their weight is some 40 per cent. less, while they are very durable. Sixteen sizes are manufactured, so that accurate fits may be obtained.

Balky Horses.

The Society for the Prevention of Cruelty to Animals put forth a set of rules for the treatment of balky horses, which rules, unfortunately, do not always work. The best way is to have nothing to do with balky horses. But, nevertheless, some one of these rules, as well as a hundred others, do work in particular cases. They are as follows:

1. Pat the horse upon the neck; examine the harness carefully, first on one side and then on the other, speaking encouragingly while doing so; then jump into the wagon and give the word go; generally he will obey.

2. A teamster in Maine says he can start the worst balky horse by taking him out of the shafts and making him go around in a circle until he is giddy. If the first dance of this sort doesn't cure him, the second will.

3. To cure a balky horse, simply place your hand over the horse's nose and shut off his wind until he wants to go, and then let him go.

4. The brain of the horse seems to entertain but one idea at a time; therefore continued whipping only confirms his stubborn resolve. If you can, by any means, give him a new subject to think of, you will generally have no trouble in starting him. A simple remedy is to take a couple of turns of stout twine around the fore-leg, just below the knee, tight enough for the horse to feel, and tie in a bow knot. At the first check he will generally go dancing off, and after a short distance you can get out and remove the string, to prevent injury to the tendon in your further drive.

5. Take the tail of the horse between the hind legs, and tie it by a cord to the saddle girth.

6. Tie a string around the horse's ear, close to the horse's head.

Kindness Does It.

An experienced horse trainer in California thus writes:

"In reply to your letter. I would say that the education of my colts has in a great measure been accomplished by kind treatment. The horse is so constituted that by proper management and kind treatment his confidence and affections may be acquired to such a degree that his will becomes completely absorbed in that of his friend and trainer. I will say, further, that the horse naturally possesses a far greater degree of intelligence than he has ever been given credit for."

CRIBBING HORSES.—Dr. Cook, Elmira, O., writes the *Scientific American*:—"Cribbing is caused in the first place by some foreign substance being pressed between the teeth, or by the front teeth growing too close together, thus causing pain. The horse, to avoid this, instinctively pulls at any hard substance, thus spreading the points of the teeth, and by that means affording temporary relief. To remedy this fault, it is only necessary to saw between the teeth with a very thin saw; this relieves the teeth of all side pressure, and effectually ends the trouble. The gulping of wind and the gurgling in the throat are effects that will cease with the removal of the cause."

HORSE'S MANE FALLING OUT.—The *Country Gentleman* says:—"The shedding of hair from a horse's mane and tail can be prevented by washing the parts affected a few times in carbolic soapuds. Or a wash made of lard oil, one pint, and aqua ammonia, one gill, well mixed and rubbed in, will prevent the falling of the hair. We have found it effectual."

SORE THROAT.—Symptoms: The horse hangs his head down, chews, but cannot swallow, throat swollen and feverish. Apply a poultice of bran wet up with a strong decoction of red oak bark.—Give him tepid water to drink, with moderate exercise. If he is feverish bleed him two gallons from the neck.

A New D.

Oleo-margarine has been made from milk in about eight hours. The establishment counts of the after being it is heated the rennet. The Brooklyn can be made melted, like milk with in about eight dants keep garine with curd as it f

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Stock and Dairy.

A New Department in Cheese Making.

Oleo-margarine has been put to a new use the past summer. A company has been formed and has been engaged since last spring at McLean, Tompkins County, N. Y., in manufacturing cheese from milk skimmed at twenty-four and thirty-six hours. The editor of the *Utica Herald* has visited the establishment and gives, in that paper, an account of the process of manufacture. The milk, after being skimmed, is placed in large vats where it is heated to the proper temperature for receiving the rennet. The oleo-margarine is received from the Brooklyn factory and is as pure and clean as can be made from clean tallow. It looks, when melted, like a rich golden oil and is added to the milk with enough rennet to coagulate the mass in about eight minutes, during which time attendants keep the milk agitated so that the oleo-margarine will mix with the milk and be seized by the curd as it forms.

While the curd is being cut, more oil is added and as much of it made to adhere to the curd as possible, while the surplus is reserved for use in the next batch. A microscopical examination shows that the mechanical mixture is very intimate, the parts being evenly distributed, and closely resembling the curd made in the usual way.

The editor found about 3000 cheeses on hand at the factory, and, after a free use of the trier, was surprised at the quality disclosed. He says:—"There was plainly a lack of fancy flavor, but the way in which the skim milk has been brought to produce a rich mellow cheese, with a good flavor, is wonderful. It is not quite right to judge the cheese by the standard of fancy, because if the material of which they are made (skim milk) were worked without the enriching, the result would have been exactly the reverse of fancy. It is difficult to judge the cheese by the standard of skim milk which shows even a trace of skimmers. The curing seem to be delayed longer than in full cream cheese, and the greater the age given, the more perfect seems to be the incorporation of the oil and the smoother and sweeter the body of the product. The cheese at McLean is above the average of the full cream cheese which we have inspected this season, in marketable qualities. The butter which is made of the cream is strictly a fine creamery article. It is made according to the usual creamery practice.

The dairymen in this vicinity, have received better returns for their milk the past summer than ever before. Ten pounds of milk is called a pound of cheese, and for every ten pounds of milk the farmer received within two cents of the highest fancy price of cheese quoted in New York market. The business bids fair to be extended the coming season.

Suffolk Swine.

A constant reader of the *Times* wishes us to say something about Suffolks, enforcing his request with the remarks that, say what we please about pork, this meat constitutes the great staple of the laboring classes, and it is of the utmost importance that they should have the best, and that producers should select those kinds which fatten early and easily. We are not quite so certain that pork must constitute the staple food of the masses, but we subscribe fully to the doctrine that Marriam's maxim, "Get the best" applies as truly to hogs as to books. Every man to his taste. We like beef and mutton, others like pork. Each pays his money and takes his choice. If we were chopping wood on the mountains on a cold day we should probably like pork and cream gravy, and would not object to cold potatoes and kohl-slaw. But for sedentary people, at all seasons of the year, and the out door workers in the hot season, we cannot recommend pork, nor do we believe it can be produced as cheaply as mutton. It takes a pile of corn—it is commonly estimated at fifteen bushels and an equivalent in other food—to make a hundred pounds of pork; that is, it takes eight pounds of corn to make one pound of pork, and when it is made there is comparatively little muscle-forming material in it.

But we sit down to discuss suffolks, not the pork-diet question. We have tried several kinds of hogs and have settled down on the suffolks as the standard edition of the *genus sus*. We were captivated with the fine form of the Berkshire—we never liked their color—and tried them thoroughly for six or eight years, but they were not so meaty

an animal as they appeared to be. Their ribs were out almost horizontally from their back bone, making them appear among swine as the Durham among cattle; but when brought to the shambles and tried on the scales they were found wanting. There was too much inside to them, and not so much rib-pork as their looks indicate, or as the amount of food consumed would lead us to expect. The Berkshires furnish good meat hams, and if ham was the great consideration in pork-raising we should have stuck to this black breed in spite of our prejudice against their color and the general disfavour into which they soon fell. Our great objection to the Berkshire was, that there was too much offal in their great caverns and not enough pork for shillings expended in their feeding.

Of all the hogs we have ever tried the Suffolks come the nearest to filling the bill. It is an old breed, doubtless derived originally from a cross of the Chinese hog with the natives of Yorkshire and Suffolk, England. These two countries are not contiguous, but their swine are very much alike, and the small Yorkshire is often confounded with Suffolks. Prince Albert had an eye for a good hog, and he gave the preference to the Suffolks, and bred them with so much success that one family of this breed was named after the Prince Consort, and were imported into this country under the name of Prince Albert. Youatt says:—"On the whole there are no better breeds in the Kingdom than the improved Suffolk;" and Rham says:—"Suffolks pigs are perhaps, on the whole the most popular breed in England. The Suffolks attain maturity at an early age, and may always be in a condition to kill from the time they are a month old. The carcasses command a considerable extra price over the common hogs of the country, partly on account of the great weight in proportion to the bone, and partly from the pork being of a better quality and flavor."

What the farmer wants is to get the most and best meat with the least food and the least offal, and in the shortest time, and this bill we are confident a cross of the Suffolk on the Chester White, or any of our common hogs, will fill. And it will not answer to stop with the first or second cross, and conclude that we have a new and perfect breed. If we do, a reversion will surely take place to the large coarse hogs. This is the trouble with the Chester White. They are not an established thoroughbred breed, and this the most intelligent breeders of the variety well know.

The common saying is that all the different breeds of swine is the swill-pail. This is too old-fogyish to need denial. A keen woman, accustomed to feeding swine, once said to us:—"There is as much difference in hogs as in other flocks. Some men eat enough, but are as lean as Pharaoh's kine because they are in a constant feat. The Suffolk pig is a good, easy soul that eats and sleeps, and does not worry, but, as a good pig should do, does not grow fat. The Suffolk is a gentleman pig."

The Suffolk is gentle if not gentlemanly, and should be treated in a gentle manner.

We never knew a Suffolk boar to be cross. He loves to be petted as much as does a kitten, and a little patting and scratching on the back seems to take all the hoggish nature out of him and almost to inspire him with affection. Suffolk pigs want a clean bed-room and should have it; especially is this the case with the sow at breeding time. We notice that the sows take special pains to clean themselves up as the time approaches for dropping their pigs, and all through the suckling period their udders have a very pink and white look, which makes them very inviting to the piglets. This taste for neatness they should always be allowed to indulge. A hog is not the dirty animal he is sometimes supposed to be. He may wallow in mire after he has been washed in warm weather, but he does this to cool himself, and always likes a clean bed, and thrives all the more if furnished with an abundance of clean straw.

We hear it sometimes objected to the Suffolks that they are hairless, thin skinned, and of a tender, delicate constitution. Their hair is not superabundant, but we do not raise hogs for their wool or bristles. Moreover, the hair has gradually increased since their importation into this country, and they are now very well protected with a fine-haired cloak, and as for their being of a delicate constitution, we have not found it so. They are uniformly good eaters and sleepers, and eating and sleeping are the main pillars of health in bipeds and quadrupeds. We have never lost a Suffolk from disease.—*Alexander Hyde, in N. Y. Times.*

Best Sheep for Fat Lambs.

A writer in the *Irish Farmer's Gazette* gives his opinion that the Shrop and the Border Leicester are about equally suited for the purpose, provided the latter is purely bred, and not one of the many mongrels selling under that name:

I have known ewes to be divided between a Shrop and a purely bred Border Leicester ram the ewes after being done with the ram, mixed and fed together; the lambs sold in one market, and to net the same money or all but the same price. There is, therefore, only a toss up between the one or the other so far as the getting of fat lambs is concerned, but only one thing, that I know in favor of the Borderer over the Shrop, namely, that should the lambs not feed fat from any cause, or that the price for fat lambs is not sufficiently remunerative, the produce of the Border Leicester in either cases answers better for storing over than the produce of the Shrop.

I may mention here that a Lincoln ram, if of the proper sort, will also get very good fat lambs, provided the ewes put to him are well wintered and well fed while suckling the young. The Shrop and pure Border Leicester are, however, more prolific than the Lincoln, and stand about equal in this respect. There is no finer or better sheep than Roscommon species. Everybody admires them, and on good land and with thin stocking to the acre they will do well and pay well. As to their being purely bred, we will "let that fly stick to the wall. When the mud's dry it will rub off."

One thing, however, must be said of the fine large Roscommon sheep—namely, that they are still susceptible of great improvement. It is even a feather in a cap of the breed that they contain room for alteration for the better. Their ridge-poles might be made fatter and the backbone better covered with soft muscle, and were the tail end heaved up somewhat in the best animals, a level-topped, well handling animal would be the result. I should say too that the tucked up appearance of many of the breed might be altered with advantage, and the chest so widened that the temptation would be therefore offered to a "feller" intent on experimenting to try to wheel a barrow through between the fore legs.

The present up and down form of the ribs of the large and fine Roscommon sheep might be also altered to the hoop or barrel form, on the principle of giving thereby plenty of room for the play of the heart and lungs and at the same time for the carrying on satisfactorily of the "meat manufactory" within. A purely-bred, round ribbed, Border Leicester ram on the Roscommon ewe would effect wonders in the way of giving rotundity to the carcass of the produce. Nor is this a proposal which is mythical. The cross, to my knowledge, has been successfully essayed. It is now years ago since I gave a rather small, but highly-bred and beautifully-formed Borderer for the purpose of improving the shapes and quality of one of the crack Roscommon flocks, and of bringing "order" in the frame and appearance of the produce out of the "confusion" of the construction and getting up of thorough-bred and large Roscommon ewe, so generally admired and so fully appreciated.

Capital and Labor in Cheese Making

The increase in our yearly exportation of cheese, the remunerative prices obtained for the product, and the facility with which cheese may be manufactured, will undoubtedly tend to the establishment of factories in various portions of the West the coming winter and spring.

In the early history of this industry, one of the chief sources of failure undoubtedly arose from the fact that many of the factories employed but comparatively few cows. While as good cheese can be made in these small factories as in larger ones, the conveniences being perfect and the manager a practical expert, the relative profits must be less, as a matter of course; so that, if from any of the causes that operate from time to time to reduce prices, while the factories running 500 cows might still work at a profit, the one operating only 100 cows would probably lose money.

It will therefore be well for those in districts having one or more cheese factories, and who are contemplating the establishment of others, to consider well whether it might not be better to concentrate the effort with those already existing, rather than take the risk of failure with new ones. Because one, two or three factories in a district are doing well, it does not follow that one, two or three more will do so. The additional grazing and other food necessary for the increased numbers of cows must be taken into consideration; the question

of trained and competent help, and especially the manager, will be important, although money will secure them. But it is not always so easy to convince farmers and their families, who of course must supply the milk, but have never given much attention to dairying, that they will like to bear the labor and confinement for which they will be called upon to keep the constant supply of milk good.

That the manufacture of first-class butter and cheese will pay, there is no doubt, for both these commodities will always be sought at remunerative prices, and, as the supply of really good articles increases, the taste of our population will keep pace. As farmers and their families in dairy districts come to see the profits arising from dairying, and particularly the increase in the fertility of their farms that is sure to take place, they will come to look with complacency upon the fact that their part of the labor, in furnishing the milk, must be performed promptly and without fail. They will even find that this confinement is not so much more onerous than many other branches of agriculture. It cannot be expected that they will accept this confinement complacently unless they are given to understand at first that it must be so.

Therefore, in the establishment of new factories, it will be better that the projectors place this matter in the proper light on the start, to prevent difficulties afterwards. There are three points in this connection that are absolutely necessary to success:— "First, the soil must be suitable to grass; second, succulent forage must be provided during a portion of July and August; and third, the milking must be done morning and evening, wet or dry, Sundays as well as week days. These conceded, the rest is a mere matter of dollars and cents.—*Western Rural*.

Eton College.

Eton is pleasantly situated on the River Thames, opposite Windsor, in Buckinghamshire, England. This College owes its birth to Henry VI.

"There grateful Science still adores
Her Henry's holy shade."

The charter of incorporation bears date A. D. 1440. The buildings consist of two quadrangles, in one of which are the chapel and school, with the dormitory of the foundation scholars; in the other are the library, provost's house, and lodgings of the fellows. The chapel is a handsome gothic edifice. A statue in bronze of the royal founder occupies the centre of one of the quadrangles. Few buildings are more happily situated: "the meadows" adjoin it, the Thames rolls its refreshing waters immediately in front, while always in view are the towers of "regal Windsor," inciting to that loyalty which is ever the associate of virtue in the young. In the lives of a large portion of the foremost men in the Mother Country, it is an incident that they were "educated at Eton;" and to have been an "Eton boy" is the proud boast of many who have gathered laurels in peace and in war.

What a Farmer Thinks of the Question.

Sitting at our desk one day, a stranger entered, when about such as this followed:—

After some conversation, Mr. Warnock (for such he informed us was his name) said he conducted a farm in the ordinary way, and made it a point to have a few steers to sell every year. Mr. Warnock continued:—I find the steers which a thoroughbred bull will throw me will weigh as much at three years old, as the steers thrown by a common native bull from the same cows would weigh at four years. In fact, they are just about a year ahead of them all the time. If I want to market early, the steers from my thoroughbred bull will mature a year earlier than the natives, and if I feed for a certain weight, they will reach it a year earlier. There is just about one year's difference, whichever way you

put it. Then, if I bring to market a nice smooth lot of steers from a thoroughbred bull, I find they sell for something more per hundred than the natives would.

You may take a lot of calves, part of them by a thoroughbred bull and part of them natives—get them of the same age as near as you can, and put them together, and give them the same treatment and keep, so that what one gets another will get—and when the steers from the thoroughbred bull commence to climb over 1,500 pounds, you can put your natives on the scales, and it will take the best one you have got, and part of another one, to pull down 1,200. There is no trick at all about it—it is plain figuring, and is due altogether to the



ETON COLLEGE.

honest difference in the cattle.

Almost daily some farmer drops into the office, when naturally enough the conversation turns upon stock matters, and there is an unbroken line of testimony—never a link broken or missing—in favor of the great advantage of using thoroughbred bulls, and improved animals of all other descriptions, for crossing upon common farm stock, to produce animals for common farm purposes. If any farmer will set down the amount of money for which he has sold his native steers during the year, and then divide that sum by two, the answer will show about how much more he would have made, if he had used a thoroughbred bull. A thoroughbred bull will add from one-third to one-half the money received from the steers on the



ENGLISH FARM SCENE.

farm, and their keep need not be more expensive or involve any more care or labor than the prudent farmer will bestow upon any other description of stock.

Short-Horns Among the Indians.

The Menomonee tribe of Indians, at one time the owners of a large portion of the territory of Wisconsin, their possessions extending from where the City of Wisconsin now stands, on the south, to the northern border on Lake Superior, are now living upon a "reservation" of 10 townships, on the

Pauwaygan, or Wolf River, a few miles north of the Town of Shawano.

Much of the land here set apart for those Indians, consists of plains of thin, sandy soil, and pine forests, regarded as of very little value for agriculture, while perhaps a third of the tract is "hard wood" and bottom land, of pretty fair quality for grain, and especially good for grass.

In accordance with treaty stipulations, provision has been made for supporting here a farmer, to instruct these people in agriculture; and some eight or nine years ago, this farmer procured for the improvement of the native stock a thoroughbred Durham bull. This animal, after being confined for the first year or two, was turned loose on the range with the small scrub cows of the Menomonees.

But few, if any, of the calves were steered; and the improvement made by this single animal and his offspring in these few years is wonderful. All the cattle now to be seen here, have most decided Short-horn characteristics, and are in a very marked degree superior to the "common stock" of the white people adjoining the reservation.

All the cattle we saw were red, red and white, or roan, in color, of good size and excellent form; and the few cows we observed in milk, were said to be excellent at the pail.

What a striking illustration of the value of pure blood—of the benefit that may be derived from the purchase of a single well-bred animal! And how completely it refutes the assertion, so often heard, that the Short-horn blood is only good when forced and pampered.

Why these cattle, oxen, cows in milk, young stock and calves (some 200 perhaps in all) have nothing in summer but the range of these woods and barren openings; and in winter only the coarse, wild hag cut from marshes and bottoms along the streams. And yet, as we saw them in the woods last month, they were in excellent condition of flesh, with level, round carcasses and coats of hair that would have been no discredit to the best Highland Scot.

A Run Down Farm.

The *Country Gentleman*, in replying to a correspondent who inquire show to make an exhausted farm fertile, after premising that there are special circumstances to be taken into account in every such case, lays down the following general principle in view of a soil which, from continuous hard cropping, has been deprived of the vegetable matter it once contained, and settled down into a compact, hard mass:—

1. Understand if the soil settles down in a mass after long rains.
2. Mellow cultivation when dry enough, pulverizing the soil well as a preventative of drouth.
3. The introduction of clover, to be preceded if necessary by a moderate dressing of manure, or by some other green crop.
4. Working most of the farm into grass, for the maintenance of domestic animals, and for the manufacture of manure.
5. As the improvement progresses, planting or sowing such crops as appear on trial to do best, such as corn, beans, barley, &c., preferring a variety or rotation.

Feeding Wheat.

The Master of Metomen Grange, No. 27, Fond du Lac Co., Wis., writes the *Milwaukee Journal of Commerce* as follows:—

Wheat at 86 cents per bushel will amount to \$1.32 per 100 pounds. Oats at 40 cents per bushel to \$1.50 per 100 pound. Rye at 85 cents per bushel amounts to \$1.41 per 100 pounds. Corn at 74 cents per bushel amounts to \$1.34 per 100 pounds. Wheat is known the world over as the "staff of life," and is considered by all the most nutritious of grains, therefore no one will doubt for

a moment but four grains ra farmers are a But as wheat ing wheat an horses and h and corn mix alone. Why for the farm coarse grain a ing the quant a better price are willing to

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a moment but that wheat is the cheapest of the four grains raised, for feeding to stock. Some farmers are already acting upon this knowledge. But as wheat is too heavy fed alone, we are mixing wheat and oats, half and half, for feeding horses and horn cattle. Sheep will stand wheat and corn mixed will do much better than on corn alone. Why then is it not much more economical for the farmers to sell all, or nearly all, their coarse grain and feed their wheat, thereby reducing the quantity of wheat by disposing of it for a better price than the speculators and consumers are willing to pay for it?

Feeding Meal.

The following, from L. W. Miller, in the *Chautauqua Farmer* of August 24th, are views and experiences of a practical dairyman, and as such entitled to consideration.

The records of the factory where I send my milk show an aggregate of 531 cows. There are

wet meal daily to those giving milk. Under this treatment they did well, and although the flow of milk was less than when fed hay, its quality was excellent and the butter superior. The bean vine butter, however, was poor.

I find, by the factory records, that my cows are giving five pounds of milk each, per diem, more than they gave during the corresponding period last year, when wintered on hay. But with this difference in their treatment.—This season my hill pasture has been very short during the entire season thus far, although I am carrying five head of stock less than last year, and I have in consequence fed about three quarts of dry bran, per head, to my herd daily. I do not think, however, that this bran would make up the deficiency in pasture, as compared with last season.

I fed this winter with Western meal instead of yellow native corn of my own growing, as heretofore. White Indian corn contains only a fraction of one per cent. of oil, while yellow contains nearly four per cent. There was a marked difference in

pelled from the system. Consider, if you please, the whole animal a machine, which requires power to run it. The food which it eats is that power.—Every motion, even to the chewing of the cud, uses up power, and is made upon the actual nourishment which the food contains. If twenty pounds of hay is fed to a cow, fifty per cent. of its actual nutriment is used up in mastication, re-mastication and the other processes through which it passes to prepare it for digestion, and to expel that which is worthless from the system; the remainder supplies the waste of the system, and is just about equal, in nutritive value, to three quarts of Indian meal.

The miller can do the work cheaper than the cow—he takes one-tenth for toll, but she takes one-half. Nineteen pounds of hay cut into pieces two inches long, is said to be equal to twenty pounds of uncut hay. No nutritive value is added to cut hay, only so much labor is saved in mastication to the animal eating it. If it could be ground fine as meal, the saving would be in proportion.



The Tiger's Victim.

Next to the Lion, the "King of the Forest," the Tiger is the most ferocious beast that roams the wilderness. He is the terror of all the weaker animals, and this spotted deer (see engraving) shows with what agility he seizes his victim, of whom, no doubt, he will soon make a "square meal," and the fawn, standing by its side, will probably share the same fate unless it absconds to a more favorable distance. The tiger seldom attacks men, unless they are very hungry or provoked; but when they taste human blood they prefer it to any other food, and will seek their prey in the most determined manner. Some assert that the tiger is untamable. This is a mistake, for he can be tamed as easily as the lion, and displays much affection for his keeper if treated kindly; but he is very treacherous and requires watching, as sometimes their savagenature breaks out on the slightest provocation. A blow from the claws of a tiger is sudden death to the victim he strikes. The strength of this animal is most extraordinary, especially when we consider the small compass in which it is comprised.

three herds of cows giving as much, or more, than my own the present season—one of them nearly two pounds more daily; but the last sale of cheese of which I have a record, being the make of sixteen days, from June 10th to 26th, credits my herd with giving two pounds fifteen ounces each per diem more than the average of the whole 531. My herd was selected with reference to making butter, not cheese, and I have never regarded them as great milkers. They averaged twenty-seven lbs. per diem for the sixteen days' sale.

In 1873, I wintered my herd upon hay. They came through in good condition, and were fed during the spring months with two quarts of meal daily, and all the hay they would eat. In 1874, I fed for nine weeks (while dry) three quarts of meal; then what hay they would eat and two quarts of meal for three weeks; then bean vines and meal for four weeks, losing one of my best cows in the operation, and setting the whole herd scouring badly and losing flesh. Then I did what I have never done before to cows giving milk; I fed the balance of the spring on clear meal, a period of about five weeks; giving five quarts of

its effects from anything I have ever seen while feeding yellow meal. The hair first began to look and feel stiff and harsh; then the skin became dry, with the appearance of scurvy, after about six weeks' feeding; and finally some of the herd actually broke out with small blotches along the back and sides. I understood perfectly well that a small quantity of linseed oil-cake, fed with the meal, would correct all this, and make the white meal equal to yellow; but the eyes of the whole country were upon me, predicting failure, ruin and starvation to my cows, and I chose to run the risk of consequences, without any variation from what was advertised; but I shall never feed white meal exclusively again, without adding to it something to supply the deficiency of oil. Hereafter I intend to winter my cows, when dry, upon meal, when I can get it, in preference to hay.

The Creator designed the cow and all ruminants to subsist upon both coarse and fine food. He provided them with four stomachs, three of which are simply machines, to prepare the coarse food for digestion. Fifty per cent. of grass and hay is woody fibre and other matter, which has to be ex-

Garden, Orchard and Forest.

To Recover Frosted Plants.

An intelligent florist writes to an English periodical on the subject of recovering plants that have been frosted in greenhouses, pits or frames. He says that geraniums, and such soft-wooded plants, cannot endure one degree of frost at certain stages of their growth, although Cape heaths and several other hard-wooded plants endure four degrees of frost without being injured, if precautions are taken, before the sun's rays reach them, to raise the temperature two degrees above freezing, and shade the plants inside or outside the house with mats. The sun will gradually increase the temperature of the house, and the effects of frost will gradually disappear. The covering should not be removed until the sun has passed its meridian.

In extreme cases, syringing the plants overhead with tepid water, after the temperature has been raised to thirty-four or thirty-five degrees, and maintained at either of these points, will produce the same effect; but unless sufficient air can be admitted to dry up the moisture, and the temperature of the house is kept up to forty-eight degrees during the night, the remedy may prove worse than the disease. There is more difficulty in securing plants from frost in pits or frames, than in houses where fire heat can be applied; the greatest attention ought then to be given to cover such places early with some dry material, such as hay or straw, and to increase the cover according to the intensity of the frost.

Effects of Vegetation in Cities.

It is well known that trees absorb carbonic acid gas and give off oxygen, the first as injurious as the last is indispensable to animal life. Men and animals, on the contrary, absorb oxygen and give out large quantities of carbonic acid gas. When, therefore, we consider the immense amount of this gas given off from the lungs of the inhabitants—human and brute—of a large city, and the immense amount produced by the combustion of the fuel used in dwellings, factories and workshops, we may form some idea of the enormous vitiation of the atmosphere thus produced. Those who have given attention to the subject estimate that it requires more than two acres of forest to purify the air vitiated by every three inhabitants. According to this, a city of 600,000 inhabitants would require 400,000 acres of vegetation to take up the carbonic acid and other deleterious gases given off by its people.

If it were not for the action of the wind in removing the atmosphere poisoned by the emanations from the city and replacing it with a purer atmosphere from the surrounding country, the city would soon become uninhabitable; but the winds have not such full sweep over cities, owing to the height of the buildings and other causes, as to thoroughly cleanse the atmosphere brooding over them. Hence the necessity of encouraging the growth of as much vegetation as possible within the limits of the cities themselves. So nearly exact is this estimate that we may regard it as demonstrating the necessity of large parks and squares in cities. But, through the growth of the city, land becomes too valuable to provide a sufficient area of parks and squares for such purposes. Resort must, therefore, be had to the streets themselves; and hence all streets not devoted to commercial purposes, should be planted with continuous rows of trees on either side. Paris now has so large a number of parks, and its streets and boulevards are so profusely planted with trees that, according to very reasonable estimates, the death rate has been thereby reduced from 1 in 34, as it formerly was, to 1 in 39, as it is now.

Added to the beneficial effects produced by these trees in the absorption of deleterious gases, is the shading of gutters and roadways, which materially retards and prevents the action of the sun in producing noxious fermentation. The roots of the trees also take up large quantities of such matters as are washed by the rains into the interstices of the pavements. In addition to these sanitary effects are the comforts derived from the shade of sidewalks. It is the glare of the sun upon these, when unprotected, which, during the tropical heat of summer, gives such an oven-like atmosphere to our streets and causes so many cases of exhaustion from heat and the often fatal sun-stroke. Last, though not least, the beauty of our cities would be greatly enhanced by this tree-planting; and walking in the streets during the hotter parts of the day would be made less wearying than it now is.

In none of the cities of the United States has proper consideration been given by the authorities to this simple and not costly means of adding to the general comfort and health. Tompkins Square, in New York City, is an instance on the other hand of downright ignorance and stupidity in this respect. Situated in the most densely populated portion of the city; surrounded by tenements filled to completion with artisans whose labors are carried on in their own rooms or in the close and confined atmosphere of neighboring factories, it has been almost entirely denuded of trees and its surface covered with a cement pavement, which, on a hot summer's day, evolves a degree of heat only surpassed by the furnace spoken of in the book of Daniel.

English Ivy.

The use of English ivies for the purpose of decorating living rooms is more extensive every year and cannot be too highly commended. Being very strong, they will live through any treatment; but study their peculiarities and manifest willingness to gratify them, and they will grow without stint. Most houses are too hot for them, as indeed they are for their owners. Neither plants nor people should have the temperature over 65 deg. Fahrenheit. Take care not to enfeeble your ivies by excessive watering or undue heat, and you will see they will not seem to mind whether the sun shines on them or not, or in what position or direction you train them. Indeed, so much will they do themselves to render a room charming, that we would rather have an unlimited number of them to draw upon than anything else in nature or art.

Do you wish the ugly plain doors that shut off your tiny entry from your parlor, to be arched or curved, like those in the drawing-rooms of your richer neighbor? Buy a couple of brackets, such as lamps for the burning of kerosene are sometimes placed in, and screw them in the sides of the door. Put in each a plant of English ivy, the longer the better; then train the plants over the top, against the sides—indeed, any way your fancy dictates.—You need not buy the beautiful but costly pots the flower dealer will advise; common glazed ones will answer every purpose, for, by placing in each two or three sprays of Coliseum ivy, in a month's time no vestige of the pot itself can be discerned through their thick screen.

The English ivy growing over the walls of a building, instead of promoting dampness, as most persons would suppose, is said to be a remedy for it, and it is mentioned as a fact that in a certain room where damp had prevailed for a length of time, the affected parts inside had become dry when ivy had grown up to cover the opposite exterior side. The close overhanging pendant leaves prevent the rain or moisture from penetrating to the wall. Beauty and utility in this case go hand in hand.—*Journal of Horticulture.*

Notes of the Garden and Farm.

Original and Selected.

LOOK AHEAD.—If you have not already devised the best course of labor, and cropping of the year, delay not a day longer, lay all your plans for the spring campaign on the farm. To do this with the greatest prospect of a prosperous season, demands first, a thorough knowledge of the past and present condition of every part; and secondly, a consideration of your ability to turn its capabilities to the best account. Your working power, both men and horses, or oxen, the quantity of manure you will have, the quality of seed you can have, or think most profitable, must all be taken into account. The stock of cattle you are to feed during the grass season, and stock of the succeeding winter, must all be considered. You may have a field tired of wheat, and yet not have manure to sow it with turnips, or other root crops to renovate it. Mark it out for green crops for soiling. A portion of the farm devoted to this purpose every year, will eventually be found the best paying part of the farm. Its profits will be found in the improved condition of the farm stock, in the great increase of receipts from the dairy, in the quantity and quality of farm yard manure, and the increasing fertility of the soil.

INCREASING DEMAND FOR CANADIAN MEAT.

The animal exports from Canada since the year 1868 have been every year increasing as shown by the following table:—

Year 1868	\$ 6,893,107
1869	8,769,407
1870	12,138,161
1871	12,582,925
1872	12,416,613
1873	14,243,017

The great hindrance to improvement in Canadian agriculture has been, the want of good markets with remunerative prices for the products of stock, farms, and dairies. The demand for wheat, with the absence of a demand for our fat cattle, led our farmers to rely too much on the produce of the wheat fields, and to pursue a system of robbing the soil, impoverishing the farm, and entailing loss on the agriculturists; it is therefore with pleasure we see better prospects for stock raisers and feeders. As shown by the above table, the value of the exports of animal food have more than doubled within six years; and this improvement has taken place despite the prohibitory duties put on our products by the neighboring nation who, previously had been our best customer. In our last issue we told our readers of the formation of a Canadian Meat Company, and this we have every reason to believe is but the precursor of a trade profitable to England and Canada. The high price paid for meat in the English market, and the scarcity of the supply, increased not only by the ever-increasing population, but also by the diseases of cattle in the European countries, whence the demand was usually supplied, will be an irresistible stimulant to this new trade, springing up between Canada and the northern country.

The improvement in agriculture in the British Isles, unequalled by any nation in the Old or New World, is partly owing to the demand for the products of the stock and dairy farms. Hence, the area of wheat culture in England, and more especially so in Ireland, is every year becoming more limited, and more of the land turned into pasture. English economists say they can easily get breadstuffs to purchase, but not beef. Let us bear in mind that stock and dairy farming pays two profits—one in the product sold, the other in improving the land.

TOMATOES THE MOST PRIZED IN ENGLAND.

The Garden, London, Eng., says.—“We believe that it is now conceded that the Trophy is the best late tomato, and Canada Victor the best early. “Good for Canada.”

NASTURTIUMS AND TOMATOES AROUND ORCHARDS AND VINES.

Van. Hulle, a Belgian horticulturist, states that they grow nasturtiums in the apple orchards, and let them climb up the trees to keep off the American blight. Also tomatoes are planted amongst grape vines to keep off wasps; it is said that they do so effectually.

POTATO PROFESSOR.

The *London Gardener's Magazine*, relaxing from its graver moods, writes of the potato disease and the *scientists*: As for the fertility of the fancy in discovering explanations of potato disease, it is really a matter demanding the instant attention of psychologists, for it is evidently of wide spread stupidity, or insanity, or vanity, or something equally dreadful, that should be cured by the Social Science Congress. The past season has been characterized by a continuous sunshine, and potato disease was unheard of, until the sunshine failed, and then the crops still in the ground became more or less diseased. There is no mystery about the potato disease; it is a question of sunshine from first to last, and if Mr. Toobitt is resolved to eradicate it, he must go to the sun and abolish his spots and make such other arrangements as shall insure to the globe uniform and favorable cosmical influence. A wet, cold summer makes potato disease. A hot, dry summer makes a healthy crop of potatoes. The facts are patent, and yet there is a crowd of clamorous people always ready with some nonsensical and injurious fancy to explain the cause and cure of the murrain, and declaims that noble root.

CARROTS FOR COWS AND HOW TO USE THEM.

An article in the *N. E. Farmer* under this heading, says:

Another word about carrots; if you feed out to horses about a pint or three pints of carrots a day, in their oats, you will soon see a difference in their outward appearance, their insides are strengthened, and their wind lengthened. Perhaps it is not generally known that the “big bugs” of England buy carrots by the ton for their hunting horses;

such feed adding very much to their endurance, in the chase especially, on a wet day and across a heavy country, for they do sometimes go at a rattling pace.

USE OF GRAPES.

Man can live on grapes and bread. The peasantry of France, Spain and Italy, make many a satisfactory meal in this way; and of the wholesomeness of the diet there can be no doubt. Medical men constantly recommend the usage of grapes for their patients. Scarcely any plant can equal the vine as regards the beauty of its leaves and fruit. As a covering for bare walls, and for affording shelter and shade, it is a climber of the first rank. To sit under one's own vine has in all ages been considered the acme of rural happiness, an emblem of peace, a symptom of plenty and a picture of contentment. That pleasure, though not in all its fullness, may become the heritage of thousands in these temperate climates.—*London Garden.*

PROFITS OF SOILING CATTLE.

The *Iowa Homestead* says: "Our farmers declare they will not go back to the old way of feeding stock. We cut up our straw and everything available. Many of us have adopted the plan of steaming the food for our cattle, and we are satisfied from the experiments we have made, that we save a third of our provender by steaming it. As a sample of what this feeding stock will do, I will relate an instance of a young man, who a year ago this spring, bought a farm of eighty acres of land for \$11,000. The farm then kept 11 cows, 4 or 5 yearlings, and a horse or two. The young man took hold of that farm and immediately put in 14 acres of sowed corn. He increased the stock to 25 cows, kept them on 12 acres, feeding them the sowed corn, and also cutting his oats green for food. His receipts the first year were over \$3,000. This year he had summered on that farm 75 cows, and he told me the other day that his 27 cows would average him \$100 each from the profit on milk."

—The *American Rural Home* says: The sanitary influence of the winds cannot make itself felt in the hearts of large and crowded cities, and the planting of shade trees is advocated as an aid in this work. The death rate of Paris is shown to be perceptibly lessened since the general planting of trees in the avenues and streets of that capital.

MAKING MANURE FOR A GRASS CROP.

Make a large compost heap mainly of stable manure and muck, of good rich soil, with plenty of sulphate of lime (plaster), then with a small addition of sulphate of ammonia and sulphate of potash, mix all thoroughly together, and cover the pile from the rain until wanted for use, say at least ten days or two weeks; in the meantime, prepare the fields for sowing or planting the seeds, then spread, and harrow in the compost and plant immediately. If a crop of red clover is grown, it will, without any addition of nitrogenous manure, make several good forage crops, and then the sod when ploughed in, will supply the soil with sufficient ammonia to dispense with the sulphate of ammonia in the next compost heap; but the compost heap must be made for each crop. By thus adding sulphate instead of nitrate to the compost heap, you have a more permanent and less wasting fertilizer, and yet it is sufficiently soluble to be assimilated by the growing plants. The sulphate of ammonia is much better for a leachy soil than the nitrate of soda, as the latter is so very soluble that its nitrate acid in heavy rains sink so deep in the soil as to get beyond the reach of the young plants.—*Ex.*

H. G. R., writing from Kansas to the *Cultivator*, on the great expense of clearing the farms from the great rocks, some acres costing double to get rid of the rocks than the land was worth after being cleared, gives the following sensible remarks:

"Removing heavy stones is among the most unprofitable jobs done on a farm. It is better to cultivate the good land and let the rocks alone. Always plant the best land first, and raise such crops as will give an immediate return."

KOHL RABI.

In an article on the cultivation of this very profitable forage plant, by Mr. G. Street, read before the Bedfordshire Agricultural Society, he says:

If we knew what sort of a season to expect, it would be well to grow turnips in wet seasons and

kohl rabi in dry ones, as heavier crops might be secured than if the same root were grown continuously. The rabi has the advantage of being more certain than the turnip, and a good crop may be grown any year. It is more adapted to light than to heavy soils, and will do better in a hot, dry summer than in a wet one, as in the latter it is apt to grow too much top, without a sufficient development of bulb. It is very nutritious, and will produce considerably more meat than turnips, weight for weight. All kinds of stock do well on it, and I have noticed that when getting anything up for showing, whether horses, beasts or sheep, my men all prefer it to turnips or wurzels.

The name of Dr. Voelcker is not quite unknown to our readers, as we had occasion betimes to refer to him as an authority on agricultural chemistry. The *Agricultural Gazette*, London, Eng., says:

"The London Farmers' Club have elected Dr. Augustus Voelcker, F. R. S., their President for the coming year. Proving both life and vigor by stepping thus boldly out of the field from which their selections have been made, they have given honor both to themselves and to the scientific side of agriculture by a choice which will certainly bring into prominence, during their ensuing session, the importance of the agricultural aids which are offered by the student of science."

The *Gazette* describes with great accuracy in this short paragraph the relation that science bears in connection with agriculture—*agricultural aid.*

THE GRANGE IN MAINE.

A correspondent of the *Country Gentleman* from Maine, says:

"The Order of Patrons of Husbandry are taking quite a hold in Maine. There are now 46 Granges. A State Grange has been formed, and many more branches are in process of formation. In many towns they are taking the places of the Farmers' Clubs, which have done and are yet doing good work in our State."

So the ball rolls. The union of farmers is fast being accomplished. The progress of the work in Canada, as in the United States, is something unprecedented.

A BRANCH OF INDUSTRY HITHERTO NEGLECTED IN CANADA.

Much of the agricultural wealth of a country is formed by individuals making a specialty of some one branch of industrial pursuit in the field or garden. Many such pursuits, as yet unknown or unheeded in Canada, might be entered into with every fair prospect of success. Who among our farmers or gardeners has tried what profits may be realized here by raising some of the seeds in such demand at our seed stores? If such there be, we would take it as a favor that they make known to the *FARMER'S ADVOCATE* the results of their labors in that line. One seedsman in Michigan, almost within view of our Canadian land-owners, has recently harvested not less than 800 measured bushels of turnip seed of one variety (the Improved Purple-Top) from his seed farm.

"When your neighbor's house is on fire, look to your own."—*Old Proverb.*

From the *Western Rural*, Chicago, we give the following timely article:

ANOTHER AGRICULTURAL COLLEGE ABJURING AGRICULTURE.

The Board of Regents of the California University have recently dismissed their Professor of Agriculture, Prof. Carr, from his position, for alleged "incompetency" and "uncleanliness." With respect to the "incompetency," Prof. Carr's record as a life-long educator, in New York, Wisconsin and California, is sufficient to demonstrate the absurdity of any such allegation. The "uncleanliness" appears to consist in the Professor's not having dressed well enough to suit the high-toned Regents. The real grievance is that Prof. Carr has joined the Grange, and has probably ventilated his opinion of the University big-wigs pretty freely—for he is charged with "inciting the Patrons to hostility against the University."

The dismissal has stirred up a hornet's nest. The Patrons, more powerful in California than elsewhere, are in arms—and well they may be. Here is a teacher, well versed in the chemistry and practice of agriculture and the sciences allied thereto, bounced on transparently trumped up pretenses

of "incompetency" and "uncleanliness"—probably to be succeeded by some theoretical mediocrity, the fit of whose clothes will compensate the University dons for his ignorance of agricultural science.

Prof. Carr's dismissal is of a piece with the history of Agricultural Colleges, as a class, from their inception. It is a prelude to the appropriation of the Congressional land-grant to other purpose than those for which it was made.

One by one, our Agricultural Colleges are eliminating the little agriculture they ever pretended to teach. State by State, the land grants which ought to be educating a generation of intelligent producers, are being perverted to the manufacture of inferior professional men. One by one, the chairs which should be filled by teachers of agriculture, are transmogrified into lounges for lethargic, fossil, *hic-haec-hoc* grinders—kid-gloved agriculturists, the seats of whose pants alone bear testimony to their devotion to the duties of their chairs.

The Apiary.

Successful Bee Keeping.

Adam Grimm, of Jefferson county, Wisconsin, is one of the largest and most successful honey producers in the country. This year he began operations with 700 swarms, which he increased to 1,200 which are kept in fifteen apiaries, with not over 100 in one apiary. These apiaries are scattered over an area of ten to fifteen miles. They are located with farmers. Mr. Grimm gives a quarter of the honey and a-quarter of the increase, he takes charge of the bees so far as practicable.

Mr. Grimm's crop for this year has been sold to go to New York City. It consists of 14,000 lbs. net, of box honey, in five pound boxes, net, sold at twenty cents, and 10,000 pounds extracted honey, in barrels, sold at ten cents. He has shipped one car load, of his own and neighbor's honey, and will soon ship another. These figures would give \$3,800 is the net receipts for this crop.

These facts we learn from M. M. Baldrige, of St Charles, Illinois, well known as a bee keeper, honey-producer, and dealer in hives, &c., from whom we have had a pleasant call.—*Western Farmer.*

Adulterated Honey.

The National Beekeeper's Association have had this subject under consideration, and reported adversely to the practice. The telegraph has only alluded to the subject, and no full report has yet reached us. But it may as well be stated in what consists this adulteration, so that people may guard against it. It is simply the best corn starch or sugar-leaf syrup flavored with honey. The honeycomb is placed on the inside of the jar, next the glass, and the jar filled with clear, transparent syrup. It is a good judge who can detect the difference when applied to the morning "slapjacks." The deception consists of selling one pound of honey, that costs 28 cents, and three pounds of syrup, that costs ten cents a pound, altogether for 35 cents a pound,—a better business than selling pure honey.

Figures are rather useful in this connection, and the housekeeper can use them if she pleases, only that she may have to purchase the comb, honey, syrup and jars, at retail, and profit would be less. This is all there is in regard to adulterated honey.

There is no great harm in making persons believe that they are eating honey instead of corn-starch syrup, providing their faith is strong; but it is the poor housekeeper who pays the bills for syrup instead of honey. Paterfamilias would do well to try this sort of adulteration, and, if it works well, they may have cheap honey to go with the buckwheat cakes. The grocer may make a profit by thus adulterating the honey that he sends to his patrons, and thus saves the profit of the middlemen that stand between him and the apiarian. Not that the consumer will be particularly benefited, but that the grocer may have a better profit, and, in the end, do away with the professional honey manipulator.—*Cor. Chicago Tribune.*

JELLY CAKE.

Three eggs, one cup sugar, one cup flour, one teaspoonful cream tartar, one-half teaspoonful soda. Bake in a long pan; when done spread with jelly and roll.

Agriculture.

Beans as a Field Crop.

CULTIVATION OF THE CROP.

There is but little difference in the ways of cultivating beans and corn, only that it is necessary, in the former, to observe the greater care to avoid covering the plant. To that end, if an ordinary corn cultivation is used, the outer teeth should be made so as to throw the dirt from, instead of toward the plants. That is especially important in cultivating after the beans are formed, for if the ends of the pods are covered it will cause them to rot and effect the quality of the crop. Where bean raising is exclusively followed they use a bean cultivator with numerous teeth, the size of harrow teeth, curved forward and flattened at the point.

The beans should be cultivated two or three times during the season, or as often as may be necessary to clean out the weeds and mellow the surface enough to cause a good growth of plant and beans. If the cultivator fail in completely cleaning the beans the hoe should be resorted to, or even hand-pulling of the weeds, if necessary.

PULLING AND CURING.

This is the most difficult and hazardous part of bean-raising, so easy is it for beans in the pod to become colored by wet weather just as they are ripening. We once had a crop of marrows just about ready to pull, when there came on a week of drizzling rain that completely spoiled the crop, so that it would not pay for harvesting and assorting.

When the pods have turned yellow, we commence pulling. We prefer to pull the third row first, and then pull two on either side, and place on it, so that we have five rows in one. We seize the stalks close to the ground, with our right hand grasping an entire hill at once, if it is not too large, pull it up, passing it to the left hand, and carrying it along until we have a handful. We then stand it top downwards, the leaves coming in contact with the ground, and keeping the beans from the earth.

If the weather is dry, they will cure in a few days without turning, but should it rain after the pods have dried off, the branches should be laid down, so that the top ends may be towards the sun, or the prevailing winds, and if after a day or two they should not be sufficiently dry to go in, they should be turned over on the other side, so that the under side may be exposed to the wind or sun. It is sometimes necessary, in a showery time, to turn the beans several times before they will be dry enough to draw, and that diminishes the profits.

DRAWING AND STORING.

When completely dry, no time should be lost in drawing. The wagon should be driven between the two rows, and a pitcher on either side throw them on, either with four-tined forks, with long handles, or barley forks.

If there is scaffold room sufficient to store them, we should prefer it, as it would give a circulation of air beneath but, if not, they may be mowed in the bay, with safety, provided they are trodden down. Even the beans compacted under the feet of the mower should be loosened up with a fork.

Successful use of Superphosphate.

In a region of several miles in extent in the southwest part of Cayuga county in this State, the use of superphosphate of lime has proved so generally beneficial that the quantity annually employed by farmers has gradually increased for the past eight years, and now about a thousand tons have been purchased and used during the present year. The soil in this region seem to be peculiarly adapted to its use and we have obtained from several intelligent farmers who have given it a fair trial, some interesting facts, which may induce cultivators in other places to try the experiment of determining its value in their particular neighborhood.

Wm. P. Sisson, of Scipioville, informs us that from eighty years experience he finds that all crops are benefited, but winter wheat and clover or grass most so. On the poorer land, where there is no danger of a rank growth, oats show a marked increase. All running garden plants, turnips, cabbages, cauliflowers, and garden vegetables generally, (with the possible exception of beets and car-

rots,) derive much benefit. He finds the corn crop considerably increased in amount and to ripen a week or ten days earlier when superphosphate is used. Sown with winter wheat, the effect on the succeeding crop of clover is quite marked for two or three years. From his long experience with it he gives as a general result, on "and of average good quality," about 25 per cent. increase in the amount of the crops. The average cost is about \$50 per ton, and as only 200 lbs. or even less are applied per acre, the cost per acre is only four or five dollars.

Samuel D. Otis, of Sherwood, who has not only used it for seven or eight years on his farm, but has bought hundreds of tons for his neighbors, informs us that a good superphosphate will carry out three crops, or one of grain and two of grass. He uses it on all crops, and finds it to pay largely, often increasing the wheat crop ten bushels per acre, and when the land is poor, much more. The past summer he mowed sixty heavy loads of hay on 27 acres. There is but little diminution in the grass the second year. On poor land his phosphated barley gave thirty-four and a half bushels per acre.

B. F. Beatty, of Sherwood, has furnished interesting details of his experiments and observations for eight years on different soils, and with different crops and the varying degrees of success which have attended the use of this fertilizer. Much benefit has been derived from drilling it with winter wheat at the rate of 200 lbs per acre, but he finds less benefit to spring crops.

On corn, its effects are nearly lost unless manure has been ploughed under. It cannot be relied on alone to keep up the fertility of the soil, and hence the importance of making all the manure practicable, and of plowing under clover. He has known it to increase the wheat crop ten bushels per acre. His practice having been for many years to spread the manure on the corn ground the preceding autumn (now generally found to be an excellent mode of manuring corn). The succeeding crop of barley has not generally needed additional manuring, but the next crop, wheat, is especially benefited by the superphosphate.

Wm. P. Sisson and others inform us that superphosphate has proved of little benefit to the clay lands along the border of Cayuga Lake. After passing a mile or more inland, the benefit from its use became quite marked. This want of success on strong clay accords with the results of our own experiments, as we never discovered the slightest effect on different crops at Union Springs, on land contiguous to the lake shore. — *Country Gentleman*.

Need of Minnesota Farmers.

What are the needs of Minnesota farmers? One of them is a more diversified system of agricultural. Why?

1. Because under the present system the market is overstocked with some products and the price is correspondingly low, while right here at our doors other farm products bring as much as in New York city, a great centre of consumption and export. Diversity of cropping tends to equalize prices.

2. Because diversity of cropping means rotations, and under a system of rotation larger crops can be produced each year, and the fertility of the soil will last much longer than when the same crop is sown year after year.

3. Because it is safer. He who stakes all upon a single crop merely buys a ticket in a good lottery. If everything proves favorable, he gets a good thing and a large sum of money all at once. But if the crop proves a poor one, he is in a correspondingly bad condition.

4. It distributes the labor, and the cash receipts also, more equally through the year, under this judicious system the farmer will first sow his wheat and then follow with oats, barley, potatoes, roots, corn, beans, etc. He may get returns for wheat, barley and oats in August; for potatoes and beans in September and October. His hay, corn and root crops will make the wool to sell in June, the pork to sell in November, the poultry to sell at the holidays, beef and mutton to sell in March or April, and butter and eggs to sell almost the year round. Thus little bills can be paid as they become due, and the long credit system discontinued.

5. Another advantage will arise from fewer purchases at the grocery and greater variety in the home fare — *Professor C. J. Lacy, in Farmer's Union*.

Experience of a Large Potato Grower

I have raised from five to thirty acres every year for the past twenty years, and my experience has been that the cost of cultivation, including the expenses of plowing, harrowing, marking, planting, cultivating and hoeing, on the basis of \$4 per day for team work and \$1.50 per day for human labor, is about \$12.50 per acre. If manure be applied it would be greater, but the additional expense would be more than repaid by the increased yield. I do not include the item of seed, because each year a sufficient quantity of small and unmarketable potatoes is usually raised to supply abundant seed potatoes. At least they will sell for feeding purposes for enough to buy seed. The expense of digging and transporting a distance of two miles is eight cents per bushel.

My crop on good land has varied from 200 to 250 bushels per acre. The average for a series of years has been about 175 bushels, and the average selling price for ten years has been 50 cents. My experience has been that it is more profitable to sell in the fall and draw directly from the field to market. Excluding, therefore, the cost of seed and calling the rental of an acre of land \$3, the total cost of raising and harvesting one acre of potatoes is \$35. The proceeds will average about \$85 per acre.

If the land is free from quack grass and thistles, I should mark in rows three feet four inches apart, and plant in drills with the hills about 18 inches apart. I would cut the seed potatoes so that from three to five stalks would grow in each hill. If the land is foul or rough I mark the rows three feet apart each way with the same quantity of seed to the hill, and use cultivator and horse shoe each way, thus keeping the ground clean.

Peachblows generally take the lead in price, but I prefer to plant Early Rose and Prince Alberts, because they ripen early in the season and the grower can finish his fall work earlier. They also yield as plentifully on good land as any other variety. I would recommend the Early Rose potato for quick sale and profit when land is good. If the soil be light I would plant the Peerless. I raised, this season, 4,000 bushels of Early Rose and Prince Alberts upon 25 acres of land, and have sold them at \$2.17½ per barrel.

I have found that there is more net profit to be realized in raising potatoes at 50 cents per bushel than from any other crop, except the fancy products of hops, strawberries, tobacco, &c. In general an acre of potatoes will buy twice as much wheat as could be raised upon the same ground. — *Onida Co., New York, Correspondent Utica Herald*.

Conversations on Farming.

IS IT GOOD LUCK.

"Some men are born lucky; there is no doubt of it. Whatever they do turns out well. There is B—, whose farm is on the same concession as mine; his crops were all good. He has been now telling me that his wheat crop was heavier in yield than for some years. His oats has produced well, though short in the straw. His potatoes, and he had a large crop planted, will yield, he believes, 200 bushels to the acre, though they are not as large as at other seasons; even his meadows are not light. He has cut two good crops of hay. That's what I call being in luck, and my crops are all light—would not pay for the labor."

As with farmer G—, who is envying his neighbor's success and complaining of his own failure, so with others in farming, as in every business there is a shifting of the burden of failure from themselves to their ill luck. What has been the cause of B—'s good returns from his farm—his good luck, as his neighbor would call it? He did his work in due season, instead of putting it off till the last hour. He plowed the fields for his spring crops—a strong, heavy soil—in the fall, so that it had the benefit of the winter, which, much as we are apt to grumble at it sometimes, is a good cultivator and not a bad fertilizer. He had not exhausted the soil by repeated crops of wheat, till it was quite wheat sick. He had made and applied manure as much as he could. Having sown his grain, he took care that no stagnant water lay on it. His hay was grown from land sown with clover and grass seeds when in good heart. He kept his root crops well cultivated in the summer drouth. We have divulged the secret source of his good luck. It was good tillage. Good tillage has made the soil rich and deep, and wheat and grasses and hood crops drew sufficient food from a store deep beneath the parching influence of the drouth.

Water for part of the scarcity of Clair river, west is this some strait of farmers?—

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THE DROUGHT.

Water for Cattle.—Here we have from every part of the country one universal complaint of the scarcity of water. South-west, as far as the St. Clair river, north to Lake Huron, and east and west is this scarcity felt. Driving cattle miles to some stream or spring is part of the daily occupation of the farmer. Are you as badly off as other farmers?—R—

In my neighborhood they are as badly off as in any other place, but I do not feel the scarcity.—Farmers might have made preparations for such a want. They depend too much on surface water, collected in shallow ponds and in little creeks that in any season are uncertain. We know that in every year there falls rain sufficient to supply ourselves and our stock, and if we preserve it when it comes, to the time when it does not come, we will always be supplied. Every farm yard should have a good cistern, large enough to contain the water that falls on the houses and sheds, with cave troughs to conduct it to the cistern. Not only in a dry summer, but also in a hard winter will he find the great advantage of having at his hand a sufficient supply of water. For cattle in the stalls, when debarred from the pastures by the winter, there should always be water to give them what they need. It is as necessary for them to have water to drink as food to eat, and this year has taught us the value of it in summer.

"It costs time and money."
It does; but not near as much as it is worth to any farmer. Dig in the most convenient place a hole of the required dimensions, line it with brick, cemented with good mortar, and put on it a well-fitting cover made of cheap, rough lumber, and you have a good cistern. Why should any farmer be without such a valuable addition to the conveniences of his farm yard, when it can be had at so little cost? In a time of drought, or of winter storms and hard frost, and in the case of an accidental fire, we cannot sufficiently value a good supply of water.

Poultry Yard.

Eggs in Winter.

If the true value of eggs were better understood in this country, we are satisfied more attention would be paid to their production. The French and Germans far excel us in their care of poultry. A Frenchman makes his breakfast of a couple of boiled eggs, a roll, and a cup of coffee, and a better breakfast a king ought not to have. The French farmers, after supplying the tremendous home consumption, export to England from sixty to seventy millions annually, and the English pay France some \$50,000 yearly for this one product. Belgium also has a handsome income from England for eggs. All over Europe and Asia eggs are much more a leading article of food than with us. At our best hotels, of course they are to be found on the table at all seasons of the year; but in private families, and especially in farmer's families, from November to March, most of the eggs consumed are in the form of cake and puddings, and the housewife is grateful if she can get a supply for these purposes. The price in winter is always double and sometimes treble what it is in spring, and this should stimulate the farmers to meet the demand and secure the profits.

It is not merely for market and profit that we desire to see farmers and others giving more attention to their poultry. As an article of common food they are more nutritious and economical than is generally supposed. Even at fifty cents per dozen, they are not a very expensive food, for two eggs, with a slice of toast and a cup of coffee, will furnish a good meal, and the whole expense, cooking included, will not exceed two dimes. A soft-boiled egg is easily digested and if eaten in this form, rather than in cakes and puddings, there would be less complaint of dyspepsia. Another recommendation of boiling eggs, that they are always clean. If we happen to be at a hotel where there is "too much smell of the pot," or when from any cause we have suspicion that the cooking is not the best, we call for boiled eggs in the shell. We are thus sure not only of clean food, but a clean dish from which to eat it, and can always enjoy a meal off a couple of eggs and a few crackers, even in the most uninviting place.

Eggs are a good substitute for meat, and pound for pound are more nutritious than beef. An average-sized egg weighs a thousand grains, and six large eggs weighs a pound. A dozen eggs may,

therefore, be considered a full equivalent to two pounds of beef, as a shell consisting of a about tenth part of the weight is less in proportion than the bone of beef. The per cent. of water in eggs and fresh beef is about the same, seventy-five per cent. in each. The white of an egg, weighing 600 grains, is mostly albumen, and has a close resemblance in its chemical properties to the fibrin of beef or gluten of grain, and so far as nutrition is concerned may be considered identical with these substances. The yolk, weighing 300 grains, is composed in its dry state of one-third albumen and two-thirds oil, and therefore comes nearer to meet as food, having fat mixed in with its albumen or fibrin.

It will be seen from a comparison of these analyses that the egg, as a whole, is much richer in fat than lean beef, and when compared with fat beef it is found to contain not only more fat, but more albumen, or muscle forming food. No animal food equals eggs, as far as fat is concerned, except pork and eels, and the oil of the yolk is so delicate a fat that stomachs which reject pork and fat beef, will digest egg readily.

Notwithstanding these facts, many a provider for the household will persist in buying meat at twenty-five cents per pound when a dozen of eggs could be bought for less money, and many a farmer sells eggs and buys meat under the impression that he cannot afford to eat the former. He thus cheats himself, and this is not the worst of it; he does a permanent injury to the health of his household, especially the feminine and younger portion of it, for whom eggs and milk are much more suitable as animal food, than tough meat. It may possibly never have occurred to some providers that eggs are animal food.

But some farmers may say:—"All this may be true; eggs are good food, but how are they to be obtained in winter? Hens do not incline to lay after the moulting season." True, hens do not produce eggs so abundantly in winter as in summer, but this is not the fault of their inclination. "The winter of their discontent may be made glorious summer," by a little painstaking. But before we give any suggestions as to the winter care of hens, we desire to say that eggs are not such perishable articles that in a time of plenty they cannot be laid up for a time of need. All that is necessary for this is to exclude the air from them, and this can be done much more easily than we can exclude the air from meat. The latter we have to put into cans, and seal these cans hermetically, but eggs are already sealed in their shells. A kind Providence has so ordered it that eggs, though composed largely of albumen, which has a great tendency to decomposition, have a covering which to a great degree excludes the air, but still is so porous that it admits enough to give vitality to the chick in the process of incubation. Now if the pores of the shell be filled with fat, or the shell be filled with the thinnest slate of varnish, the egg will keep for an indefinite period. Of course a greased or varnished egg will not hatch a chick, but when we put down eggs we do it for featherless not feathered bipeds.

One of the safest and most economical ways of preserving eggs that we have ever tried is to put them carefully in a jar of water in which a lump of lime has been scalded and allowed to cool. A quart of lime is sufficient for two gallons of water. The water is thus kept sweet and an incrustation (carbonate of lime) forms on its surface, which, together with the water and shell so effectually excludes the air that the egg keeps in great perfection. When they are taken out the incrustation is broken, but it speedily forms again, and we have never lost any eggs that were properly put down in time. A broken egg will of course in time contaminate the whole lot, for contagion is as contagious in a clutch of eggs as in a herd of cattle or a barrel of apples.

Eggs may also be preserved by packing them in fine salt, but we do not consider this mode quite so sure as the lime-water method. The air is not so well excluded and the salt, in a damp place especially, is liable to absorb moisture, and communicate a brackish taste to the eggs.

There are other modes of preserving eggs in very tolerable condition for a long time; still no preserved eggs is quite equal to a fresh one. The yolk will settle down after laying quiescent too long, and enough air will penetrate the shell to induce incipient stage of decay. It is therefore better to keep the egg machine constantly running throughout the year. To do this all that is required is to supply warmth and appropriate food. The machine may wear out faster if it is kept running summer and winter, but it is with hens as with factories, it costs but little more to run full time than

half time. The machinery is growing older whether it is productive or lying idle. A hen can lay only about 600 eggs any way, and the sooner she does this and "goes to the pot" the more the profit. An old hen is easily replaced with a pullet; so it is not worth while to prolong her energies by four or five months, idleness in winter. She must be sustained up to a living point any way; a little more expense will keep her up to the laying point.

Warmth may be secured by glass and tight boards. A hennery built on the south side of a shed or barn, with a roof sloping to the south, in which is some rough plater or glass, will give you all the warmth that hens require in the winter, even in the cold climate of New England. Nature has provided them with a warm coat of feathers, and they do not suffer so much in the winter for the want of heat as comfort. It is not exactly a comfortable thing to wander around in the slush and mud with stockingless feet, even though the body may be well protected, and it is particularly cheerless to squat down in a nest which is half filled with snow. Under glass, which gives both light and warmth, hens will cackle over their new-laid eggs just as well in winter as in summer, provided they have an abundance of the right kind of food and drink.

What is the winter food of hens? It should be just as near as possible to what it is when they are allowed to wander around and pick up their own living in summer. At this time their food is a mixed animal and vegetable diet. They consume a vast number of worms, maggots, millers, grasshoppers, &c., also are constantly nibbling the grass and other green vegetation, besides eating seeds. In winter, worms, grasshoppers, and grass are out of the question, but their place may be supplied by cheap meat and vegetables, often by the refuse of the family table. Beef heads and livers from the slaughter-house makes a good meat diet for hens in winter. Beef and hog scraps, from which the tallow and lard has been pressed, we have found excellent for making hens lay. These can generally be bought for two cents per pound, and we like them all the better when the fat has not been pressed out too closely. A daily allowance of warm boiled potatoes, with an occasional bite at a fresh cabbage, is duly appreciated by hens in winter.

As a substitute for the seeds which hens pick up in summer, nothing is better than corn. No grain has more oil in it than corn, and without oil the yolk of egg cannot be manufactured, for we see that two-thirds of the dry yolk is oil. Hens are, however like, some other bipeds in one respect—they like a variety. We should therefore occasionally substitute buckwheat for corn, and, less often, a few oats. Wheat bran they relish very much especially when mixed with corn-meal, made into a mash and fed warm. The bran contains much earthy matter, which helps to form shells, and also enters into the composition of the meat of an egg, and thus make it perfect for the formation of the future bird as well as for human nourishment.

The best food we have ever tried for hens in winter is the preparation made by steaming the refuse of bones, blood, and flesh of the animals slaughtered there, and afterwards grinding the dry compound. Mixing this preparation, which is furnished very cheaply, with corn meal and wheat-bran, and feeding it to hens, we have increased greatly the production of eggs in winter. We have sometimes pounded up old bones and clam shells, but shall do so no longer if we can continue to get the Brighton preparation—which seems to contain all the elements necessary for egg manufacture except the farinaceous—at present prices. Hens like it, and it makes them lay whether or no the boys say.

Pure, fresh water is another point of no small importance for the winter hennery. In the summer, hens can drink from their watering-trough, the brook, and anywhere they please, and their vegetable food is also nine per cent. water; but in winter the water supply is cut off, and must be furnished artificially. A little butter milk occasionally is also gratefully received. We are confident that a little more care of hens in winter will double the profit of the hennery.—By A. Hyde, in New York Times.

The Hon. M. H. Cochran of Compton P. Q., has purchased of Mr. G. Murray of Racine Wis. 12 head of Short Horns 6 of which are of the Duchess cross; he has also purchased the second Duke of Hellburst from Col. King of Minnesota. Mr. Cochran is determined to take the lead,

Fireside Selections.

Winter.

Now evenings come full early, mornings late;
And rest of summer's green and autumn's gold,
The disrobed earth, in helpless abject state,
Lies shivering in the cold.

Sheeted in one white waste of snow she lies,
With breasts and arteries bound by Frost's keen breath—
Lies numbed beneath the cold and cruel skies,
With numbness most like death.

And nature sits and waits, bereaved, forlorn,
Watching the days drag onward one by one;
And still the same wide snow-world night and morn
Darkens and dawns upon.

No bird in brake or field, throughout the day,
Deigns to essay a ditty ere so brief;
Save that a robin from some orchard spray
Pipes now and then for grief.

Strange, that from such stagnation as is here,
From out such seeming utter, utter dearth,
A quaking life can spring in the new year,
And all bright things have birth!

Human Life.

After awhile—a busy brain
Will rest from all its care and pain.

After awhile—Earth's rush will cease,
And a wearied heart find sweet release.

After awhile—a vanished face—
An empty seat—a vacant place.

After awhile—a man forgot—
A crumbled headstone—unknown spot.

Reading.

Let us take time for reading. It will never come if we wait to have every speck of dirt removed from every article we use. We can always find something else to do, and conscientious housekeepers, with little taste for mental pursuits, are apt to make great blunders. "The life is more than meat, and body than raiment," which means—if I may be allowed to preach a wee bit of a sermon—that you yourself, with all your immortal faculties, are of more, vastly more, importance than your house and furniture, and clothing and cookery, and these are utterly worthless if they serve as hindrances instead of helps to your individual culture. No kind of labor is degrading if done from a worthy motive, and no motive can be nobler than the womanly desire to make a pleasant home. With this end in view, with love as prompter, washing and darning and scrubbing are elevated from drudgery to a noble place. But our home cannot be attractive and profitable to our families if we ourselves are dull and harassed. Our brothers and fathers and husbands and sons need cheerful and intellectual companions at home, far more than they need nice dinners and spotless linen. It is necessary that good housekeepers should also read and reflect and listen and converse.

Stick to It.

Nine persons out of ten ignore the golden secret of content; they are constantly striving after something different from that they enjoy.

We do not deprecate enterprise, but it is the habit of constant change that we protest against—the habit of shifting from one pursuit to another.

There are thousands of almost penniless and disappointed men, picking up a precarious living at the very extremity of life, because they have, in the course of their existence, tried a hundred different things, and abandoned all in turn, simply because they did not succeed at once.

To few men it is given to do more than two things well.

There is scarcely any pursuit that, if followed out with a singleness of purpose, will not yield a rich return.

Select some useful occupation, *stick to it*, and success must crown your efforts at last.

Choose it *now*—make no delay.

Don't waste your time, and your strength, and your opportunities, by always *meaning* to do something—*do it!*

Only weakness come of indecision.

Why, some people have so accustomed themselves to this way of dawdling along from one thing

to another, that it really seems impossible for them to squarely make up their minds to anything.

They never quite know what they mean to do next, and their only pleasure seems to consist in putting things off as long as possible, and then dragging slowly through them, rather than begin anything else.

Don't live a single hour of your life without doing exactly what is to be done in it, going straight through it from beginning to end.

Work, play, study, whatever it is, take hold at once and finish it up squarely and cleanly; and then do the next thing without letting any moments drop out between.

It is wonderful to see how many hours these prompt people contrive to make of a day; it's as if they picked up the moments that the dawdlers lost.

And if you ever find yourself where you have so many things pressing you that you hardly know how to begin, let me tell you a secret: take hold of the very first one that comes to hand, and you will find the rest all fall into file and follow after like a company of well-drilled soldiers; and though work may be hard to meet when it charges in a squad, it is easily vanquished when brought into line.

You may have often seen the anecdote of the man who was asked how he accomplished so much in his life.

"My father taught me," was the reply, "when I had anything to do—to go and do it."
There is the secret—the magic word "Now."

Signs of the Weather.

If the dew lies plentifully on the grass after a fair day, it is a sign of another. If not, and there is no wind, rain must follow. A red evening portends fine weather; but if it spreads too far upwards from the horizon in the evening, and especially morning, it foretells wind or rain, or both. When the sky, in rainy weather, is tinged with sea green, the rain will increase; if with deep blue, it will be showery. Against much rain, the clouds grow bigger and increase very fast, especially before thunder. When the clouds are formed like fleeces, but dense in the middle and bright towards the edge, with the sky bright, they are signs of a frost, with hail, snow or rain. If clouds form high in air, in thin, white trains, like locks of wool, they portend wind, and probably rain. When a general cloudiness covers the sky, and small black fragments of clouds fly underneath, they are a sure sign of rain, and probably it will be lasting. Two currents of clouds always portend rain; and, in summer, thunder.

A Gardener's Lesson.

Two gardeners had their crops of peas killed by the frost. One of them was very impatient under the loss, and fretted about it very much. The other went patiently to work at once to plant a new crop. After awhile the impatient, fretting man went to his neighbor. To his surprise he found another crop of peas growing finely. He wondered how this could be.

"These are what I sowed while you were fretting," said his neighbor.

"But don't you ever fret?" he asked.

"Yes, I do; but I put it off till I have repaired the mischief that has been done."

"Why, then you have no need to fret at all."

"True," said his friend, "and that's the reason I put it off.—*Etc.*"

A good maxim for worldly men, is to be chary of offending those persons whom they observe to have good memories. Revenge is chiefly a function of good memory. You cannot expect those persons who remember well to be as forgiving as other men. Memory is a faculty which has, comparatively speaking, but little choice in the exercise of its functions. It would surprise men of feeble memories, if they could know with what clearness and intensity a long past injury or insult comes back to the mind and soul of a man of potent memory. He flushes up with anger at the remembrance as he did at the first reception of the insult or the injury. He must be a man of extraordinary sweetness of disposition if he can always continue to forgive. In short, with the majority of mankind, forgiveness is but a form of forgetfulness.

An Inspiration for the Young.

Here is a little story with a moral that should inspire every youthful reader. Study it well, and lay the lesson to heart.

A nut dropped by a squirrel fell through the opening in the middle of an old mill stone which lay upon the ground, and, being thus protected, grew into a thriving sapling that shot up through the opening. In a few years it had increased so that it filled the space and was firmly wedged to the inside of the heavy stone. Still it grew, and in a few years more, little by little, it lifted the entire weight clear from the earth, so that a man could sit beneath it. All was done by atom after atom, borne by the sap to the growing trunk.

Think of this, little man, puzzling over "long division" in arithmetic; little by little of thinking and working will take you through fractions, rule of three, and those terrible problems at the end of the book by and by; but be sure that little is not neglected.

And you, hard working lad on the farm or in the shops, look at Franklin, Watts, Morse, Field and thousands more who have lifted the weight of circumstances that would hold them down like mill-stones, and who have, by their steady perseverance, risen above their fellows, easily bearing their burdens, and keep "pegging away."

Lie Down and Rest.

Dr. Hall says the best medicine in the world, more efficient than all the potencies of the materia medica, are warmth, rest, cleanliness and pure air. Some persons make it a virtue to brave disease, to "keep up" as long as they can move a foot or crook a finger, and it sometimes succeeds; but in others the powers of life are thereby so completely exhausted that the system has lost all ability to recuperate, and slow and typhoid fever sets in, and carries the patient to a premature grave. Whenever walking or working is an effort, a warm bed and a cold room are the first indispensable steps to a sure and speedy recovery. Instinct leads all beasts and birds to quietude and rest the very moment disease or wounds assail the system.

Roses for Persia.

Sending roses to Persia seems very much like sending coals to Newcastle, but our English cousins have been doing this. The *Garden* says that the floral decorations at Buckingham Palace, during the Shah's temporary residence there, consisted almost wholly of roses, selected with a view to recall to his mind his own Persian "gardens of Gul in their bloom;" and so struck was His Majesty by the splendid display of these flowers which daily met his eyes, that he has sent an order to London for an extensive assortment of the same kinds to be dispatched immediately to Persia.

Home Courtesies.

A correspondent gives us this experience; "I am one of those whose lot in life had been to go out into an unfriendly world at an early age; and of nearly twenty families in which I made my home in the course of about nine years, there were only three that could be distinguished as happy families; and the source of trouble was not so much the lack of love, as the lack of care to manifest it." The closing words of the sentence give us the faithful alienations, of heart aches innumerable, of sad faces and gloomy home circle. "Not so much the lack of love as the lack of care to manifest it." What a world of misery is suggested by this brief remark! Not over three happy homes in twenty, and the cause so manifested and so easily remedied! Ah, in the "small, sweet courtesies of life," what power resides! In a look, a word, a tone, how much of happiness or disquietude may be communicated. Think of it, reader, and take the lesson home with you.

Gilding and Silvering Silk Thread.

In a process that has been patented in England, gold or silver leaf is rubbed on a stone with honey until reduced to a fine powder. The silk thread is soaked or boiled in a solution of chloride of zinc, and, after being washed, it is boiled in water with which the gold or silver powder has been mixed. When washed and dried, it will be found coated with a fine layer of gold or silver, which may even be polished in the usual manner.

When your pocket-book gets empty, and everybody knows it, you can put all your friends in it and it won't "bulge out" worth a cent.

My nephew, F
owing

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My second in
My third in c
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My fifth is in
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My seventh is
My eighth is i
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Uncle Tom's Department.

Puzzles

My nephew, Francis Nelson, sends the two following

No. 1.—I am composed of eight letters. My first is in ugly, but not in fair; My second in shaving, but not in hair; My third in cat, but not in dog; My fourth in lager beer, but not in grog; My fifth is in strife, but not in word; My sixth is in top, but not in cord; My seventh is in open, but not in shut; My eighth is in murder, but not in cut; My whole is a great favorite of Canadian children.

HIDDEN CITIES.

2.—You had better take a nap lest you fall sleepy.

If you were only on Shank's mare. Hang on to the front or on to the back. We will have nice times there.

3.—My first is in take, and also in touch; My second is in English, but not in Dutch; My third is in cat, but not in dog; My fourth is in stump, but not in log; My fifth is in sand, but not in mud; My sixth is in vine, but not in bud; My seventh is in ink, but not in pen; My eighth is in lark, but not in wren; My ninth is in ball, but not in bat; My tenth is in mouse, but not in rat; My whole is a city in Pennsylvania.

JAS. ANDREW.

SQUARE WORDS.

5.—Without my first a ship would stay; My second grows in Arabia; My third is something very small; My fourth is heavier than all.

GEOGRAPHICAL PUZZLE.

6.—A young lady saw a (an island in the Irish Sea) eating an (a river in Africa) at an (river in Austria) and she remarked to a companion that the (island in the Irish Sea) was very (sea east of Asia.) The (island in Irish Sea) exhibited much (a Scottish cape) and walking away knocked a (country in Europe) off the (bay west of Africa) muttering you are anything but a (river in Australia.)

WILLIE PICKLE, Wroxeter.

7.—I am composed of 9 letters. My 1,7,8 is a domestic animal. My 2,7,8 is a covering for the head. My 4,3,7,6 is for burning. My 4,7,8 is a kind of fish. My whole is a cocoa nut preparation.

The Traveler's Tour.

A PARLOR GAME.

This game may be played by any number of persons.

One of the party announces himself the traveler, and about to take a little tour. He calls upon any of the party for information respecting the objects of greatest interest to be noticed in the different towns and villages through which he intends passing.

He is given an empty bag, and to each of the persons joining in the game are distributed sets of counters with numbers on. Thus, if twelve persons were playing, the counters required would be up to number twelve, and a set of ones would be given to the first person, twos to the second, and threes to the third, and so on.

When the traveler announces the name of the place he intends stopping at, the first person is at liberty to give information, or make any remark respecting it; if he cannot do so, the second person has the chance, or the third, or it passes on until some one is able to speak concerning it. If the traveler considers it correct information, or worthy of notice, he takes from the person one of his counters, as a pledge of the obligation he is under to him. The next person in order to the one who spoke last is to proceed, so as not each time to begin with number one. If no one of the party speaks, the traveler may consider there is nothing worthy of notice at the place he announced, and he then passes on to another.

After he has reached his destination, he turns out his bag to see which of the party has given him the greatest amount of information, and that person is considered to have won the game, and is entitled to be the traveler in the next game.

If it should happen that two or more persons should have given the same number of counters,

those persons are to be allowed in succession to continue to assist the traveler and deposit their pledges, until one alone remains.

EXAMPLE OF THE GAME.

Traveler.—I intend to take a little excursion this summer, and shall soon start from New York for Niagara; but as I wish to stop at several places, I shall travel slowly. My route will be by steamboat up the Hudson to Albany, thence through the centre of the State to the Falls.

Number One.—Soon after leaving New York City you come to the Palisades, which form one of the first objects of interest in your route. The noble river is then walled in for thirty miles by high precipitous rocks, upon whose summits imagination has but to place some ruined castles to suggest olden memories, and the inferiority of the scenery of the vaunted Rhine to that of the Hudson must be confessed.

Traveler.—Thank you for this information; pray deposit a counter in my bag, that I may remember to whom I owe it. I propose to stop at Tarrytown.

Numbers Two and Three no answering.

Number Four.—Pray visit the spot of Andre's arrest. After the final arrangements with Arnolds in regard to the betrayal of West Point were made, Andre proceeded on horse-back to New York, and when he reached this spot, supposed himself within the British lines, and thus secure from danger. He was stopped by three soldiers, whose names will ever be held in remembrance—Paulding, Williams and Van Wert. Instead of showing his passport, he inquired whence they came, and receiving for answer, "From below," he responded, "So do I," showing at the same time his uniform as a British officer. "We arrest you as an enemy in our country," replied these soldiers; and resisting all his attempts at bribery, they led him captive to the headquarters of the American general. His sad fate is well known. Hung as a spy near this place, his remains were left here a few years, but are deposited among England's illustrious dead in Westminster Abbey.

Number Four deposits a counter. Number Seven.—The Hudson is rich in revolutionary reminiscences. A short distance from Tarrytown, on the opposite shore, you will reach Stoney Point, the scene of Mad Anthony Wayne's during exploit in 1779, when, without firing a single gun, the fort here situated was surprised and taken by assault, forming one of the most brilliant exploits achieved during the war. A counter of Number Seven is put into the bag.

Traveler.—I cannot stop long here, but must proceed on my journey. Where shall I stop next?

Number Nine.—You pass then at once into the Highlands. Here the Hudson has burst its way at some distant period through the mountains, leaving on each side a rampart of almost perpendicular hills of from six hundred to seventeen hundred feet above the level of the river. Most prominent among them are the Dunderberg, Anthony's Nose, and Butter Hill. Number Nine deposits a counter. And so on. This specimen is enough to show how the game goes. Not many parlor games are more improving to the mind than this.

DECEMBER PUZZLES.—Our January number being issued earlier in the month than usual, we omit the answers to last month's puzzles—in order that our young folks may have an opportunity of sending theirs—until the February number.

Punkin pi iz the sass ov Nu England. They are vittls and drink, they are joy on the haff-shell, they are glory enuff for one day, and are good kold or warmed up. I would like to be a boy agin, just for sixty minnetts, and eat myself phull ov the blessed old mixtur. Enny man who don't luv punkin pi wants watching cluss, for he means to do somethin mean the fust good chance he kan git. Giv me all the punkin pi i could eat, when i was a boy, and i didn't kare whether Sunday-skool kept that day or not. And now that i hav grown up to manhood, and have run for the legislature once, and only got beat 856 votes, and thoroly marrid, thare aint nothing i hanker for wuss, and can bury quicker, than two-thirds of a good old-fashioned punkin pi, an inch and a half thik, and well smelt up with ginger and nutmeg. Punkin pi is the oldest American beverage i kno ov, and ought to go down to posterity with the trade mark ov our grandmothers on it; but i am afrade it won't, for it iz tuff even now to find one that tastes in the mouth at all az they did forty years ago.—Josh Billings' Allinax for 1875.

HUMOUOUS:

Self-made men are apt to worship their maker. What is the nearest thing to a cat looking out of a window? The window.

Josh Billings says:—"Success don't konsist in never making blunders, but in never making the same one the second time."

"Pa," said a little friend of ours, "what's the use of giving our little pigs so much milk? They make hogs of themselves." Pa walked away.

"Papa, do horses ever kick with their fore feet?" "No, child, they never do." "Well, if a horse should kick with one of his hind feet, would that not be one of his four?"

"I'm not myself at all to-day," said a bore to the artist Inman. "No matter for that," was the reply, "whoever you may be, you are a gainer by the change."

Perhaps it was not amusing to see John the other night, singing contentedly to himself, and crumbling bread into a bowl of starch which his wife had placed in the pantry, and saying there was nothing like bread-and-milk after all.

An amateur sportsman went hunting the other day. He only fired one load, and brought all the shot home with him—in his left leg—all but four grains, and his dog caught them in his ear. There is such a thing as being too economical.

A sailor dropped out of the rigging of a ship of war, some fifteen or twenty feet, and fell plump on the head of the first lieutenant. "Wretch!" said the officer, after he had gathered himself up, "where the deuce did you come from?" "An' sure I came from the north of Ireland, yer honor."

A Hartford gentleman who had tarried late at a wine supper, found his wife awaiting his return in a high state of nervousness. Said she, "Here I've been waiting and rocking in a chair till my head spins around like a top!" "Jess so; where I've been," responded he; "its in the atmosphere."

"Hi! where did yez git them trousers?" asked an Irishman of a man who happened to be passing with a pair of remarkably short trousers on. "I got them where they grew," was the indignant reply. "Then by my conscience," said Paddy, "you've pulled them a year too soon."

EPITAPH ON A COOK.

Here lies in the dust,
The mouldy old crust
Of Eleanor Bachelor Shoven,
Who was skilled in the arts
Of pies, custards and tarts,
And knew every use of the oven.
When she'd lived long enough,
She made her last puff—
A puff by her husband much praised;
Now here she doth lie,
To make a dirt pie,
In hopes that her crust will be raised.

An exchange says:—"Ole Bull, when young, attempted suicide, and now he is the best violinist in the world. There is a young man in our neighborhood who plays the accordeon, and he if not a success. Probably if he were to attempt suicide he would learn much faster. Should he succeed in his attempt at suicide, we should be just as well satisfied."

Once a careless man went to a cellar and stuck the candle in what he thought was a keg of black sand. He sat near it drinking wine until it burned low; nearer and nearer it got to the black sand; nearer and nearer until at last the blaze reached the black sand, and, as it was nothing else but black sand, nothing happened.

Conversation between an inquiring stranger and a steambot pilot:—"That is Black Mountain?" "Yes, sir; highest mountain above Lake George." "Any story or legend connected with that mountain?" "Lots of 'em. Two lovers went up that mountain once and never came back again." "Indeed—why; what became of them?" "Went down on the other side."

An old man and wife, says a Detroit paper, who came by the Central road, saw about thirty hacks at the door of the depot, and about thirty hackmen shouted "hack" to them. The man took it all as a high compliment, and turning to the old lady he said:—"I tell you, mother, they think we are something great, or they'd never had all these carriages down here to meet us. I wonder how they knowed we was coming."

Agricultural Politics—The Elections.

You will again be called on within a few weeks to record your votes. We must repeat what we have said before—endeavor to send more farmers to the Legislature.

We do not wish to interfere with your party lines, but attempt to direct you to act in that manner we think more for your interest. Thus we say—send more farmers to the Legislature. There is, however, one important subject that you should make a particular point of; that is, this Government Farm. The disclosures recently made must have convinced you of the correctness of our remarks, namely, that this institution was not for the farmers' interest. This is an undertaking that the Government itself would willingly abandon if it could be done honorably. The best way for us to aid the present Government to abandon it is to take a pledge from the candidates we vote for to use their influence to stay any further expenditure on it. We have spoken to several members of Parliament about it; very few favored it; by far the greater number were opposed to it, but for party purposes many voted for it.

The Hon. G. Brown told us about two years ago that he would not care if it was knocked on the head. The Hon. D. Christie, when we spoke to him about it, said it was a legacy left to them by the former Government, therefore they must do something with it. Our late President of the Board of Agriculture said that many members of the Board did not believe it would do any good. Nearly all the members of Parliament we spoke to declaimed against it. This was before the late investigation.

Remember, if this institution is carried on it will cost us an immense sum. One of the leading gentlemen in the Government mentioned to us the sum of a half-million as the amount that was contemplated being expended on it. Shall we pay this, or possibly four times this sum, if it is carried out?

It has been checked, and will continue to check private enterprise. In such bad esteem is it now held that no one will go there unless they are paid for it. Even the students must be paid, with our money, to fill this College. We say aid the present Government by taking a pledge from the person you vote for to use his influence to check any further expenditure on this institution. The Government might give it up to a body of farmers that would undertake to do more good than the Government can possibly do, and such a body can be found. If the Government would leave agricultural affairs in the hands of the farmers, the interest of the country would be better served. Stone's, Miller's, Snell's, Brown's, Christie's and Cochran's farms have each done more good to the country than this Government affair, and, what is most probable, the Government will never do any good with it; therefore, we say use your endeavors to stay it at once.

Fertilizers—Value of Experiments.

[NOTES FROM A LECTURE BY PROFESSOR STOCKBRIDGE, MASSACHUSETTS.]

The subject proposed by the lecturer was to lay before the audience some account of various experiments recently made for determining the answer to certain questions which had been asked of nature.

His address is the more deserving the serious consideration of agriculturists, that he does not confine himself to mere theory, as too many votaries of science are in the habit of doing. The lessons most useful to farmers are taught by experience. He has seen and observed the carrying out of systems of agriculture. He has noted the

results, and he acts accordingly. The following extracts from the lecture will be found interesting and profitable:

"His own idea of experimenting is first to learn just what you are searching for. Everybody knows already that draining is a good operation, and that it pays, too. No experiments are needed to prove that. Experimenting with different breeds of cattle to know which are best is thoroughly absurd. As well might we ask which machine or farm implement is the most valuable. It depends in both cases upon what use is to be made of the machine or the animal.

"Experiments with fertilizers had been of little use further than to show that they were not to be depended upon. In conducting experiments, with fertilizers for instance, it is necessary in order to have the experiments of any value, to know absolutely what one is experimenting with. Then the land on which fertilizers are applied for experiment must be in a suitable condition for fairly conducting these experiments. Unless land is sufficiently drained, either naturally or artificially, we can never know whether the fertilizers applied are good for anything or not."

NOTE.—This latter fact, for a fact it is, should not be lost sight of by farmers, whether trying fertilizers, new seeds, or some system new to them, or an experiment in agriculture; it is of first importance that the land and its condition, the season and other circumstances be such as to justify us in expecting fair results.

"One way to prevent the running down of the fertility of the soil is to buy farm yard manure, but we cannot buy enough of it to work a great change in this direction. It is not to be bought, except in very limited quantities, and not even then by farmers located far from large towns or cities. Barn yard manure costs too much for purposes of general farming. Something else must be found, if possible, to take its place. Chemistry has taught us that something. It has taught us absolutely what our plants are made of, that the constituents are always the same, that they never change and never vary. The proportions, too, are always the same in well-ripened plants."

The Professor proceeds to detail experiments made by him of manures purchased to prevent the running down of the fertility of the soil. In so doing he only takes into account commercial fertilizers; but this, though interesting to farmers where they are compelled to purchase them that they may make every acre produce to its utmost capability, if they are to make farming fairly remunerative, will not be of much interest to the farmers here.

In England the rise and fall in the prices of commercial fertilizers and their real value to farmers are as carefully studied by them as the comparative value of Short-Horns and Hereford or red Norfolk cattle, or the nutritive properties of turnips and Kohl Rabi. Canadian farmers generally cannot, in the present mode of farming and at the prices obtainable for their produce, purchase high-priced fertilizers, except on a small scale; and the Professor himself, in his lecture, shows the necessity of using great caution in expending money on them at all. He says:

"Potash was purchased of a dealer in Boston. It was certified over the signature of a chemist to contain thirty-two per cent. of potassa oxide. A sample was laid by for analysis by Prof. Goessmann, but the potash was used in such proportion as would be required if it had been up to the standard. The result was that, long before the crops all matured, it was noticed that something was going wrong. An analysis was made from the sample reserved, and instead of thirty-two per cent., only eight per cent. of potassa oxide was found, making the potash cost not eight cents, but thirty-two cents per pound. On the crops which had matured, like oats and grass, it was too late to supply a remedy."

The value of commercial fertilizers, when genuine, we admit are great. But in the existing state of agriculture in Canada, we must try to keep our soil from losing its fertility, and this we can do without any extraneous aid. We have but to fol-

low a suitable rotation of cropping, cultivate the soil thoroughly, feed as much stock on the farm as it will bear by judicious treatment, save and prepare every pound of manure from cattle and every other source, and apply it in the proportion and in such manner as we know will bring the largest returns, and we may, for some time at least, avoid the cost and risk of deception attendant on the purchase of guano, potash, nitre and all the other fertilizers applied to the soil in high farming, such as we may hope to attain to in time. A continued demand for all the products of the farm will induce farmers to use every available means for increasing the yield of those products, and as one of the means to add to the fertility of the soil, the commercial fertilizers that have been found beneficial in older farmed countries. Let us first make the best use of all the means to be acquired from the soil itself, and when they are found insufficient, we must, as others have done, supply the deficiency as best we can.

We purpose in the next issue of the *ADVOCATE* to take up the subjects of manures, the best method and fittest time for their application—a subject of paramount importance to the interests of agriculture.

To Agricultural Societies, to Patrons of Husbandry, and to Agents.

We thank you all for your aid, and solicit a continuance of it. Applications are being continually made for reduced rates. This paper never received Government support, and what is more, you will be pleased to know, it does not want it. There was a time when its manager struggled hard and really needed it, but the Government preferred spending money on the Agricultural Farm, on several other papers, and on several injurious institutions; but this journal was indirectly taxed to crush us. That tax now amounts to \$600 per annum. We pay it in cash received from you. We give you for your money the only paper published in Canada that is in no way allied to, or bound to, or trammelled by some political party or religious sect. We have received no bribe or bonus, although it has been offered. To keep up this paper it costs us an immense sum. We cannot afford to give illustrations, the best quality of paper, the best ink, and pay for talent to aid us, if we give our paper below cost. We wish to make this paper the best agricultural paper in the world. We may not be able to obtain our aim, but we believe we are progressing rapidly towards it. As far as Canada is concerned, and the voice of the farmers, we claim it at the present time. We have offered great inducements to clubs and to agricultural societies to commence taking our paper, so that they may be able to judge of its merits. We still offer great inducements to new subscribers, as after farmers once begin to see the utility of our undertaking, and the benefit of the paper, they are willing to let us live. The paper is honestly worth \$1 to every farmer in Canada. It expresses their cause fearlessly, and is their standard-bearer. No farmer that has the spirit of a man will begrudge paying us \$1 per annum. If he is below the \$1 standard, after one year's trial, we do not crave his money. Besides, we wish to act fairly to all, as many that are in the habit of getting their paper at the lowest cost price are not aiding to improve it or carry out our plans. We, therefore, give the following

NOTICE:

After this date no old subscribers should receive this paper for less than \$1, per annum. Any person may send us in a list of four new subscribers at 75 cents. They may retain the other 25 cents for their trouble. If agricultural societies, or patrons of husbandry, or agents, send us in ten names

accompanied with the cash, we will supply them at 75 cents. No single subscription will be taken by us for less than \$1, in advance. The price when not strictly in advance is \$1.25.

Essay on Soiling Stock.

Delivered to the Delaware Grange, and written for the Farmer's Advocate.

Soiling stock is a subject of great importance to the farmers of Canada, and it is one that, we might say, is only beginning to attract their attention. A few years ago it was scarcely spoken about outside the office of an agricultural paper.

The advantages of the soiling system are many, and I will endeavor to present them before your readers in their order:

The first is the saving of fences. Our farms in Canada, when first cleared, are generally divided into fields of from six to ten acres each, but as the country gets older, and timber scarcer, fences are removed and fields enlarged, and, at the rapid rate at which our woods are disappearing, from whence shall we derive our future supply of rails or boards? To fence a farm of 100 acres will require an outlay of from \$1000 upwards, according to locality, and we are required to spend money and time every year in repairs. I ask—will not the time and money spent in repairs pay for the labor of soiling your stock for six months? and can you not lay out your \$1000 to better advantage than in building fences, only to be rebuilt in the course of a few years? In this system we do not need more than our boundary lines.

The second advantage is the saving of land.—Each one of those fences occupy a certain portion of land, and I think it would be more profitable to cultivate the four or five acres usually occupied by fences, and make the produce add to our returns, than to have it covered with fences, bordered on each side with all kinds of rubbish, and making a resting place for noxious weeds. Again, it requires from an acre to three acres to pasture a cow during the season, according to the condition of the land and the season. By the soiling system from one-half to three-fourths of an acre is all that is necessary, and is not this an item of importance to the farmers of Canada, when they are trying to make the most of their land; for, by it they can raise a greater quantity of produce, carry through twice the number of cattle that they could by pasturing, and add greatly to the manure heap, of which I shall treat next.

Adding to the manure heap is like depositing money at a good interest in the bank; its drafts will be honored every time. The majority of the farms in our county have diminished greatly in their producing capacity, because we have robbed the soil of its virgin properties, and have neglected to return sufficient elements to repair the loss.—This becomes the most important consideration of all. By soiling we are enabled to keep twice the stock, and to make double the quantity of manure, and certainly this manure must be increased in value; the result will be that the land will not be exhausted, but will constantly increase in fertility.

There will also be an advantage in the saving of food, for by this system cattle get sufficient to satisfy their wants without waste. Cattle turned out to pasture are constantly on the move when eating, and must necessarily trample a certain amount under their feet.

Another advantage is the better condition and greater comfort of the animals. Grass on pasture lands at different periods of the season becomes old or scanty, and they will not thrive as well as they will when fed on green fodder in its most nutritious

state. They will also do better when they can eat their fill at regular periods and rest themselves in the shade, than if they were compelled to exercise themselves to satisfy the cravings of hunger, with the thermometer from 80 to 90 degrees.

Another advantage, too important to be overlooked, is the greater product of milk. I am led to believe from observation that this consideration in the soiling system will impress the farmers of Canada more favorably than any other I have mentioned. Our dairy system is playing an important part under this head. The majority of the patrons of our factories are sowing corn broadcast, to cut during the dry summer months in order to keep up the flow of milk. They think they are amply paid for the use of the land and labor by the increased flow of milk, and at the same time the milk thus produced is richer in quality. If such benefits are derived by this system of partially soiling for a month or so, why not extend the period through the whole season.

The advantages of the soiling system over pasturing which I have enumerated are sufficient, I think, to induce farmers to give it a fair trial, and I am satisfied that if it were once tried the result would be favorable.

We come now to the crops best adapted for the purpose.

The crops best adapted for summer soiling are winter rye, clover, oats and corn. The rye will be ready to feed by the time the pasture is in condition for cattle. Clover will next be ready for use; rye again will be ready, as it will furnish several cuttings. Oats, sown early and at different periods, will furnish food until corn is ready, which should be sown at periods of fifteen days apart till late in the season, say the 1st of August. The quantity of land necessary for soiling ten head of cattle would, on an average, be: 1 acre of rye, 2½ acres of clover, 1 acre of oats, and 4 acres of corn, sown at four different times. If this quantity is found more than sufficient, it can be properly cured and stored for winter use as the best of food. Some experienced farmers state that one square rod of land, well tilled and sown with any of the above crops, is enough to support a cow for one day, if cut and fed to her where she cannot waste it. It will be necessary to have a yard and an open shed to feed in, in order to avoid waste, and to keep them quiet while feeding. The shed may be divided into stalls with a hall through the centre, and fitted with mangers after the manner of a well constructed stable for winter use. The animals may be fastened with chains or stanchions, as each have their advocates. They should be fed at regular periods and four times a day. Nearly every farmer has a yard attached to his barn buildings, and by building his shed in this yard, it may be made to answer a double purpose. It will answer for soiling his cattle in during the summer, while the yard will be the appropriate place for exercise, and it will also be the place to save his manure during the winter, for no farmer will deny that manure saved under cover is of greater value than when thrown in the yard to be bleached by the storms of winter.

Plenty of pure water, to which they may have free access, is indispensable in order to obtain the best results. Where there is no spring, or where it is difficult to get good water by digging, the best course would be to build a cistern to receive the water from the roofs of the buildings, as a large quantity of water would collect during a nice shower.

A thorough system of soiling will also include stall feeding during the winter months, and a free use of the cutting box in cutting up the coarse feed, also feeding the coarse grains with the cut fodder. Roots are also necessary to obtain the

best possible results, as they are acknowledged to be the key to successful farming wherever cattle have to be confined.

I have no doubt many will say—"Look at the money, time and labor you expend on this system." But, I ask them in sincerity, will not the increased returns and profits repay them for all this labor and attention, and still yield a handsome profit?

S. H. CORNELL.

Evergreen Home, Delaware.

Mr. Little's Address on Dairy Farming.

(DELIVERED AT THE LAST MEETING OF THE PUSHLINCH FARMERS' CLUB.)

Dairy farming to any extent in Canada is of a late origin, and may be confined to the past eight years; but it has made great advancement in that short time. Previous to that date no extensive shipments of cheese were made from this country to Britain, and in consequence of that the people of that country were under the impression that both the quantity and quality of Canadian cheese did not amount to much. We, however, were determined not to let our American neighbors excel us in this important branch of industry. We are therefore now prepared to supply the British market with an article superior to their own, and undersell them in their own market. It can now be seen on placards in the grocers' windows in Liverpool and other British cities, "Fine Canadian Cheddar Cheese sold here." We received from Britain in 1873, the sum of \$1,825,000 for the above named article, and all that from this side the St. Lawrence.

They look upon dairy farming in the west of Ontario as a providential gift, designed to fill two great deficiencies that our country has recently begun to experience, viz., that of want of employment occasioned by the exhaustion of soil. Cheese manufacturers have not as yet in Ontario reached that degree of perfection which they expect to attain, but they have come to a resting place, and it unnecessary for them to make much further improvements until the farmers come to their assistance, and furnish them with good milk. You might as well try to make fine cloth out of an inferior quality of wool as to make good cheese out of bad milk. One great feature that should be observed in supplying milk to a factory is cleanliness, as nothing is more susceptible of taint than milk or cheese. Another is good order and regularity; another of great importance is a good supply of fresh water, and not allow the cows to drink stagnant or infected water, as anything communicates a taint to the milk more readily than the use of bad water in connection with it, and another of great importance is shade trees and artificial sheds. The latter can be constructed by placing posts in the ground and covering them with poles and cedar bush, and closing it on three sides.

Farmers should raise their own cows as they can then select from the best milking stock. The Ayrshire cows are considered superior milkers. Puslinch is comparatively well adapted to dairy farming, as we can raise mixed grasses, such as white and red clover, timothy and alsike, which are said to make the richest cheese. There were some drawbacks during the past season on account of the excessive drouth; but show me the section of country, or the man of business that does not meet with the same.

In consequence of the long continued drouths which often forbid the various seeds to take root, we must therefore turn our attention to soiling, such as sowing Rye and Western corn. Mr. L. Mont, of Herkimer's Co., New York, has proved a successful dairy farmer, and he states that on the products of five acres of Western corn, he maintained fifty cows for seventy days. He plowed up green sod on the first of May and cultivated it well, after which he sowed with a grain drill, two and a half bushels per acre, on the first of June. It grew to a height of from six to eight feet. On the first of September he cut it with a strong reaper, and then left it to lie a few days to dry, after which he tied it up in sheaves and then shocked it, putting twenty-five or thirty sheaves in a shock, then drew it home and fed it out as was found necessary. Some feed the green corn over the fence, some cart it to the pasture field, and others took it to the barn, cut it with a straw cutter and mix mill feed with it. The latter mode is considered the most economical.

Eds. Coun receiving lett States, asking orchard grass be the most l you a short a all demands, convince all t pare with it. most severe hay crop eve in many inst nately for m grass, and I and a very l our timothy hardly wortl did but littl all of the or but little aff made as muc made the ye four times, From some c crops of hay

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For my p thy hay, as in course o not pastur but will co for many ments tha grasses. small blue is to be p our comme good blue comes nat at once. should ha One acre ture as tw confident of hay on top, or ar might ex makes an I have no preferred sometime lands orc as blue-g isher of immense der is eq all must but littl one will greater barns an

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Orchard Grass.

EDS. COUNTRY GENTLEMAN,—I am continually receiving letters from various parts of the United States, asking for information on the subject of orchard grass, and believing that your paper will be the most likely to reach all parties, I will write you a short article on the subject, hoping to satisfy all demands, and (as I said in a former article) to convince all that there is no grass that can compare with it. This year we have experienced the most severe drouth known for many years, and the hay crop even on our moist blue-grass bottoms, has in many instances been an entire failure. Fortunately for me, a large part of my farm is in orchard grass, and I have now two barns filled with hay, and a very long row of stacks outside. Much of our timothy did not head out at all, our clover was hardly worth cutting, and our blue-grass bottoms did but little good until after the late rains, while all of the orchard grass that I saw seemed to be but little affected by the drouth, and all of mine made as much, and in some instances more, than it made the year before. Some small patches I cut four times, and all of it made two good crops. From some of it I took the seed, and then cut two crops of hay.

I have a word to say to hay buyers and consumers. They buy timothy hay that has stood until it is dead ripe, all the seed shatters out in baling, and by the time they come to feed it, it is but little better than good wheat straw, and yet they are afraid to buy other kinds of hay for fear of being cheated. Timothy hay looks nearly as well if allowed to stand a month too long, as if it were cut at the proper time. Now, timothy is right for cutting about the same time that wheat is, and as the wheat must be cut, the timothy generally has to wait until harvest is over, when it is entirely too ripe. Orchard grass is ready to cut by the first of June, and can all be cured before wheat harvest commences, and the second crop will keep until harvest is over. Now, I know orchard grass cut at the right time (and there is right time) is better than timothy cut at the wrong time. There is no time more convenient for cutting hay than the first of June, and no time more inconvenient than the first of July. Hay buyers will do well to remember this and look at the quality of the hay and not at the kind only.

For my part, I prefer orchard grass hay to timothy hay, as it has more blades. Timothy dies out in course of a few years, while an orchard sod (if not pastured too close) will not only never die out, but will continue to get better and better each year for many years. I have ascertained by experiments that orchard grass will root out all other grasses. Even our common blue-grass, and the small blue wire grass, have to give way to it where the land is not pastured but mowed. When land is to be pastured, nothing can excel a good sod of our common blue-grass, but it takes years for a good blue-grass sod to form, even here, where it comes naturally, while orchard grass forms a sod at once. I think, therefore, that orchard grass should have the preference, even as a pasture grass. One acre of orchard grass will afford as much pasture as two or three of clover or timothy. I am confident that orchard grass will make two pounds of hay on the same land that timothy, clover, red-top, or any other that I know, will make one. I might except our kind tall meadow oat grass, which makes an immense amount of hay, but for reasons I have not space to mention, orchard grass is to be preferred to it. Blue-grass on bottom lands will sometimes make nearly as much hay, but on uplands orchard grass will make four times as much as blue-grass. I believe timothy to be an impoverisher of land, while orchard grass forms such an immense sod that I believe turning a sod of it under is equal to any clover sod. There is one thing all must remember, that orchard grass will make but little hay the first year, but the second year one will have to tear down his barns and build greater ones, or do as I have had to do—fill the barns and stack the remainder out of doors.

W. F. TALLANT,
Montgomery County, Va.

Due allowance must be made for the locality from which the above article is written. Our timothy can always be cut before harvest orchard grass has been grown by a few farmers in Canada. Its coarseness has been considerably against it, for it makes a much coarser hay than other grasses, but it possesses many advantages. These dry and scorching summers which make bare fields and

bare barns point to the necessity of growing some kind of feed for stock during these seasons, and the orchard grass appears to be fitted for this purpose. It will grow when no other grass can. We will have a good supply of orchard grass seed in the spring for the benefit of our subscribers. We have sent special orders to England for some of the seed, as several of our leading farmers have requested us to procure some for them, one complaining that he has twice tried to raise it, but the seed failed. If any of you are desirous of procuring really new orchard grass seed, we shall have it here in a few weeks.

Profit of Seventeen Swarms.

J. P. Moore, Binghamton, N. Y., says:—"I commenced the season of 1873 with seventeen stocks of bees, having lost four in the spring and sold one. Ten were in fair condition by May 20; the other seven were much reduced, but by taking brood from strong ones, was able to build up five of the week ones by the time honey commenced to yield. The other two I run for increase and surplus queens, and was able by feeding and using my four full stocks and five half stocks of nuclei. Two of the nuclei died in the winter, and the other three are very weak (I prefer full stocks for winter), and raised ten surplus queens. The fifteen that the boxes were put on were run entirely for box honey, without increase, as we have things so arranged now that when we get a hive filled with brood in time to put on boxes we can have them put all their surplus in boxes, if the queen is prolific, without attempting to swarm, and without the trouble of handling the brood. The product of the fifteen stands thus:—By returns from honey shipped, 1,864 pounds, at an average of about 27¢ cents, \$498.32; honey sold at home, 120 pounds, at 17 cents, 19.20; honey reserved for home use, 50 pounds, \$8. Total, \$525.25."—*Buffalo Live Stock Journal.*

The Large English Berkshire in Illinois.

A correspondent of the *Prairie Farmer* writes on this subject as follows:—"The large-boned imported English Berkshire is very popular here; I prefer them to all others for the following reasons:—Their color, which is black, is preferable to white; they seldom, if ever, have the mange; white hogs are very liable to have. They are large and compactly made. Their flesh is fine-grained; a large portion being lean. They have very little offal. They sell for from one-half to one cent a pound more than any other large hog for shipping and packing. They are quiet, easily kept, never squeal. They are the best of mothers, very prolific, seldom, if ever, lay down on their pigs. Their litters are sprightly and even. They are very tenacious of life; very seldom one gets hurt by larger animals. They mature early, and are always fat if reasonably well fed."

Fine and Coarse Hay.

Producers are sometimes puzzled to know why city buyers generally ask for coarse well-matured hay in preference to more tender and in reality more nutritious kinds. The *Live Stock Journal* thus enlightens them: City men feed hay for a different purpose than the farmer. The farmer feeds it for its nutriment and as a principle food, while the city men regard grain as the cheapest food and only give sufficient hay to make bulk in the stomach and for the purpose of health. Coarse, well matured timothy serves the purpose better than the early-cut and fine grasses. They do not desire such hay as will tempt the horses to eat too much of it. Straw would answer the purpose if cut and mixed with the grain about as well. But farmers should be content with their practice of the city customer, for it enables them to sell their poorest hay for the best price, and to retain the best quality for home consumption.

NOTICE.—Be particular, whenever you write to us for a new subscriber or a renewal of your subscription, to write your name and the post office to which the paper is to be sent plainly. We cannot give persons credit for money received when their post office address is unknown.

Wanted.

An assistant to aid in the editing of this journal and the establishment of the Agricultural Emporium. Preference will be given to one that can command capital and has noticed the Emporium charter, and is willing to participate in its control. The paper and Emporium might be carried on separately. There are plenty that require an office, but cannot command any funds, such need not apply.

Commendatory.

We take the following extracts as a specimen of hundreds of the kind that are flowing into our office. We thank all of our subscribers for their good wishes:—

Raglan, Dec. 17, 1874.

DEAR SIR,—Inclosed you will find subscription renewed or the FARMER'S ADVOCATE, deeming it the most valuable paper for the farmers of the Dominion to have in their possession. I trust you may long continue to advocate the interests of the farmers of Canada.

T. OLDFIELD.

Petertown, Dec. 7, 1874.

DEAR SIR,—I must say your paper merits all the encouragement we can give it. I inclose one dollar.

WM. YATES.

Newtonbrook, Dec. 14, 1874.

DEAR SIR,—I am so well satisfied with your paper that I think it is the cheapest and most useful that there is published. I find the information and knowledge I receive are very useful in my farming pursuits.

G. W. IRWIN.

Gloucester, Dec. 4, 1874.

DEAR SIR,—I would say the real value of your paper cannot be calculated by the farming community.

JOHN M. HALPENNY.

Griffith, Nov. 30, 1874.

DEAR SIR,—Although not a practical farmer, I admire your plain talk when advocating farmers' interests, and therefore beg you to continue sending your paper.

GEO. J. MCKAIN.

Wilmot, Dec. 12, 1874.

DEAR SIR,—I must say the ADVOCATE is the best paper I ever had. I think everybody ought to have one of your valuable papers in the house. I believe it is the best agricultural paper ever published in the Dominion.

S. ERB.

Charcoal and the Soil.

Prof. S. W. Johnson, who is regarded as a leading authority in agricultural chemistry in relation to the effects of charcoal on soils, says:—

There is a great proof that charcoal has an excellent effect on light lands deficient in attractiveness for moisture, especially in dry seasons. This is due to its great porosity and absorbent power for vapor and water. On a heavy clay, which is unfavorable to vegetation, because of its compactness and slow penetrability by water, charcoal-powder, like any non-adhesive dust, separates the clay particles, prevents their cohesion where it intervenes, and thus tends to make the soil more open, more friable, promotes drainage and sets in train a long series of changes for the better. Charcoal strewn on the surface of light colored soils, so as to blacken it enables it to become warmed under the sun's rays more rapidly and more highly than would be the case otherwise. This fact may partly account for the good effect reported of it in cold climates.

But as a direct fertilizer, i. e., by virtue of anything it can yield of its own substance to crops, charcoal cannot be regarded of much value. It contains, of course, if it has not been washed by water the ash elements of the wood from which it has been made, and when applied in large quantities, the potash lime, etc., which it carries upon the land may easily produce a striking effect upon poor soil. This kind of effect can not last more than a single season, and on a soil in fairly good condition would commonly make no show. From this consideration, we conclude that charcoal (unless as may often happen, it is mixed with a good deal of wood-ashes) is not of much value as a fertilizer directly. It is a valuable amendment to soils which are dry from their coarse, sandy texture, or are wet from consisting of tenacious clay.

Granges Organized Since Last Issue.

60. DOWNSVIEW GRANGE, Downsview P. O.; Robt. Clarke, Master, Wm. Jackson, Secretary.
61. THOROLD GRANGE, Peter Cook, Master, Thorold; H. P. Swayze, Secretary, St. Catharines.
62. SWITZERVILLE GRANGE, Switzerville P. O.; R. N. Switzer, Master; P. E. R. Miller, Secretary.
63. MAYFLOWER GRANGE, Lucknow P. O.; W. P. Paterson, Master; P. McKenzie, Secretary.
64. TURNBERRY GRANGE, Bluevale P. O.; S. Black, Master; Thos. Hislop, Secretary.
65. ROSE GRANGE, Brantford P. O.; W. J. Beel, Master; Wellington Howell, Secretary.
66. NEWBURGH GRANGE, Newburgh P. O.; J. Daly, Master; John Jackson, Secretary.
67. KENT BRIDGE GRANGE, Kent Bridge P. O.; Wm. A. Everett, Master; G. B. Langford, Sec'y.
68. HOWICK GRANGE, Gorrie P. O.; Henry Smith, Master; John Stewart, Secretary.
69. CLINTON GRANGE, R. S. Merrill, Master, Beamsville P. O.; Geo. Bush, Sec'y, Jordan P. O.
70. ALBERT GRANGE, Moore P. O.; R. T. Marshall, Master; Alex. Johnston, Secretary.
71. — GRANGE, Chatham P. O.; John McLean, Master; Wm. Somerville, Secretary.
72. YONGE STREET GRANGE, Newmarket P. O.; Chas. C. Webb, Master; Oliver Stevens, Sec'y.
73. PINE GROVE GRANGE, Geo. Douglas, Master, Streetsville P. O.; Amos McCurdy, Secretary, Hornby P. O.
74. — GRANGE, Brantford P. O.; T. Clarke, Master; Ralph Crawford, Secretary.

Winter Farming.

SIR,—The long evenings in our Canadian winter is just the time for planting and sowing our minds with the seeds of wisdom and knowledge. It is just as necessary to have a strong, healthy, fertile mind as well as a cultivated field; hence the necessity of its constant exercise. To this end we should direct our attention. If there are several in a family institute a course of reading. Let one read aloud while the other listens, each vying with the others to retain the gist of what is read, and storing it away in the great storehouse of memory for future use, at any moment it may be called for. General discussion upon all important points may be entered into, and if knotty ones upon which you cannot agree come up, so much the better, for this will stimulate the mind to a more concentrated effort. It is just the time to take a general survey of our business. One cause of dissatisfaction existing with us farmers when we compare our occupation with others is, that we do not know the actual cost of production. My word for ninety-nine out of a hundred don't know the cost of a bushel of wheat or a pound of pork or beef. Without knowing the cost of production, we must depend entirely upon the demand for our products, which can easily be regulated by gigantic combinations, whose interests are adverse to those of the producer. The farmer in order to become prosperous must have fair compensation for his labor. The manufacturers receive theirs, or cease to manufacture until the demand exceeds the supply. The question of what is a fair compensation is to be settled by determining the actual cost of any product. Now, in the winter each farmer can take an inventory of his stock and everything requisite to carry on his business, and adopt a simple form of accounts, which, if faithfully kept, will enable him to determine when each crop matures just what the actual cost has been per bushel. The era of guess-work is about to pass away, and one of actual certain profit will be ushered in. The principle of taking what one can get for a crop, and depending upon luck in the future to make up the loss, is not only a thoughtless, but a ruinous policy. The lack of knowledge and consideration has driven many a young man from the farm to the city, and from there to some bad end.

A READER.

The Salt Beds in Huron and Bruce.

A visitor to the Seaforth salt wells writes as follows:—"A very thick bed of rock salt seems to underlie this whole region of country. The wells are bored to the depth of ten or twenty hundred feet; the water from the springs that are penetrated in the downward passage is allowed to flow down upon the bed, and then, having the salt solution, is again pumped into the reservoirs. Such wells are put down at Clinton and Goderich, and

at Kincardine. In some cases the salt rock itself has been penetrated about one hundred feet, and not yet pierced entirely through. The stratum of this wonderful thickness seems to extend many miles east and west, and to have a considerable breadth north and south, so as to indicate an inexhaustible supply of this great preservation.

At Seaforth there are only three wells, but they continually supply eight huge evaporating establishments.

Slow evaporation produces a coarse salt; and quick, a finer article. For our table salt the coarser product is dried in a heated rolling cylinder, and then ground like flour with a stone and hopper.

These Seaforth wells produced about 120,000 barrels of salt last year; this year it is expected they will produce about 150,000. The Goderich, Clinton and Kincardine works are also sending out their hundreds of thousands. The damaged product is used as a fertilizer, and soon the whole country can have it for such a purpose."

Prize Plowing.

Our plowmen are "born, not made." An English plowman, on the contrary, becomes such by an apprenticeship to his art and constant practice in it. To this he is stimulated by pride, ambition and reward. Indeed, such is the estimation set upon plowing in England, that a plowman must be first-class or none at all. He must do good work or seek other occupation. The farmer who employs him observes the furrows with a keen eye, marks their inclination and lap, and measures their depth and width by rule. The work, when done, is carefully examined, and the workman "points with pride" to his achievement.

But as all work and no play makes Jack a dull boy, the plowman is annually recreated by a plowing match, at which the competition is eagerly watched by crowds of critical observers, and is stimulated by the offer of substantial rewards.—Here the plowmen, farmers' sons mainly, "lay themselves out" in the presence of their fathers and older neighbors, the victors in many an earlier contest, and who still delight in relating how, in years gone by, "fields were won." One of these competitive tests recently took place upon the farm of Mr. Chas. Howard, a well-known agriculturist, near Bedford, and under the auspices of the Bedfordshire Agricultural Society. The report ought to be interesting and instructive.

For single plows half an acre was staked off for each competitor, the plot to be plowed in two ridges or lands, with an open furrow exactly in the middle, and each side having an equal number of furrows. Twenty-four double plots and one single plot were laid out. The competitors drew lots for position, and each was required to finish his lot in four hours from the moment of drawing the ticket. The plows were started only when ordered by the stewards. For double-furrow plows, plots of one acre were laid off for each plow, and 4½ hours were given in which to plow them.

The work began at 10:15 a. m., and the numerous plows, with two steamers working parallel to the head of the horse plows, made a lively scene. The plowing was rendered difficult by a heavy rain at the beginning, and occasional showers during the day, or the excellent work done would have been still better. It was, however, finished within the required hours; the double furrow plows did the work in half the time of the single plows, and also did better work, though it is said that the single plows did "grand work." The winner of one of the first prizes, a man named Brown, made a splendid showing, "it being impossible to discover a single couplet in either of his ridges; the furrow slices were laid equally, and were as straight as if the land had been cast in a mould."

The prizes awarded were, to the first class a silver cup, value \$30, for first premium, and for second \$20 in money. The competitors in this class must be sons or pupils of farmers holding at least 100 acres of land. The winner of the silver cup, R. Oliver Keysoe, was loudly applauded, and "Well done, Keysoe!" greeted him as each successive furrow was successfully turned. The 2nd class was composed of working plowmen, and four premiums of \$5 to \$15 were offered. Class third comprised only agricultural laborers, with five premiums of \$2 to \$12.50. The fourth class "consisted of boys under 14 years of age," to whom three prizes of \$2 to \$7 were open for competition. Special premiums were awarded for double plows. The first prize taker in this class drove two mares, 7 and 10 years old, both in foal. He plowed his

acre within 4½ hours, and at the end of the time his team were cool and "would not soil a cambric handkerchief." During the plowmen's progress, they frequently measured their work with a rule, and the spectators watched with eager excitement the artistic turning of each furrow.

Such a contest seems to us to go ahead even of agricultural horse trots, both in usefulness and attractiveness, and if any excitement is needed to draw young farmers and "boys under 14" from the retirement of their homes for the purpose of recreation, it would seem that a plowing match, in which each one can be interested, either personally or through an admired friend, would serve the purpose as well as the exhibition of a horse that can be jockeyed around a course in half a second less time than another one, and neither of which has the remotest connection with agriculture except in so far as he consumes hay and corn. And there is certainly, need enough for improvement in our plowing. As a matter of actual experience, the difference in the crop resulting from poor plowing has been found in one case known to us to be equal to eight bushels of wheat per acre.

Short-Horn Convention at Springfield, Illinois.

The Association held its annual meeting at Springfield, Ill., on Dec. 2. In an essay by Mr. Pickerell, entitled, "Fancy vs. Reality in Stock Breeding," he insisted that the weight of animals must be looked to for excellence, and not such fancy points as horn, color of nose, color of hair and other trifles.

In a paper prepared by Mr. A. S. Matthews, on "Short-horns: have they improved in the last twenty or thirty years?" the essayist held that they had not, but that they had rather deteriorated, and the highest prices paid in many cases were wholly out of proportion to the real value of the animals.

An essay was read by Mr. A. W. Stewart. It was held that while great and proper attention was paid to breeding Short-horn cattle, the important matter of food was in many instances lost sight of. Many breeders in order to put the cattle in good condition for exhibition at fairs, fed corn to such an extent as to seriously impair their productive powers. Saccharine food also tended strongly to this evil. While corn represents the poorest kind of food, fresh grass represent the best kind—soft, easily digested, non-fattening and non-heating.

The next annual meeting is to be held in Toronto.—Abridged from the *Michigan Farmer*.

Losses in American Farming.

The *Prairie Farmer*, in Notes from Correspondents, says:

"Jefferson, Illinois.—The wheat sown in August and September came up and looked well, when the army worms came by millions, and ate up hundreds—yes, thousands—of acres. We also had the Chinch bugs eating on our young wheat, destroying hundreds of acres. We have lost thousands of acres of corn by Chinch bugs. Some of our corn was so badly injured by Chinch bugs that the stalks were too weak to support the ear; so it fell down and rotted on the ground. * * * We have not got enough good, sound corn to fatten our pork and feed our teams this winter and during our spring work. Some of our farmers are fattening their pork on wheat. The oat crop was a failure; we needed machines to grab them. Not one man in twenty has any oats to sell, or will have enough for seed next spring. How the stock is to be got through the coming winter is a question to be solved."

Troughs under the Eaves of Barns.

It is not singular that so many farmers who persist in throwing their manure out under the eaves of their large barns fail to put up eve troughs to carry off the water and prevent the washing of their manure? I have a barn 100 feet long. My stable has a lean to along one side of it. Thus the entire fall of rain on one side of the barn and on the lean-to would run into the manure and soak away the liquid portion which would run off through the yard, did I not have an eve trough to catch this water and conduct it into a large cistern from which I force this water with a pump in troughs before my cows in the stable. Tell your farm readers how they may save their manure and the trouble of digging out water places in the pond holes or streams by putting up eve troughs and saving the water that falls on their barn roofs.—*Examiner*.