

FARMER'S ADVOCATE

AND HOME MAGAZINE.

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THE EXHIBITION NUMBER

—OF THE—

Farmer's Advocate

AND HOME MAGAZINE

FOR 1880

WILL BE ISSUED ON OR ABOUT THE
TENTH SEPTEMBER NEXT.

60,000 Copies to be Issued.

Our fourth annual issue of this fast increasing and most successful advertising medium will be the best one ever issued. While thanking our patrons of former years, and the patrons of the *ADVOCATE*, for their confidence in our endeavors to promote their interests, we can assure them that our endeavors will not be relaxed, and that the increased facilities now in our hands will be used to the utmost for their benefit.

The circulation will be carefully divided among the leading farmers throughout the Dominion.

Prospectuses are now ready, and space can be reserved.

Send for a Circular at once.

Our Prize Essays.

A prize of \$5 will be given for the best essay on the question, "Whether is Sheep breeding or Cattle raising the most profitable to the general farmer." Essay must be in our office by the 15th of October.

Competitors must write on one side of the paper only. The essay receiving the prize is to be the property of this journal. Unsuccessful essays will be returned on request by sending stamps for return postage.

C. J. Yorke, of Wardsville, Ont., has won our prize for the best essay on the "Management of Agricultural Exhibitions."

The Month.

The month now numbered with the past has been a very important one to the farmers and to the country at large, as the securing of the great grain crops of Canada and the United States and the maturing of the cereals of Europe rule the prices of farm produce throughout the year. But little is to be added to our monthly summary in our August number relative to our crops.

In Canada fall wheat has been a good crop; spring wheat generally a failure. Fortunately, the acreage of spring wheat was much less than in former years.

Oats have been a good crop.

Barley a good crop, but in many cases stained.

Potatoes, till within a few days, gave promise of abundant produce, but there has been a premature cessation of growth, caused, it is said, by a blight that will make the crop lighter than was expected. There will, however, be a fair produce of good quality.

Corn has been more extensively grown than in former years, and as far as we can learn promises well. In Western Ontario, at least, the raising of corn, farmers say, will receive more attention than heretofore. Feeding stock on home grown corn with other cereals they find pays well.

In England the weather has for some weeks been dry and warm, just such as was wanted. The wheat crop is now estimated at 80,000,000 bushels in round numbers; 29 bushels per acre on 2,800,000 acres. The annual consumption of wheat in the United Kingdom is placed at 190,000,000 bushels, thus leaving a difference of 110,000,000 bushels.

FRENCH CROPS.—Excellent accounts are received of the grain crops. Rye is being cut all over France, and the wheat harvest has commenced in the South. In another week the grain will also be ripe in the central zone. The reports of the wheat are good, and the yield is expected to be a full average—perhaps a little above. The rye, which is largely grown in France, is in many places described as the finest remembered. Oats are also a heavy crop and of magnificent quality. 200,000,000 bushels will, it is believed, meet the requirements of all the wheat importing countries of Europe. The surplus wheat of exporting countries will, it is estimated, reach 250,000,000 to 300,000,000 bushels, thus leaving a net surplus of 50,000,000 bushels.

The general impression of business men is that a high range of prices is out of the question, and also that an extremely low range of values will not prevail.

The shipments of grain have been large, and the prospects are such that producers and merchants are realizing early on their stocks.

The hundreds of thousands of acres of fertile lands still unoccupied in the Dominion are not the least among the industrial resources of the country. There is now a fair prospect of large tracts of these lands being occupied by farmers who have means to turn their dormant capabilities to the best account. Four English delegates have been spying out the lands of Ontario and Manitoba as a country for English farmers to emigrate to. They have visited some of the important centres of agriculture, and have expressed their surprise and delight with what they saw and the prospects of the country.

The efforts made to have removed the restrictions on the importation of live stock into Britain from the United States have been so far unsuccessful, and they will be so as long as there are so many diseased cattle among those imported. From Canada only is live stock admitted to English markets without being slaughtered, as Canadian cattle only are free from contagious diseases.

Prospect for Barley Growers.

This season has given the farmers a fair barley crop on the whole, and gives promise of a fair remuneration for expenses incurred. Barley, it is true, is a good crop in England, the best buyers of our surplus crop, but that country does not grow barley enough for her own consumption, and we expect that she will continue to be a good purchaser.

Canadian malsters may find the exportation of malt to the United States less profitable than it has been, in consequence of the increase of duty imposed on barley imported to that country; and if we were dependent upon that market the price of Canadian barley might be expected to suffer a corresponding decline, but good samples of malting barley will, we have no doubt, always find a ready market in Europe. The area adapted to growing malting barley is limited, and in that article Canada will meet less competition than in other cereals.

The repeal of the malt tax in England must also have some effect on the price of our barley. All of No. 1 will as heretofore be malted for brewing, and inferior grades that were often almost unsaleable will, now that there is no longer a duty on malt, be malted for cattle food, and for these there will be an increased demand. Before the removal of the duty the demand for all inferior samples had been so limited that they were sold at very low prices, and such large quantities of them were found upon the market that there was a depression in prices, even of the very best samples.

Of the value of malt for feeding purposes, Dr. Voelcker says:—"Food, in order to become assimilated, must first be dissolved. The undissolved or undigested portion of the food passes through the intestinal canal, and is expelled with the faeces; a portion of the fattening effect of the food is thus lost. Malt greatly assists the dissolving action of the stomach, and thus supplies the absorbing vessels more abundantly with liquid food. At the same time the cellular fibre or husk of grain is more easily and more thoroughly exhausted of starch, when the crushed grain is mixed with an infusion of malt, than otherwise. The full fattening effects of the grain are thus realized, and none of the starchy matters are carried off with the faeces. We can thus understand why a small portion of malt may produce a very striking effect when added to other food; for it will assist the solution of the food in the stomach, even when given in small quantities."

The experience of stock feeders has fully confirmed the observations of Dr. Voelcker, and we may now expect a better demand for barley of every grade. Much of the stained barley would have been malted for cattle and sheep food, in England, were it not for the duty, and now there is no prohibition. Nothing will make hay and corn straw when cut so appetizing a food for stock as malt. Our Canadian stock feeders will in the course of time discover the real value of barley, and barley malt for feeding. When they do this it will be no longer a drug in the market.

English Letter, No. 17.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, Aug. 2.

The principal event here since my last letter has been the annual show of the Royal Agricultural Society, which was held July 10th to 16th, at Carlisle. At the opening everything was in its favor. A better site for a show ground could hardly have been found the world over—an extensive stretch of meadow occupying a bend of the River Eden, to the north-west of the town, close adjoining a railway siding to which no fewer than eight railway systems had direct access; a close wiry turf covering a sandy loam, in its turn overlying a thick bed of gravel which gave ready drainage; and a surrounding population which, if not so vast as that within easy reach of many other centres, is excelled by none in its devotion to the interests of agriculture. Again, the show itself, though considerably curtailed in extent owing to the practically prohibitive rates charged for space for non-agricultural exhibits, appeared to have gained in excellence what it had lost in extent; and in all departments, the live stock especially, there was a high, and in many classes, an exceptional degree of merit. But the Royal seems to have been inaugurated when the sun was under the influence of "the man that holds the watering pot," which, I suppose, is a free rendering of the classical "Aquarius," for the amount of patronage which that distinguished character bestows upon its shows is something quite phenomenal. At Liverpool, in 1877, the latter days of the show—that is, the popular days—were one continuous deluge; and some low lying parts of the show ground were almost drowned out. In 1878, at Bristol, there was a little improvement, though it was still very wet; and in 1879, at Kilburn, you know the dismal story. It was impossible, owing to the nature of the soil, that the Carlisle ground could ever become such a perfect slough of despond as that at Kilburn, but, alas, so far as actual comfort went, there was little to choose. Saturday, the implement day, and Monday, the first full day, up to about 3 p.m., were all that could be desired; but on Monday afternoon a long and heavy shower inaugurated a spell of wet which for weight and duration is not often equalled even in an English summer. The most provoking part of the business was that this spell of rain came with a high and rising barometer, and was only local in its character, the midland and southern counties being troubled with only a few light showers. It rained heavily throughout Tuesday, but the hardy northerners are indifferent to rain, much or little, and some 10,000 of them during that day began to convert the fair green sward into a brown ooze. During Tuesday night the rain fell very heavily, so much indeed that the Eden, and a small tributary which runs direct through the centre of the show ground, became bank full, and at one time it was feared that the whole ground would be inundated, and arrangements were made for a general exodus. Happily this fear was not realized; but the backing up of the water in the drains would not allow the surface water to pass off, and in the course of Wednesday another 12,000 pairs of feet converted every avenue and pathway into puddles. The ground was, however, of a light sandy nature, and did not make the havoc with the ladies' dresses that the clay of Kilburn did. Hundreds of tons of planks, ashes, sawdust and straw were laid down along the principal avenues; but when Thursday came, and with it for some hours heavier rain than ever, mingled with the tramp of nearly 50,000 people, everything in the nature of pathway disappeared in one brown chaos, and it really required an effort of will to face a journey round the show. The ladies, how-

ever, were conspicuous for their bravery; and many a fair dame who under any other conceivable conditions would have shuddered at a shower, was seen plunging boldly through depths unknown, and facing perils undreamt of before. I have thus endeavored once more to picture an English show yard in our summer month. How do you like the picture? Has Manitoba aught to surpass it?

And now to business. I don't suppose you care for any very elaborate analysis of the merits of either stock or implements. It will probably suffice to say that the horses were conspicuous for their excellence in almost every class, the hunters and ponies being especially admired, as also the Clydesdales in the heavier classes. In horned cattle there was great variety and a generally high average of excellence, dairy cows being about the weakest in the show. Sheep, notwithstanding the rot which has created so much havoc of late, were both numerous and good. Shropshire Downs were a large and excellent class. Pigs were without exception the best show ever seen in this country. The Earl of Ellesmere carried away the honors in almost every class. The implements included several new inventions, including a patent steam digger, which is designed to dig 20 feet broad at once, and to do excellent spade work. It acquitted itself sufficiently well to earn a silver medal; but as it is very massive, and is priced (at present) at \$5,000, it is not likely to come into very general use just yet. The Oshawa Manufacturing Company had an excellent show of their lighter farm implements, and Mr. Brown, of Ingersoll, Ontario, through his agent, Mr. Wm. Glassey, of Liverpool, exhibited specimens of shafts for agricultural machinery, and I understand that he is opening out a very good connection. Buyers for Canadian horses were moving freely amongst the live stock classes, and I hear that a number of valuable purchases were made, especially of Clydesdale stallions, and Cotswolds, Shropshire Downs and other classes of sheep. So high a sum as 50 guineas was paid for a Shropshire Down, and 350 guineas for a Clydesdale stallion, both for Canada. Amongst the largest purchasers that I heard of for Canadian principals were Mr. Simon Beattie, of Annan, Scotland; Mr. Jeffery, of Whitley, Ontario; Messrs. Hendrie & Douglas, Jackson & Son, of Brampton, Ontario; Messrs. James Main & Co., Trafalgar, Ontario; W. Ross, of Hamilton, Ontario, etc., etc.

I was particularly struck with the great interest which the unpretending little exhibition of the Canadian Government—which was under the direction of Mr. Dyke, the Liverpool agent, and under the immediate superintendence of Mr. Graham, the Carlisle agent—excited throughout the show. Every time I went near it—and it was most accessibly placed, just in the centre of the show ground—I found it thronged with visitors, who carefully inspected the specimens of Dominion products, prominent amongst them being those of Ontario, and readily accepted the literature which was placed at their disposal. The moderate sum which this valuable little exhibition cost could scarcely have been spent to more advantage in making known to the farming classes of the north of England and the south of Scotland the resources and attractions of your great country.

Owing to the almost incessant rains of July and part of June, the hay harvest has been anything but satisfactory, and in the north is not yet completed. According to all accounts, however, the corn has suffered very little, and potatoes and root crops generally look well. As I write the weather inclines to be more settled, and a week without rain will work wonders.

Great efforts are being made to induce the Government to relax the restrictions which are now

placed on the importation of foreign cattle. I observe that a deputation waited recently on Earl Spencer on the subject; and one mathematical gentleman said that whilst the cattle plague outbreak in 1865-6 cost this country only £8,000,000, the restrictions on the import of foreign cattle were costing us £16,000,000 a year, and therefore, he argued, all restrictions should be abolished. I was glad to see, however, that little hope of any immediate relaxation was held out. I should much like to know how the sixteen millions was arrived at. I fancy I could plead what the lawyers call a "set-off" big enough to swallow the sixteen millions and leave something to spare. I know this at least—I live in Cheshire, and though the cattle plague is now a thing of 15 years ago, I have still to pay a cattle-plague rate which is no small addition to my annual burthens.

With respect to the Canadian cattle, it is greatly to be desired that some system of regulating shipments should be inaugurated. At present there is some weeks a glut, and consequent smart fall in prices; whilst other weeks scarcely any arrive, and there is a wholly deceptive rise in prices. A few dollars spent in telegrams on some comprehensive system by which the whole trade could benefit by them, would be money well spent. Regularity is a virtue to be aimed at in all trades, and especially in such an one as this.

Very few horses are now arriving from your side; in fact the export trade from the States may be said to have ceased, and Dahlman, of New York, has withdrawn several of his agents from this side.

The Democrat Wheat.

During the Western Fair held in this city last year a stout, intelligent German, named Naff, from Ohio, U.S., called at our office. During the talk regarding exhibitions the conversation turned to the crops, then to wheat. He informed us that in his locality they had a wheat that surpassed any other variety in hardness, in yield, in early maturity and in the quality of its flour. He kindly consented to send us a little for trial. We had a little sown in several localities, and the results have been most satisfactory, so much so that we felt satisfied the wheat would be of great advantage to us, and deemed it proper to go and ascertain all we could regarding it, as we did not know the wheat, neither did any of the farmers or seedsmen. We found Mr. Naff's account to be correct regarding the superiority of the wheat, its yield, etc. His account of the origin of the wheat was as follows: A few heads were first discovered by a person named Smith, who resided in Pennsylvania, U.S.; they were growing in a field of Mediterranean wheat. Mr. Smith propagated from the heads for several years. Its superiority became known, and it was eagerly sought after. Mr. S. being a strong Democrat, they named it the "Democrat Wheat." It is a light amber, nearly a white wheat, is bearded and looks very much like the Treadwell, but it is claimed to be superior in quality, hardness, and earlier in maturing. W. Rennie, seedsman, of Toronto, Ont., thought it partook more of the nature of the Mediterranean, but it is much whiter in color than that variety. There will be a much better test made this year, as the only lot brought in last year came by mail. This year a few hundred bushels will be imported, and if it answers as well as it has done this year, there will be a demand for it next year.

The grain crops in several parts of Russia have been almost ruined by immense swarms of insects.

Early Peaches.

BY B. GOTT, ARKONA, ONT.

Perhaps it would be very difficult to instance any of our fine family fruits that have undergone such marked and astonishing improvements within the past quarter of a century as have our peaches. Within our personal memory, being only a few years ago, we were used to expect peaches fit for using only in the latter part of the month of September, or the fore part of October, and our greatest concern in those days, when peaches were mentioned, was to get them before the frosts of autumn came and destroyed them all before they could be gathered. This was the only and great bug-bear to all possibilities in peach culture in those "olden times." "The frost will come and destroy the fruit and we can never ripen them." So said the inhabitants, and so Canada was at once pronounced to be a region of frost and snow, and totally unsuitable for peach culture in any particular, excepting a small, sour, hard variety called frost-peach, that was actually benefited by the experiment. But these times have passed, and so have the frost and the snows (meaning, of course, of this season, as our autumns are now known to be much longer than formerly), and likewise, in many cases, our fathers and our mothers who have fought the battle of life through all obstacles. A better period has dawned upon us, their children. At the present moment peach growing in Ontario is not a doubtful adventure, but rather an established fact, and is abundantly realized by hundreds of our people in all parts of our fruitful and prosperous country. We are not, as our fathers were, content with the small, sour, thick-skinned, large-stoned and undesirable things they were accustomed to call peaches to be palmed on us for the beautiful, large, rich, luscious and desirable fruit we understand by that suggestive appellation, carrying with it, as it does to us, such a wealth of pure animal enjoyment.

THE RAGE

in peach production has been altogether in the direction of earliness; and if by any means this very desirable feature can be combined with otherwise tolerably good qualities, as size, good flavor, good color, &c., that fruit was immediately trumpeted over the country as the peach *par excellence*, and a ready distribution was hastily made. These extra early, superior peaches have so multiplied upon our attention of late that we now have them not by ones or twos, but by dozens, and I might say scores, every new addition to the list claiming to be a few days earlier than its predecessors. The strides made in this direction are simply astonishing to even the most sanguine cultivators of the peach in this country. Step by step we have encroached upon the season, until we are not now obliged to wait until the first of October or the first of September, or more surprising still, not even to the first of August for ripe and luscious peaches; but in the midst of our beautiful summer months, along with the strawberry and the delicate raspberry, we have those ruby treasures of Pomona ready for our crates and our palates. Thus the peach season, a season so full of happy and joyous remembrances, is extended and prolonged for several weeks longer than formerly.

Upon the advent of the variety called

HALE'S EARLY

some fifteen years ago, in one of the States of the American Union (Ohio), the greatest excitement prevailed, and a most decided step onward was taken in the history of American peach culture. Hale's Early was a good peach and a decided acquisition to the list, a mile-stone on the road to progress. Even yet, where it does well, it still holds its character for value and usefulness, but

(and to most serious questions there is a but) it was reported to be badly subject to rot, that fell destroyer of all fruit excellence. However, when Amsden's June (a variety originated in Carthage, Mo., U. S., in 1872), was announced to the peach-growing public, all others were actually surpassed for earliness, and for the present effectually left in the distance. This variety ripened its fine fruit this season on our own grounds here on the 23rd of July; only think of this for Canadian peach growing, and be astonished! Not long, however, was this variety to stand unchallenged. Early Alexander, originated at Mt. Pulaski, Ill., U. S., soon followed. This fine, very early peach, said by some to be identical with Amsden's, is, I think, somewhat earlier and somewhat larger, and ripened its fruit on our own grounds here on the 20th of July. This experience in early peach growing so totally upsets all our previous notions on the subject that we can scarcely realize the fact of its actual existence amongst us. Messrs. Ellwanger & Barry, of Rochester, N. Y., whose determined energy in this direction is so well and favorably known amongst the fruit growing public of this country and the United States, have now a peach that, upon their own testimony, has by far outstripped Amsden's, both in point of quality and time of ripening. In 1878 the first specimen ripened July 14th, or ten days before Amsden's this season, and measured ten inches in circumference. This very early and promising new variety they have chosen to call Waterloo, after the place of origination. It is said to be a seedling raised in Waterloo, N. Y., by a Mr. Henry Lisk, of that place. It is large in size, round and of a pale whitish green in the shade; the flesh is of a greenish white color, with an abundance of sweet vinous juice, and adheres considerably to the stone like Amsden's and Alexander. It is noticed that most of those very early peaches are Clings. H. M. Engle & Son, of Marietta, Pa., have originated several fine new early peaches, some of the best of which they have called Downing, Saunders, Wilder, &c., and are said to be much like Amsden's in size and quality, and are ripe at about the same season. Mr. Abraham High, a few years ago, originated

HIGH'S EARLY CANADA

at Jorden, Ont. This nice peach very much resembles Amsden's in every particular, and on our grounds this season we could scarcely tell any difference between them. Briggs' Red May is a seedling from Hale's Early, and was raised by J. W. Briggs, of California, in 1872. It is described as very large and beautiful and "one of the earliest of all peaches." Conkling, a variety of greatest promise, is a most beautiful yellow peach, but unfortunately it is not so early as its early competitors, whose season is not before Aug. 24th. It is a seedling, originated at the town of Parma, N. Y., in the garden of Rev. Mr. Sawyer, but was propagated by E. M. Conkling, of Parma, and it first fruited in the year 1873. It is said to be a large, round and beautiful golden yellow and red marbled peach of excellent quality. Gov. Garland is a new southern peach of great prominence, said to be three or six days earlier than Amsden's. It originated in Bentonville, Arkansas, in 1877, and is well described as excellent and of an exquisite flavor and fragrance. Honeywell is also another very early and excellent new peach. It was raised by John Honeywell, Randolph, Ohio, and is said to ripen its beautiful fruit two or three days before Alexander, but is otherwise very much like Alexander or Amsden's. Harper's Early originated in Kansas, U. S., on the grounds of Samuel Harper, of Guilford, Kansas, and very closely resembles the foregoing in every particular. These promising new varieties, with many others of less notoriety for earliness and profit, are all American and Canadian peaches that stand very high on the catalogues for desirableness. But some of the most astonishing results in this direction have been achieved on the other side of the broad Atlantic in the Old World. Not to mention French and German peaches, we are quite surprised at the peach production of an old English propagator, Mr. Rivers, of Sawbridgeworth, England. This gentleman's celebrated and valuable new peaches are being largely and successfully disseminated and propagated in the entire extent of this country. They are really excellent fruits, and in some prominent points

throw the American new peaches into the shade. We have fruited on our own grounds this season several of those new English peaches, and to our entire satisfaction. Of these the first to ripen fruit with us this season was Early Beatrice, a large sized and truly excellent peach, with a decided and very pleasant plum flavor, perhaps secured to it by some happy cross in fertilization. It was ready with us July 27th, and met a ready acceptance. Early Louise (mark the nobility, the royalty of designation) was the next of Mr. Rivers' early peaches, ready on our grounds August 4th. It was really a beautiful and pleasant fruit, much larger and much better, we think, than Beatrice, and is every way desirable as an amateur or market variety. Hale's Early, ripening at the same time with Early Louise, appears to considerable disadvantage by the side of it. Early Rivers', Early Silver, Rivers' Early York, and Lady Palmerstone we have not fruited, but they are all said to be most desirable and excellent varieties of early and later peaches. They are all the happy product of the ingenuity and skill of this most successful cultivator and lover of the peach. Let us be grateful for these gifts of a generous hand, and plant largely of these new and beautiful peaches for our profit and our personal enjoyment.

Further notes on this subject I must reserve for another occasion.

Agricultural Exhibitions.

This journal has been a strong advocate of these exhibitions. We would like to see them all maintained and improved, if it could be afforded; but it is our impression that they have now become, like our legislatures, too numerous, too cumbersome and too expensive. We are strongly in favor of maintaining the local exhibitions in the townships; they are highly beneficial to the rising generation as well as to the present. The hard toiling women and children cannot afford time or money to attend the great exhibitions. Now within a distance of 120 miles in Ontario we have no less than six of these monster exhibitions to maintain this year, namely, Toronto, Hamilton, Brantford, Walkerton, Guelph and London, besides the township and county exhibitions. Two of these exhibitions monopolize two weeks each. It is evident that they cannot all be required. Now the question arises, which should a farmer attend? We think his first attention should be to his local exhibition, where his wife and family and neighbors can all assemble. If he can afford it, he can go to one or more of the larger ones either in this province, or, what would benefit him more, go to one of our sister Provincial Exhibitions, Nova Scotia, Manitoba or some distant one.

The two great Canadian exhibitions this year will be held in Montreal and Toronto; the two most important in Ontario will be at Toronto and London. The Provincial Exhibition of Ontario, to be held this year in Hamilton, will, we think, be the last of the kind held in Ontario. The Board of Directors have acted so indiscreetly in apparently allowing stockmen, fruit growers and grain growers to be deprived of the honors or money due them, that we think it has now become more of a disgrace than an honor to hold a medal or prize from that Association. This is much to be regretted, as the institution formerly did good service, but its utility has now passed away. Private enterprise, honor and honesty have made the other exhibitions its superiors, and exhibitors have found this out. We do not think the awards of prizes will be paid this year unless the Government gives them more of your money. We know there are some good men on the Board, but the few are not able to cope with the stronger power. This exhibition will be the last in its present form or with its present management. We never take pleasure in going to a funeral. Some people may; if they do, they may enjoy that pleasure in attending the Provincial Exhibition to be held in Hamilton this year.

Brief Chats While on the Wing.**GAS LIME.**

We were in Brantford, Ont., on the 18th of August. While walking through the park in that city we noticed that many of the trees had lost their foliage. We inquired the cause of this, and were informed that gas lime had been applied to the soil around the trees to promote their growth. The result has been the death of many of them. This is to be regretted. We presume the application had been too liberal. Gas lime, like superphosphate, guano, salt, &c., is beneficial if applied judiciously, and injurious if applied improperly.

SULPHUR FOR TREES.

Near the park we noticed a very nice flower garden, and a most luxuriant row of ornamental maple trees growing by the roadside adjoining the garden. We inquired of Mr. Teasdale, the proprietor, about these, and he informed us that he had bored a hole in each tree with an auger, and had inserted three ounces of sulphur in each, then plugging the hole tight. The result was that no insect had touched the foliage or trunks of the trees. He informed us that his trees had never thriven better nor been as free from insects before he adopted the above plan. He said Mr. H. Cotton, Norwichville, Conn., gave him the information. Further, it is claimed that the sulphur will keep the borer or any other insect pest from the trees. We shall be pleased to hear from Mr. Cotton or any other person who has tried the sulphur cure as above applied. It is our intention to try it next spring. If it should prove to be as beneficial in other places, this information must be of great value to the country. Brantford may well boast of its enterprising manufacturers. The Waterous Company have turned out one agricultural engine and boiler daily for the past six months, besides building portable grist mills and saw mills. They are much dissatisfied because they cannot obtain the rebate of duty paid on imported goods when their manufactures are sent out of the Dominion. They say they cannot get it unless they send in a prepared return. On corn, wheat, pork, &c., the duty is refunded when the products are re-shipped, but on saw mills, engines, &c., exported, obstructions are in the way. This should immediately be remedied, as this large company would employ many more hands if they could only have the same facilities that are accorded mill owners and pork packers.

Messrs. J. & O. Wisner claim that their horse rake commands from \$2 to \$4 more than any other claimed to be the best, and that farmers know they get the extra value on them. Their broad-cast seeders and rakes give employment to a large staff of men.

Mr. J. G. Cockshutt is the first manufacturer in Canada who has commenced constructing the two-horse American corn cultivator. We have seen a large number of certificates from farmers who have purchased them that seem most satisfactory. Some claim that they can raise a crop of corn at less than one-quarter the cost they used to do. These implements first came into use where corn is extensively raised; and we can raise with profit much more corn than we are doing.

Mr. Harris gave us a very pressing invitation to see their binder operate in Markham. Being desirous of speaking about new implements from personal observation, we left to go there. On our way we called to see the seed farm of Mr. George Heath, seedsman, of Toronto. His farm is situated in Scarborough, about 9 miles from Toronto. He had a very fine crop of pure plump Clawson wheat. We think it the purest and plumpest we have seen this season. He also had some very fine oats. While looking over his oat field we noticed some spots

where the stubble was very rank. This was on a hard clay knoll, the worst part of the farm, close to a deep ravine. The other straw stubble, close around this spot, was thin and spindley. On inquiring the cause we found that Mr. Heath had been applying some of the refuse from Mr. Lamb's superphosphate works. The refuse had not been properly spread, but the result to the crop was most plainly visible. The stubble resembled that on rich bottom land where the superphosphate had been applied, and the other that of the poor, spindley kind, too often found on light sandy soils, or in hard, dry clay knolls.

MULEY COWS.

On leaving his farm we noticed some cows going along the road. They were a mixed lot. Most of them had horns, but there was one that had none. We said to Mr. Hill, the owner, that we thought that cow was as good a milker as any in the herd. He said she was, also that she was the best cow that ever he had. Her milk was richer than that from the other cows, and another peculiarity about her, he said, was, that her milk will keep sweet longer than that of any other of the cows. This cow was light red in color, fine in the bone and thin in flesh, but her appearance pointed out to us that she was the best milker, although not the largest cow. Mr. Hill said that he wished to raise all the young stock he could from her. He said that her calves invariably have horns, but that very often they would produce muley calves. What we would like to know is this—Where are these muley cattle to be procured? We do not think they belong to the Angus or the Polled Aberdeen families, as all the specimens of these cattle we have seen have been much heavier in the bone and coarser in the hide and longer in the hair than the milking muleys we have seen. There formerly used to be some of these cows in the Township of Westminster, that were remarkable for their milking qualities. Wherever we have seen these fine-boned muleys we have always heard of their being grand milkers. Perhaps some stockman may give us more information about them.

The trial of the binder did not take place at the time appointed in Markham.

We have heard that potatoes are rotting in some parts of the country, and that some have been digging early to save them. We tried the plan of early digging many years ago, when the potatoes rotted badly, but in future we would rather let them rot in the ground, as the rot is caused by a blight that effects the tops. This is conveyed to the tubers. Generally all those that are affected will rot when dug, and may come in contact with sound potatoes and affect them. In the ground they do not touch each other as in a pit. The rot is generally well developed when not dug early. We think it better to attempt to save the good ones only, and if dug when fully ripe you may save more than by digging early. We do not think there will be sufficient potatoes damaged by the rot to affect the prices. There is a bountiful crop in the country.

SHEEP IN AUSTRALIA.—As the first sprinkling of live stock, supplemented by similar small shipments from England and the Cape Colony, increased, small flocks and herds were found, until by careful conservation two score years after the first arrivals had landed there were on the pastures no less than 12,479 horses, 262,868 cattle, and 536,391 sheep. These further increased, and in 1861 there were 6,119,100 sheep, a number which was doubled in the five years which followed. Hastily passing from that point to the present, the rapid growth of the pastoral industry is at once grasped by the perusal of statistics which show that the seven colonies of the Australian group now hold about 70,000,000 sheep, of which the mother-colony possesses nearly three-sevenths, or more than one-twentieth of the total stock of sheep in the world. —Sydney Mail.

The Apiary.**September Management.**

BY CHARLES F. DODD, NILE, ONT.

The worker bees, after a few weeks of active labor, wear out and die. Such bees are illy prepared to brave the dangers of a trying winter. If the bees breed actively till October, there will be no danger from this source. They will do this, if kept storing and given room. If there are no nectar-secreting flowers in August and September, the bees can gather no honey, and the brood rearing will cease. In such cases we must feed a little honey daily. One half pound is enough, and should be fed in the evening, after the bees have ceased to fly, and it will be all taken before morning, and will not excite robbing, as it would otherwise be liable to do if fed during the day. Again, if the fall yield of honey is great the bees may store so fast as to fill all the cells, and leave no room for the queen to lay. Then we have only to extract the honey and place the empty combs into the centre of the brood chamber.

GOOD FOOD.

When honey is good and sufficiently evaporated, bees always seal the cells. The finding of uncapped honey in October, therefore, is presumptive proof that it is not good. All such should be extracted. Only capped honey should be left for winter. If there is not enough of this, say 30 pounds, then feed, not glucose, or grape sugar, or poor sugar of any kind, but either good thick-honey, or thick syrup made from granulated sugar. This food should be in a space not to exceed 1 cubic foot, confined by division boards in the hive, so that the bees may have to keep only the necessary space up to the required temperature.

This is very important during winters of long continued cold, as the bees are unable to break and reform the cluster, and so must have the honey concentrated in a few frames and not scattered through many, else they will be unable to reach it and will starve, though there is plenty of honey in the hive.

Arrangements are being made for holding a bee-keepers' convention at Toronto, Canada, on September 15, 16 and 17 next, in connection with the great exhibition which is to be held in that city in September. Mr. D. A. Jones, of Beeton, Ont., is making arrangements for the meeting, and it is expected that bee-keepers will be present from all parts of the United States and Canada. Mr. Jones is going to show at the Toronto Exhibition all the colonies of bees just imported by him from the Holy Land and Cyprus, and the largest collection of honey ever exhibited on this continent. The Industrial Exhibition Association of Toronto are lending Mr. Jones their influential assistance. Bee-keepers should take a note of this.

SIR,—The spring here was very backward, being very cold and wet, but the recent warm weather has been a great impetus in advancing the crops. Grass will be a good crop. A few have commenced haying. No appearance of potato bug yet. The place affords excellent pasturage for cattle and sheep. The latter do remarkably well if only a little more attention was paid to the importation of good breeds. The inhabitants turn their attention principally to fishing. The canal which connects St. Peter's Bay with Bras d'Or Waters will soon be open for traffic, the dams at each end only to dredge. E. A. J., St. Peter's, C. B.

NOVA SCOTIA CATTLE DISEASE.—We would call the attention of our readers to the excellent article by Prof. Law in the Veterinary Department. We have not yet received the Government report concerning the cattle disease in Nova Scotia.

International Exhibition of Sheep, Wool and Wool Products.

For the benefit of our readers we give the rules and regulations, and that part of the prize list which interests Canadian breeders, of the International Exhibition of Sheep, Wool and Wool products, to be held in the main Exhibition Building, Fairmount Park, Philadelphia, September, 1880, under the auspices of the Pennsylvania State Agricultural Society.

Competition is open to the people of all nations. No entry fee is required except for the Sweepstakes prizes, when a fee equal to ten per cent. of the prize must accompany the entry in all cases. The books of entry are now open at the office, north-west corner of Tenth and Chestnut streets, Philadelphia. All Sheep, Wool and Hair must be entered on the books of the Secretary on or before Tuesday, Sept. 14th, and all other objects, except Sheepdogs, on or before Tuesday, August 31st. All Sheep entered for competition must be entered in the name of the bona fide owner or owners or firm or authorized agent, giving the names of the breed and breeders as well as the owner's residence. Pens for the reception of Sheep, and spaces for the display of Hair and Wool, will be in readiness on Saturday, September 18th, noon. Before that time no Sheep will be permitted to enter the grounds. All animals must be within the gates on Monday, September 20th, in order that they may be arranged for immediate examination by the juries. Hay and straw will be furnished free. Grain will be provided at cost price for those who desire to purchase feed for their stock. A certificate of authentic pedigree must be filed with the Secretary, setting forth that the Sheep entered for competition are regularly recorded in a sheep-breeder's register, recognized as such in one or more of the States, or by a foreign association of sheep-breeders, or that they are qualified for entry therein, by descent and beyond dispute, where such registry exists. If registered, a copy of said certificate must be filed with the Secretary for the use of the Jury of Awards; if unregistered, satisfactory proof of their eligibility to registration must be furnished at the time of entry. All sheep entered as Merino, middle wool or long wool, and intended for competition in their respective divisions, are not to be overfat, or in other words, overfat, but must be in good breeding condition. As the great object of the exhibition is to encourage breeders, overfat Sheep, except as hereinafter provided, other than lambs, will be excluded. Merinos entered for competition must be shorn of uniform length over the entire surface, leaving the stubble not longer than three-eighths of an inch when shorn, exhibitor to state the time of last shearing. Any subsequent clipping into shape, smoothing the surface, or adding any foreign substance or coloring to the surface, shall disqualify from competition. An exhibitor adjudged to be practising fraud, whether by violating this rule or by any other false representation of his exhibit, shall forfeit all his rights and privileges as an exhibitor.

LIST OF PREMIUMS.

The Diploma of the International Exhibition will accompany each Cash Premium.

MIDDLE WOOLLED—SOUTH-DOWNS.			
	1st.	2nd.	3rd.
1 Ram two years and over	\$100 00	\$50 00	\$25 00
2 Ram one year and under two years	75 00	40 00	20 00
3 Ram Lamb	50 00	25 00	15 00
4 Pen three Ewes, two years and over	75 00	40 00	20 00
5 Pen three Ewes, one year and under two years	50 00	25 00	15 00
6 Ewe Lamb	30 00	20 00	10 00
7 Stock Ram and five of his get over 1 year	75 00	50 00	25 00
OTHER MIDDLE WOOLLED.			
9 Ram two years and over	100 00	50 00	25 00
10 Ram one year and under two years	75 00	40 00	20 00
11 Ram Lamb	50 00	25 00	15 00
12 Pen three Ewes, two years and over	75 00	40 00	20 00
13 Pen three Ewes, one year and under two years	50 00	25 00	15 00
14 Pen three Ewe Lambs	30 00	20 00	10 00
15 Stock Ram and five of his get over 1 year	75 00	50 00	25 00
16 Stock Ram and five of his get, under one year	75 00	50 00	25 00
SWEESTAKES.			
17 Best two Rams and ten Ewes over one year	\$250 00		
LONG WOOLLED			
1 Ram two years and over	\$100 00	50 00	25 00
2 Ram one year and under two years	75 00	40 00	20 00
3 Ram Lamb	50 00	25 00	15 00
4 Pen three Ewes, two years and over	75 00	40 00	20 00
5 Pen three Ewes, one year and under two years	50 00	25 00	15 00
6 Pen three Ewe Lambs	30 00	20 00	10 00
Stock Ram and five of his get, over one year, one male and four females	125 00	75 00	50 00
Stock Ram and five of his get, under one year, one male and four females	125 00	75 00	50 00

SWEESTAKES.			
Two Rams and ten Ewes			
FAT SHEEP.			
	1st.	2nd.	3rd.
1 Ten Merinos	100 00	50 00	50 00
2 Ten Long or Combing Wools	100 00	50 00	50 00
3 Ten Middle Wool or Mutton	100 00	50 00	50 00
4 Best Single Fat Sheep	50 00	25 00	10 00
5 Best Dressed Carcass	\$30 00	2 00	10 00
WOOL AND HAIR.			
	1st.	2nd.	Premium.
1 Fleece, best Ewe's	\$30 00	20 00	20 00
2 " " Ram's, scoured	20 00	20 00	20 00
3 " " Ewe's, scoured	20 00	20 00	20 00
4 " " scoured in proportion to weight of carcass	20 00	20 00	20 00
5 " " collection ten Fleece	50 00	50 00	50 00
6 Best collection samples	10 00	10 00	10 00
7 " sample Delaine Wool	10 00	10 00	10 00
MIDDLE WOOL.			
8 Fleece, best Southdown	20 00	20 00	20 00
9 " " Oxforddown	20 00	20 00	20 00
10 " " Shropshire-down	20 00	20 00	20 00
11 " " scoured in proportion to weight of carcass	20 00	20 00	20 00
12 Best collection ten Fleece	50 00	50 00	50 00
13 " collection samples	10 00	10 00	10 00
LONG WOOL.			
14 Fleece, best Lincoln	20 00	20 00	20 00
15 " " Cotawold	20 00	20 00	20 00
16 " " Leicester	20 00	20 00	20 00
17 " " scoured in proportion to weight of carcass	20 00	20 00	20 00
18 Best collection ten Fleece	50 00	50 00	50 00
19 " collection samples	10 00	10 00	10 00

There is also \$2,290 given in prizes to Merinos. We have not given the premium list awarded to this variety of sheep, as there are so few in Canada. There is also \$260 given in prizes to Shepherd's dogs.

Printed blanks containing the items of information required of exhibitors for the purpose of report will be furnished on application to the Secretary.

W. S. BISSELL, President.
D. W. SEILER, Secretary.
ELBRIDGE MCCONKEY, Corresponding Sec'y
Office of International Exhibition of Sheep, Wool, and Wool Products, North-west Corner Tenth and Chestnut Streets, Philadelphia.

A Pattern for Milkmen.

While in Truro, Nova Scotia, we paid a visit to the farm of Mr. C. P. Blanchard (see cuts of his stock in this issue). He has some fine Ayrshires that we consider would, if exhibited in Ontario, carry off some of the highest honors. Mr. B. supplies milk to the inhabitants of Truro, and he does it in a much neater and much more satisfactory manner than is practised by the milkmen of Ontario, who, we think, may take a pattern from the Nova Scotia farmers in this and some other respects. Mr. B. had a lot of quart or two-quart tin cans made, each having a neat lid or cover that fits tightly on the top. He fills each can when the milk is properly cooled, puts on the lids, fills his milk wagon with the cans, and delivers one or more to each customer, at the same time taking from them the empty cans left the previous day. In this way the work can be done much more conveniently than by visiting at each door and doling out milk from one dirty, rusty can into a half-washed pitcher. The milk is delivered in a much neater, cleaner and more palatable-looking manner than by the Ontario system. Mr. B. has all the cans thoroughly scalded and cleansed before refilling them. This plan necessitates a double set of cans, one to be left with the purchaser and one to be taken by the vendor. Who in Ontario will be the first to improve and take a pattern from the Blanchard plan? There is no patent. We should prefer having our milk delivered in that cleanly manner. We think the milkman who would first adopt this plan in this city, or in any city, would be apt to take the cream off those who supply milk on the old system. We will take our milk from the first man who adopts the Blanchard system in this city.

A few old rusty nails kept in the vessel out of which fowls daily drink will be found more conducive to their health than nine-tenths of the nostrum foods.

Experiments in Wheat-Growing.

From the report of the Cornell University Station we abridge the following item:—The first experiment was of different fertilizers applied to wheat, viz.:—Farm yard manure, lime, ashes, different superphosphates, and one lot unmanured. All the lots were sowed to timothy. The season was poor and the winter severe, and the crop of all the plots was very light. The greatest yield was 10½ bushels per acre, the unmanured plot being 11.5 bushels under that of the next lowest.

Wheat—Different methods of seeding and manuring.

	Yield.
	bu. lbs.
1. Drilled, 2 bushels, 2 bushels plaster	22 55
2. " 2 " " no fertilizer	20 40
3. " 2 " " " " "	18 40
4. " 2 " " 200lbs superphosphate	23 30
5. " 3 " " " " "	28 20
6. " 2.25 " " " " "	21 15
7. " 2 " " " " "	21 —
8. Broadcast, 2 bush, " " " "	18 30
9. Drilled, 1.5 " " " " "	23 50
10. " 1 " " " " "	25 —

* Protected by fence and snow.

Germinating Power of Old Wheat—Two hundred varieties from the museum, which has been five years from England, were sowed and all failed to germinate. These varieties had been kept unthrashed in the museum under the most favorable circumstances.

Summary of Results—Drilled and broadcast sowing. Average of four years:—Drilled, 23 bu., 56½ lbs.; Broadcast, 21 bu., 56½ lbs.

THICK AND THIN SEEDING.

	bu.	lbs.
1 year, 3½ bushels	20	50
4 years, 3 " "	23	32½
4 " 2 " "	20	15
2 " 2½ and 2½ bushels	18	22½
3 " 1½ bu. and 1 year 1½ bu.	12	25

Comparison of all plots phosphated for four years with adjoining plots on which no fertilizers were used.

	bu.	lbs.
Average of all phosphated plots	23	31½
" " adjoining unfertilized plots	22	33

Phosphates do not seem to produce marked results on pine and hemlock lands of drift formation; results upon similar soils in other localities sustain us in this inference from our experiments. On maple and beech lands of a different formation they have produced marked results.

Comparison of all plots plastered for three years with adjoining plots unplastered.

	bu.	lbs.
Plastered, average	24	32½
Not plastered, average	23	41½

Comparison of plots hoed for two years with adjoining plots not hoed.

	bu.	lbs.
Hoed	18	50
Not hoed	23	10

It must be remembered that while the plots were of the same size, there were twice as many drill marks in the plots not hoed as in the hoed, and consequently twice as much seed upon these plots.

While traveling on the cars from Brantford to Toronto we met an American gentleman from Illinois who was enquiring about stock. He informed us that fattening sheep for the British market was being extensively entered into in his locality, Southern Illinois. He said one man fattened 6,000, and several were fattening many hundreds. We inquired what kind of food was given; he replied that grass was fed in summer and corn in the winter. The latter is cut when the corn is ripe and the stalks are yet green. He informed us that the sheep thrived well on this food. Question—Why cannot we raise more corn, cut it green and fatten sheep for John Bull? We have raised and cut it when the stalks were green and the corn ripe. Who will be the first to report results in Canada from this mode of practice?

PRIZE ESSAY.

"Our Agricultural Fairs and their Management."

Since Agriculture is the true basis of commerce the world over, and the profession is hoary with age, it is but reasonable to expect that there should be an organized and systematic effort put forth for the purpose of rendering more feasible, practical, and at the same time scientifically advancing this great and paramount interest.

It was manifestly with this object in view that our Agricultural Associations were first instituted, and hence it was no doubt in consideration of the nobleness of the object contemplated and the end to be attained that our Legislature, in its foresight and commendable large-heartedness, has on so many occasions aided, both materially and otherwise, in their promotion, and at the same time, and perhaps with equal wisdom, left the detail management thereof with the officers themselves.

Any suggestions, therefore, which may tend to simplify their workings, render them more practical, generally useful and profitable, will doubtless be acceptable to the reading public as well as to those more immediately interested in them. Probably few will fail to see that the success of such Associational Exhibitions must depend very largely upon their management.

Hence the officers to whom this may be entrusted should be eminently practical and energetic men, and from their very inception should make united, intelligent and persistent efforts to render them as attractive and profitable as possible to the greatest number interested.

To accomplish this, the rules should be concise, practical, intelligent and to the point, and rigidly and promptly enforced.

In the outset, to secure the best results, the pernicious practice now in vogue of allowing entries to be made up to the time of opening the exhibition must be dispensed with. In every case the books ought to be closed sufficiently early to enable the overseers to arrange and cause to be properly adjusted every article to be exhibited, and not allow exhibitors themselves to select the locality in which to place each article or animal. Order is nature's first law.

Moreover it ought to be borne in mind by the exhibitors themselves that it is not only their privilege to win prizes when their exhibits shall prove meritorious, but also their bounden duty, both individually and collectively to second the labors of the executive, so as to aid in the putting forth of every reasonable endeavor to secure all legitimate advantages to render practical the examination and facilitate the acquisition of useful information by the people.

Furthermore, there ought to be issued neatly executed directories of the exhibition. Such, distributed, would be found to serve a very useful purpose, and would supply a want long felt. They ought to contain a draft of the ground, clearly defining the locality in which each class of articles and animals is to be found, together with such information relative to the various classes of articles and breeds of animals as the acquisition of which would result in the greatest general good.

But, failing the publication of such directories, from financial causes or otherwise, then, and in that case, each exhibitor, instead of being prohibited from so doing, as is now too often the case, should be expected, nay, required, to furnish the needed information as regards his exhibits (especially his stock) by conspicuous posters upon his pens or stalls, or by catalogues, as may be preferred by him.

Such posters or catalogues should announce the name of the breed, breeder, age, weight, and perhaps mode of feeding, and an outline of the pedigree, together with the name and address of the owner or exhibitor. The great advantage of such, both to visitors and exhibitors, cannot for a moment be questioned.

The old idea of keeping the Awarding Committee in ignorance of the owners of the animals has long since been exploded, it being found utterly impracticable, and in most cases out of the question—impossible.

The habits of punctuality and promptness may be very rare concomitants, seldom apparent, and perhaps quite difficult to be obtained at our fairs; but nevertheless they are very desirable qualities,

and possible of acquisition. Under ordinary circumstances, and with favorable weather, and the proper season of the year, there can be no reasonable excuse for so much tardiness in action as is too frequently observable, both on the part of the Management and the Awarding Committee.

Perhaps none will deny the paramount importance of securing practical and impartial experts as judges. With a sufficient number of such, regularly appointed, and accepted, previous to the holding of the fair, and reasonable promptness on the part of the executive, there can be no justifiable reason why each class of animals should not be exhibited at the time appointed. As a rule, the work of the Awarding Committee is deferred until too late an hour in the day. It is very desirable and important that visitors should be able to witness the examination of the different classes of animals by the judges, and also be permitted to compare the merits of the individual animals while in such close proximity to each other. Indeed, they can reasonably demand this privilege by right inasmuch as they have paid their money. Hence, it is most dissatisfactory to be restricted to an examination of stock within their stalls, blanketed from view; and in most cases the horses are locked up from inspection.

Moreover, the live stock feature has ever been one of the most attractive, interesting and profitable to the greatest number of visitors, together with the exhibitors themselves, at our fall fairs. And there is probably no particular in which so much has been accomplished by way of imparting useful information, and educating the masses of the community to practical system, and infusing new zeal, which have resulted in more accurate observation, intelligent and systematic effort, than the live stock department. By observing the results of the different modes of feeding and management which have been made apparent here, very many have been prompted to "right about," which has resulted in the improvement of their own stock directly and of their neighbors' indirectly, yet all tending to the permanent increase of the common wealth of the nation.

Again, there ought to be less of this running our fairs in the interests of a special few, and the amount of prizes should be more uniformly proportioned to the intrinsic value and general usefulness of the articles and animals for which they are offered. Besides, special advantages ought to be accorded to amateurs, and more attention given to home-bred animals, and not allow the trained herds of a few wealthy professionals to sweep our show yards.

Moreover, the custom of offering prizes for grade bulls is most stupidly absurd, because nothing short of a thoroughbred can be relied upon to prove reasonably prepotent. Therefore, since the aim of the Association is to promote the improvement of the general stock of the country, to offer such prizes is diametrically opposed to the object contemplated.

Another great detriment to the best results of our exhibitions is the vast amount of valuable time squandered with fast horses. We indeed admire this class of animals, but then their exhibitors ought not to be tolerated in monopolizing the time which legitimately belongs to others. The work of the awarding committee should always, even at our small fairs, be complete in time to admit of a general cavalcade of the prize animals, at a given hour, around the grand stand of the amphitheatre. This would prove one of the most attractive, interesting, and at the same time edifying features of the exhibition.

Again, the rules laid down for the guidance of the judges are frequently entirely too indefinite for any practical utility. But even when found sufficiently definite they are sometimes wholly disregarded. Notably so with those intended to prohibit the over-feeding of breeding animals. Indeed, so often has this been the case that we have not unfrequently seen those which have by this means been rendered utterly worthless for breeding purposes, carrying off the highest honors. The exhibition of such, though quite popular and extensively indulged in, is no small evil; because, by this means, a false standard is set up, and the public educated to it. The remedy is plain and simple—let the executive frame concise, definite and practical rules, and enforce them, then the judges will refrain from making such awards. But, should they still persist in awarding prizes to over-fat animals, then let the prizes be withheld, and they will soon learn the folly of their perfidity.

This need not necessarily lead to the opposite extreme of showing ill-fed animals, because self-

respect in most cases would prevent this; but if not, then the same remedy as was applied in the other case would prove equally effective here.

Furthermore, much danger and many accidents would be averted by prohibiting all riding and driving faster than a walk outside of the horse ring.

And lastly, those side-shows and catch-penny devices should be promptly expelled from the exhibition grounds and from within such a distance as to make their influence felt, because their direct tendency is to divert the attention of very many, especially the young, from the grand object of the gathering, and thus result in the partial defeat of the aim and end of the existence of the Association, viz.: to provide an annual objective school and general reunion. Hence, for the Directors to permit the introduction of such novelties and nuisances is to cheat both members and their families out of their just rights, viz.: the opportunity of making an intelligent, unmolested, practical study of the exhibition and the exhibited, together with the social and edifying tendencies of the gathering.

Review of Farming and Stock-feeding.

We have had the pleasure of a call in our office from Mr. C., one of the progressive farmers of West Middlesex. His successful operations in agriculture are instances of the growing prosperity of Canadian farmers, and an incentive and example for others.

Mr. C. has discontinued sowing peas in consequence of their destruction by the weevil. The sowing of peas as a preparation for wheat has ceased altogether in that locality. He now plants corn instead. His corn crop promises well, and thinks corn planting will, in Western Ontario, be very successful and profitable. Not only is the crop by itself profitable, but it is a good means of preparation for succeeding crops. He ploughs the land for the crop in the fall, gang-ploughs it in the spring, and ploughs it again before planting. He feeds all his corn and also all his barley and oats to his stock. Wheat is the only grain, he says, that should be sold off the farm. Corn, he says, should never be hilled, but well cultivated.

The spring wheat in West Middlesex is a very poor crop—it may be said to be a failure. Mr. C.'s spring wheat is a fair crop. He thinks the difference is owing to his having salted the field. The effect of salt, he believes, is to stiffen the straw, thereby preventing its being lodged, and thus improving the quality and colour of the grain. He applies two bushels to the acre—that is, 112 lbs. Two hundred might be more effectual. He thinks the salt is also a good preventative of destruction by insects.

There is greater profit, he finds, from feeding stock than raising grain. He sold a few days since 35 steers at \$50 a head. They paid him \$27 a head for feeding. Some of them he bought last fall and fed during the winter on oat straw and a little grain. Then fed them on grass for a couple of months, with others that he bought in the spring. They were bought from him for the English market. They were mostly three year old, some four and some two. Steers of his own raising he finds pay better for their feeding than what he can get to buy.

Few realize the necessity of manuring orchards. When once planted, the trees are to remain on the same soil thirty or forty years at least. They in a few years exhaust the food in the soil that they are most fond of, and then they will cease to be productive and thrifty unless properly fed.

Mix a little sulphur with salt, and feed occasionally to sheep. It will effectually destroy sheep ticks. The same remedy applied to cattle troubled with lice will soon rid them of vermin. The use of sulphur with salt well repays the trouble of keeping a supply for cattle and sheep. If a mixture of one part of sulphur with seven of salt be freely applied, there will be no trouble with vermin. You can give horses the mixture with good effect.

Agriculture.

Selecting Seed-Corn.

The time to select corn for the next spring's seed is the fall, when the corn is ripe enough to keep well, and before it is touched by frost. To grow a good crop of corn it is necessary to plant the best seed. The N. Y. World gives the following advice on the subject:—

In selecting seed-corn, observe the time of ripening, number of ears upon the stalk, size of the stalk and the perfection of the ears. Corn which ripens earliest in the field, other things being favorable, is to be preferred. Choose from stalks that have two or three well-developed ears, selecting the ear that grows low on the stalk. Ears that grow on long foot-stalks are objectionable. A full-sized ear, on which the rows are regular, well filled out at the end and but little larger at the butt than in the middle, if it has ripened in good season and grows low on a moderate sized stalk and is taken from the standing corn, is first-class for the variety to which it belongs.

There is considerable diversity of opinion as to the precise period when the selection of seed-corn should be made. Some cultivators claim that seed gathered and dried in the sun as soon as the kernel is out of milk has more vitality to withstand cold and damp after it is planted than that allowed to remain on the stalk until dead ripe. Others, and the larger class, urge that perfect maturity of seed is desirable, and all acknowledge the necessity of the thorough drying of corn before the hard freezing weather of winter.

An ear with a large cob is not a good keeper, for the reason that the cob contains such a quantity of sap that the ear is liable to retain dampness, especially if the season proves a warm and damp one.

In selecting seed from yellow corn, the color may be changed from a dark to a light yellow by selecting a light-colored corn or *vice versa*. When it is desired to retain the corn as you get it, the custom is to select both colors. If the crop from which you are choosing tends too much to chaff or bran, give preference to the more flinty ears, and you can soon remedy this difficulty.

After having sun-dried their seed-corn the farmers of some sections store it in lofts of smoke-houses in order that it may become permeated with the odor of meat undergoing smoking there, and thus gain a protection when in the ground against the depredations of field-mice, worms, &c. The argument in favor of this practice is that the corn is thoroughly saturated with creosote, which is offensive to many pests, especially squirrels.

The grain should remain until spring, when it is carefully shelled by hand and every ear examined to make sure that it is sound and perfect. All small grains near the point of the cob should be discarded and only the perfect ones saved from planting. The ears ought to be stored in a dry place secure from rats and mice, and where they will not be exposed to sudden changes of temperature, which are liable to effect injuriously the germinating of the seed. An old-time practice still followed in many localities consists of pulling the husks back to the butt and braiding the ears together by them in long strings. These strings are then hung in some dry and well-ventilated place, as an attic or loft, until such time as the corn is required for planting.

The varieties of corn, which are innumerable, are after all but modified forms of two general varieties, the "white" and the "yellow," which in turn are subdivided into the "flint" and "ground seed." The practical conclusion of the analyses and experiments made from time to time is, where good bread is wanted, plant white flint. The white corn abounds in starch and is almost destitute of oil, therefore it is well suited for bread and hominy. The white cob is generally flint, giving less bran than the "ground seed," hence its fitness for bread, but from the hardness of its grains it is not so well suited for horses. The white gourd seed gives a good stock corn, while for hogs the favorite sorts are the yellow or red corn. The yellow corn contains a large proportion of oil, which, as a fat producer, is adapted to the fattening process.

Improvement of Pasture.

Grass land will not, of its own accord, improve much, but, on the contrary, will deteriorate more or less rapidly, according to the kind of stock fed on it, if not assisted by some extraneous aid. Rich pastures, which are devoted to the fattening of full grown beasts, suffer little or nothing; but all used for rearing and feeding cattle and sheep suffer severely. Part of the substance of the grass is carried off in the flesh and bone of the stock grazed on it. The pastures produce less grass year after year, and show, after a time, by unmistakable brown and bitter patches, their gradually lessening fertility. These patches, under the same system of treatment, gradually extend and get more numerous—very rapidly, on a poor soil; more slowly, but equally sure, on those of medium fertility. A daily looker-on, unless he be a very close observer, may not see this. Ten or fifteen years will, however, be quite sufficient to show the result of bad treatment.

It is a very prevalent mistake that pastures will go on improving when once laid down to grass. No doubt the miserably foul, hungry soils, that are sometimes laid down to grass, will gradually cover themselves with natural herbage, which will partially smother the weeds; but this kind, when at its best, is not producing half the amount of food that it is capable of doing. It improves until the soil is covered with natural grasses—there improvement ends.

With some exceptions, in which the land has been well and carefully laid down, the soil has got no compensation for what has been taken away by the millions of sheep and cattle fed and bred on it, and which have been consumed in large towns or exported to England. The bones have been returned to the land under tillage—very little has been brought back to the grass. Can pastures, from which this immense drain of valuable substances has been going on, keep to their standard condition?

Proper weeding is of some importance. Weeds smother or take the place of grass, extract a large quantity of plant food from the soil, and ripen their seeds, which are carried by winds or birds, to adjoining tillage land, where they grow, and cost labor and money to get them rooted out. Some weeds are eaten by stock to some extent, and are highly injurious. The wild garlic imparts its flavor to the dairy produce from cows fed on pastures where it grows. Docks, thistles, rag-weed and a host of others, take possession of the soil, and grow luxuriantly very often undisturbed. The extent of ground they cover and the injury they do is often very great. Last year, on walking through some fields not many miles distant from the metropolis, we saw one part, about twenty perches in extent, which was so much overgrown with ragwort that the cattle which were grazing near did not touch it, though the grass and weeds together were two feet high. A man with an old scythe will, in a very short time, cut down all that grow on a large field. There is, therefore, no reason why these intruders should be allowed to take the place of valuable grass.—[Irish Farmer.

The collie or sheep dog is no doubt one of the most intelligent of all the different breeds which man has succeeded in producing, either for his pleasure, profit, fancy or protection; and perhaps none of the domesticated animals better illustrate what can be done by training the instincts so that they will be transmitted to their progeny, than the dog.

A writer in the Victoria B. C., *Colonist* strongly advocates the introduction of the Angora goat as an industry which could profitably be pursued by the Indians. He says that only by this means can two-thirds of the entire area of the Province be made productive. The Indians of some sections have succeeded well with cattle and sheep. The Angora is considered specially adapted to the climate and condition of the Province, and the writer thinks that double the number of Angoras could be raised on the same acreage as sheep, as this species of goat eats what the sheep will not, preferring brush and twigs to grass. The experiment was tried some time since in California, and the reason of its non-success, according to the writer, was that the animals sold were not pure-blooded Angoras. The establishment of a breeding station for raising and distributing pure Angoras is recommended.

Seeding Grass Lands in the Fall.

The practice of seeding lands to grass in the fall is gaining ground in many sections. Arguments in favor of this custom are: The grass is not so liable to be troubled with weeds; the cool weather will incite a vigorous growth and bring the fields in better condition for withstanding the winter than that seeded in the spring, and last, but by no means least, it admits of the removal of a crop the first year.

During August and the first half of the month following, Northern cultivators, who do not favor spring sowing, will seed down lands from which have been harvested small grains, potatoes, fodder crops and the like, and turn over old-sod lands for this purpose.

The quantity of seed will depend upon the varieties of grasses to be grown and the purposes for which they are designed. The extremes of very light seeding, which produces large coarse stalks, and very heavy seeding, which makes exceedingly fine ones, are to be avoided. Pastures call for a variety of grasses, to be sown with liberal hand. In selecting a mixture for permanent pasture, it should be borne in mind that the land will be cropped continually throughout the season and therefore it is imperative to have grasses which ripen in succession, that stock may be supplied with a tender and succulent growth. The varieties should also be selected with a view of suiting the soil for which they are designed.

Clover plays in pastures, as in meadows, an important part; orchard-grass, which arrives early and remains late, is also a valuable constituent. This grass is highly esteemed, especially on light dry soils; meadow fox-tail, with its early and rapid growth, is another valuable sort, and red-top is also counted among desirable grasses for permanent pastures. A mixture recommended by various agricultural authorities for permanent pastures is as follows: Two pounds of meadow fox-tail, five pounds of white clover, six pounds of orchard-grass and four pounds each of red clover, rough-stalked meadow-grass, rye-grass, timothy, blue-grass, meadow-fescue and red-top.

A few grasses are suited to both meadows and pastures, in illustration of which may be cited orchard-grass. Pure meadow-grasses are those with tuberous roots, which store up in bulbs one year the material of growth for the next, and which require a certain time for the maturing of the bulbs. Timothy is a representative type of this class of grasses, hence it is highly esteemed in meadows. Other popular meadow-grasses are red clover and Hungarian grass. To gain best results it is important that the grasses associated blossom about the same time, therefore the wisdom of sowing early kinds in one mowing field and late sorts in another. Among early grasses suited to meadows are orchard-grass, Kentucky blue-grass, meadow fescue and tall oat-grass, to which may be added Italian rye-grass if the land be moist and rich. Timothy, red top and bent grasses are numbered with late kinds.

The importance of having the ground thoroughly tilled and generously manured previous to seeding it to grass, either for pasture or meadow, cannot be too strongly urged.—[Ex.

Grinding renders all our cereal grains more digestible, by reducing the size of particles to be saturated and digested by the gastric juice. The whole kernels of corn are not always fully penetrated by the gastric juice, and hence many of them pass cattle undigested. When corn is ground, it should be mixed with coarse fodder, so as to prevent its adhering in a mass in the stomach, and to insure its remastication and insalivation.

In Great Britain and Ireland there are 35,000,000 sheep and lambs, producing 218,000,000 pounds of wool. In the United States there are 36,000,000, producing 185,000 pounds of wool. A large portion of this latter wool is sold unwashed, and being principally from Merino sheep, is full of yolk and heavy shrinkage, while the greatest portion of English wool is washed. The small amount of unwashed is from coarse-wooled sheep, and the shrinkage is small, showing a much greater difference in the quantity of wool ready for the cards.

Stock.**Ayrshires.**

While in the Maritime Provinces we visited several fine herds of cattle, and among them was a fine herd of Ayrshires, owned by C. P. Blanchard, Esq., of Truro, which is said to be the largest and most valuable herd in Nova Scotia. The animals have all been selected with a view to their milking qualities. Some of them are imported prize-winning animals. The entire herd has been

eminently successful at the principal shows held in the Province. For the benefit of our readers, especially those in the Maritime Provinces, we give cuts of this breed of animals. The Ayrshires as a recognized breed are of comparatively recent origin, as the present century was from 10 to 15 years old before they became a recognized breed stamping their peculiar characteristics with certainty on their offspring. The changes brought about in this breed of cattle within the last 50 years are greater than those on any other breed. A century or more ago the cattle of the county of Ayrshire, Scotland, were noted for being very hardy, deep-milking animals, but are believed to have had little in common with the striking characteristics of the Ayrshires of to-day. How the breed is so much improved is not clearly known, but it is certain they owe much to judicious crossing with other excellent breeds of the day. The West Highland cattle, the Jersey, Guernsey, Shorthorn and even the Holstein are all supposed by different authorities to have contributed by direct crosses on the native stock, or by "dashes of blood," to the formation of the present breed, and some of the distinctive traits of all these breeds occasionally crop out in the modern Ayrshire cattle.

Their points are as follows:—The favorite color of Ayrshires is a light brown or brown and white, though red and white

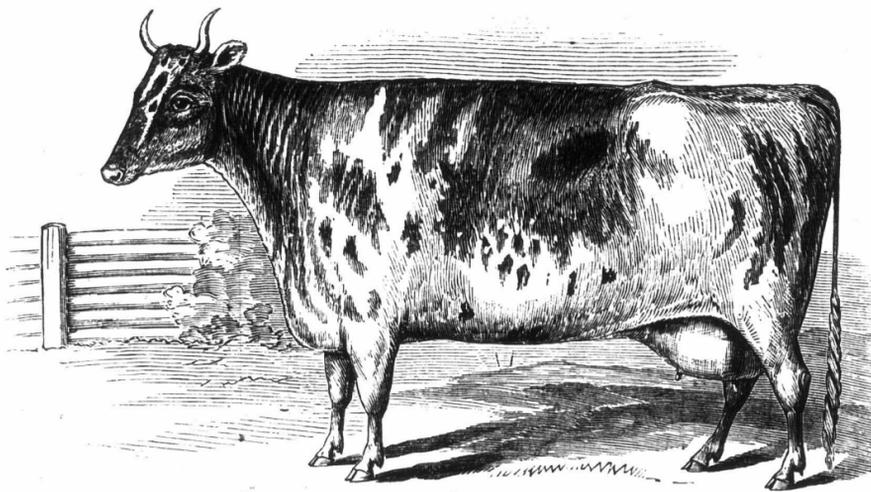
is the most common. There are also among them a considerable number of red, or mostly red, some white and red, a few flecked; and now and then a black and white, or even a pure white, is seen. The colors rarely mingle together, the line of separation being generally quite distinct. Dark red or black noses are the favorites; but a white nose is not looked upon as a drawback. The udder, the great point of the Ayrshires, should reach well forward and be firmly attached to the body, not come out behind or hang down loosely. The quarters should be alike in size and the teats be set on widely and equally apart, not hanging together under a loose, flabby bag. The head is

preferably short; the forehead wide; the eyes full and lively; the horns set on wide, inclining upwards and curving slightly inwards; the neck long and straight from the head to the top of the shoulder, free from loose skin on the under side, fine at its juncture with the head, the muscles enlarging towards the shoulder; fore-quarters thin in front, generally increasing in depth and thickness backwards; skin, soft and elastic; general form of the body, when viewed from the side, wedge-shape. This peculiar wedge-shape form is due less to deficiency forward than to the large bulk of carcass aft. They are small in size, short in leg, excellent foragers, with fine clean bones, and

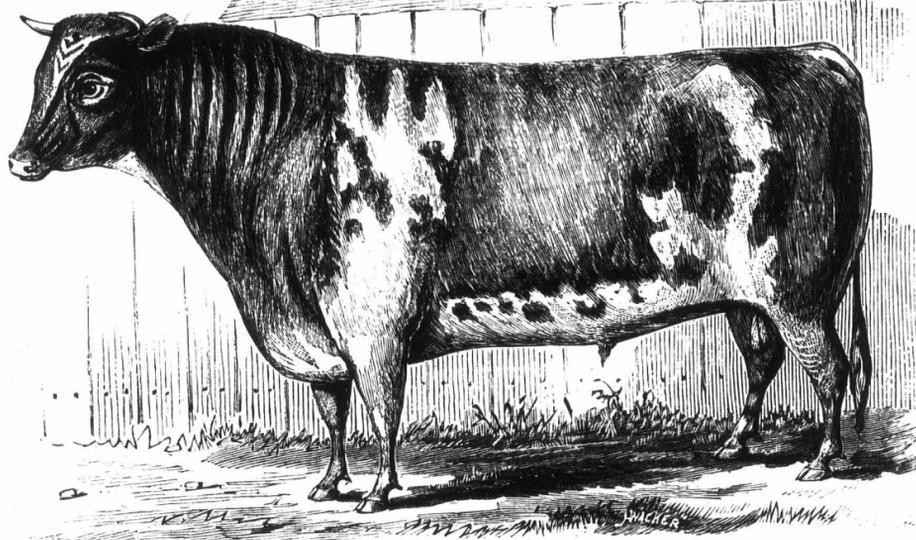
Feeding for Profit.

It is an undoubted fact that animals killed fat from flush pastures are more juicy and consequently more palatable than animals fed fat on grain, but such animals will not do to ship, since they lose the juices of the meat first of all and so become hard and dry. For this reason cattle intended for shipment east, and especially those intended for European markets, must be made fat on grain, and those weighing from 1,400 to 1,700 pounds are most profitable. With good breeding and good feeding from calfhood up this may easily be obtained at three years past on steers. Hence the

best feeders force their steers from the time they are calves until ready for market. They are never allowed to lose flesh, but are constantly kept going ahead. Feeding for market is yet understood in America by comparatively few feeders. It really costs less to make an animal that will weigh 1,400 at three years old, than to attain the same weight by grassing in summer and starving in winter. The careful feeder finds that it is to his advantage to feed in summer, except perhaps just when feed is most flush; in fact, some of our best feeders feed grain every day and find profit therein. The man who believes he can learn nothing from reading fails to get the experience of others, and seldom makes money. Such men do not know that a difference of one or two cents per pound in an animal is just where the profit comes in. It should be borne in mind that if an animal gets thin the whole fleshy structure must be rebuilt and that waste goes on all the time. On the other hand the animal kept constantly growing gives off less daily waste than that which is thin. It is good feeding and good shelter that make money in stock.—Ex.



AYRSHIRE COW "BLYTH," PROPERTY OF C. P. BLANCHARD, OF TRURO, NOVA SCOTIA.



AYRSHIRE BULL "CLYDE," PROPERTY OF C. P. BLANCHARD, OF TRURO, NOVA SCOTIA.

seem especially adapted to rugged parts of the country. When giving milk they respond bountifully to abundant feeding, giving a large amount for the food consumed, comparing favorably in this respect with any other breed, considering the amount of food consumed. The microscope shows the milk to be rich in casein, and the cream globules are numerous but very uneven in size. This is generally held to be a fault of the Ayrshires as a butter cow. Cream is said not to rise well when the globules vary in size. Though they have made good records as butter cows, their cheese making qualities seem to be their chief points of excellence.

there proprietors of more than half a million sheep. Edoes & Co., of New South Wales, upon one of their sheep farms at Burrawang, had a sheep-shearing which lasted ten weeks and was concluded early in December, during which time no less than 206,123 sheep were shorn. To do this work 100 shearers, in addition to the "station hands," were employed, and in a single day 8,316 sheep were deprived of their fleeces. The aggregate yield was 2,515 bales, the gross weight of which was 466 tons. On previous occasions the same parties have shorn over 214,000 sheep; but the present has been the largest amount of wool ever produced at a single shearing.

When they shear sheep in Australia they mean business, as may be imagined when the flocks aggregate over two hundred thousand. There are some men

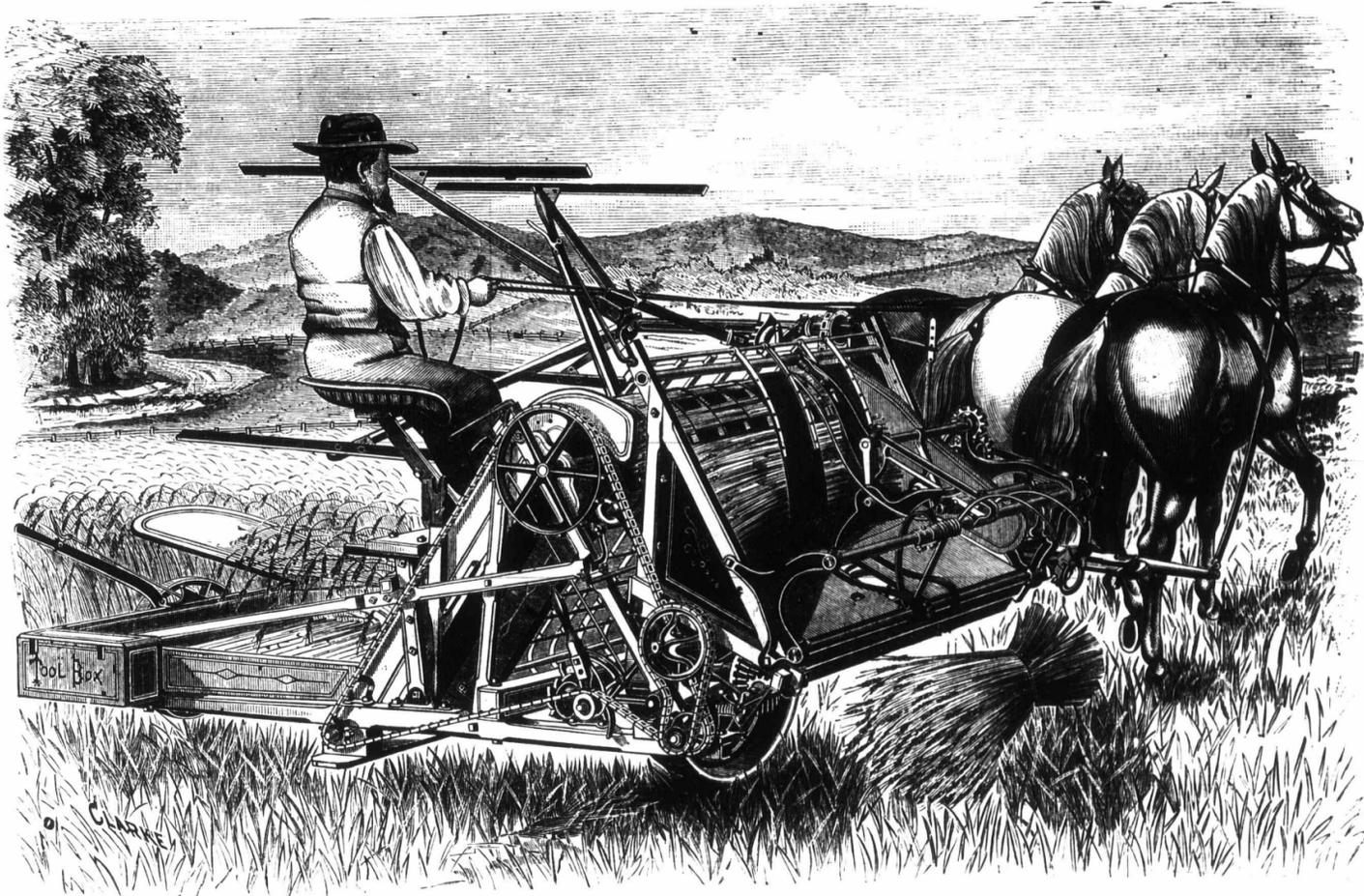
On the Wing.

While yet in rapid flight we received a call to witness a trial of the Toronto Harvester & Binder. This trial took place on Tuesday, August 10th, on the farm belonging to Mr. Samuel Woods, at Islington, in the county of York. A field containing nine acres of oats had been selected. The crop was a good one, but one part being somewhat lodged; a swath had been cut round the field. Three horses were attached to the binder, the command to start was given, and, sure enough, they made off in a hurry. The horses were fine young animals, and the first step set the sweeps that gather the grain in motion—the sweep coming so near the back of one of the horses that they started with a gallop at once. A man caught one

was well and cleanly bound, and the grain was taken off cleaner than we have ever seen it taken off before, and we have seen hundreds of acres taken off with the reaping-hook and thousands taken off by the most approved harvesters. It passed over the dead furrows as well as any common reaper, continuing its work without stop or hindrance.

We now feel satisfied that the binder must be extensively used where there is much grain to be harvested. There have been objections raised to the binders that have been in use; that the wire used would, despite care, find its way into the grain and straw, and from thence to mill stones or cattle's stomachs. But now that this string binder is completed, binders will assuredly come into more general use. The cost of the twine is $\frac{1}{2}$ c. per

forming the work of five men, the owner would be in constant attendance superintending its operations any way, on the look-out for any difficulties that might arise through accident. For instance, at one part a stone was caught by the knife-guards and drawn quite a distance, dragging up the ground, no doubt making it much harder for the team; the man on the ground easily raised and relieved the machine, which might not have been so easily or quickly done if the driver had to do it. The stone did no injury to the machine nor to the work done, but only plowed up the ground for a few rods. There is no fear of the twine ever getting into the mill-stones; but whether the string is to be removed before threshing, or whether it is to be left in the straw, and if so, whether it is likely to trouble the cattle



THE TORONTO HARVESTER AND BINDER.

of the horses by the head, and the driver in his perilous position succeeded in stopping them before they got far. One of the horses had to be changed. Then a fair start was obtained; the sweeps gathered the grain gently and laid it on the elevating carrier; an iron arm grasped it and compressed it firmly, at the same time passing a twine round the straw; the twine is then instantly seized and tied into a tight knot, and a handsome, tightly-bound sheaf is dropped on to the ground. This tying apparatus is a wonder in itself; so perfectly did it do its work that we are incapable of describing it, but this we can say, that every farmer who saw it work was entirely satisfied that this machine did its work in a more satisfactory manner than they had ever seen harvesting done before. The machine went steadily on; there was not a missed or lost sheaf to be seen; every one

dozen sheaves, and the saving of grain alone is estimated to more than pay for the twine. No one could believe that the grain would be taken off so much cleaner than by any other method of harvesting, without seeing the work done by the different methods, as we have. Many of the leading farmers in the locality were present at this trial, and all were astonished, highly pleased and satisfied with its success. Where the grain was lodged it took it up cleaner than the common harvester, and the sheaves were as good as are made by hand-binding. The only defect we could see was that occasionally the sheaf would not be dropped to the ground at the proper time, and a second bound sheaf would be forced against it. This defect, the operators say, can and will be remedied; even if it is not, we do not consider it will prevent the sale of a single machine, for with an implement per-

or not, we are not able to say, as we did not think to ask about that at the time of the trial.

This cord binder, we regret to say, is not a Canadian invention, but we are again indebted to our inventive cousins across the lines, Mr. W. N. Whitely, of Springfield, Ohio, being the inventor. The Toronto Reaper and Mower Company, of whom Mr. Whitely is the principal Director, have the exclusive right to build these machines in Canada. This machine will be on exhibition at the Industrial Exhibition in Toronto; also at the Western Fair in London. It will be surrounded with curious inspectors. If you attend at either of these exhibitions, just make a point to examine it. The binding attachment must cause you to wonder at man's ingenuity, and if you have been troubled to get harvest hands, as we have been, you may be apt to look out for a customer for your

present harvester. The flax growers may increase the breadth of their flax fields when this machine becomes known and in general use; it will require a lot of flax to supply the cord. Just examine this machine. We have never seen an agricultural implement that gave us so much pleasure to see in operation. The saving of the most expensive farm labor that this must effect is incalculable.

Mr. Samuel Woods, the owner of the farm on which this trial took place, is one of the oldest settlers in Islington, and one of the most enterprising farmers in that locality. He has some very fine Devon cattle which we think will carry off some of the prizes at the coming exhibitions. He was one of the successful prize winners at the first exhibitions for his fine apples, of which he has a select variety. Here are also to be seen some fine Suffolk pigs, and the largest hen turkey in Canada, which weighed 22 lbs., being much larger than the majority of gobblers; in fact, but very few gobblers attain that weight. Mr. Woods has his farm in fine order, clean and free from Canada thistles, while his negligent neighbor on the opposite side of the road had his farm full of these pests, just stocking the neighborhood with the seeds.

In conversation with Mr. Woods we asked him if he had ever seen the FARMER'S ADVOCATE. "Seen it!" said he; "I have taken it from its commencement, and would not like to be without it." The men—we may say men—who have poor apples, poor stock, poor implements, and ground filled with Canada thistles, may be put down as those who say they "don't want no agricultural paper; book farmin' ain't no good; father never took no agricultural paper, and he got on as well as them what did." Mr. Woods, and every cleanly, thrifty, prosperous farmer, believes that agricultural papers devoted to that interest exclusively are of benefit to those who take them and to the country. Do you think so? If so, send in your subscription—only \$1 per annum—and you will not regret it. We send 60,000 of these samples free to you; we pay for them, and hope you may see something in these pages that may benefit you. If you do, do not forget that this information has cost us a lifetime to obtain—that we expend thousands of dollars yearly to obtain more for you, and to illustrate this journal with most useful engravings from which you may profit. Keep this copy; show it to your neighbors. If you think that you cannot afford to give \$1 for this paper for one year, sell your farm and go to some other calling.

Farmers often are at a loss how to clean an old pork barrel, clean and sweet, which are used for salting down meat. I give my plan. It is simply to fill the tainted cask or barrel with fresh earth; let stand a couple of days, when this should be emptied out and more earth put in. After two or three days empty this out, and to make assurance doubly sure, invert the barrel and burn under it some bits of cloth saturated with solutions of sulphur brimstone."

A correspondent of the Ohio Farmer gives the following sensible advice about pastures: There are thousands of acres of pasture that will require at least three acres to carry a cow through the summer, and it needs no argument to show that it will be profitable to expend several dollars per acre to reduce this to two acres for a cow. I am more and more in favor of mixed grasses and heavy seeding for permanent pastures. Where I sowed orchard grass, blue grass and timothy with the clover it is better now than it was the first year.

A dispatch from Halifax, N. S., dated the 10th, says: The heavy expense of shipping cattle to England by the regular ocean-steamship lines has set on foot an agitation among Nova Scotia exporters to build a steamer especially for the trade. A letter from a Nova Scotian in London says the Montreal Cattle Exporting Company are making money fast. They want steam accommodation for 5,000 head of cattle, and as many more sheep, this season.

Veterinary.

Malignant Anthrax in Cattle.

BY JAMES LAW, F. R. C. V. S.
(Professor of Veterinary Science, Cornell University.)

The recent losses of cattle in Nova Scotia, if from Anthrax, as alleged, may profitably become the text of a few remarks, as this disease is by no means unknown in all parts of the continent, and wherever it is introduced it may become permanent unless the inhabitants are fully alive to its dangers.

The malady is in one sense a local one, and not likely to spread rapidly and widely by the mere contact of the sick and healthy, as in the case of the contagious Pleuro-pneumonia of cattle, the Rinderpest, Foot and Mouth Disease, Sheep-pox, Glanders, etc. It may be said to be a malady in which the poison is not *volatile*, but *fixed* (does not spread in the air); yet if once deposited in a damp soil, rich in decomposing vegetable and animal matters, it may be preserved for years and cut off the stock that are pastured on such lands or fed hay or other vegetation grown upon them. In a case that came under my notice in western New York, several cattle died after licking the liquids that oozed from the bank beneath the grave of an Anthrax patient buried the previous year, and others fed with hay from the infected pastures still furnish a certain number of victims of Anthrax yearly, though six years have elapsed since the first outbreak where the diseased carcasses were interred. In harmony with such observations, Pasteur has not only detected the diseased germ (*Bacillus anthracis*) in ground years after it had been watered by Anthrax blood, but has conveyed the affection to other animals by inoculation with such soil. More recently he has taken earthworms from the soil about Anthrax graves and found in the earth cylinders in their bodies numbers of these germs, and moreover, in the earth cylinders such earthworms have deposited on the surface of the ground over such graves, the same deadly germs. Here then we have conclusive evidence of the danger of burying animals that have died of Anthrax diseases in pastures or in cultivated land from which the products are to be fed to animals. For be it remembered that this germ is deadly not to cattle alone, but to all warm-blooded animals—man himself included.

Another consideration is that the poison of Anthrax does not always show the same virulence nor malignity. Under special conditions, as under extreme heats, and in special states of the system, it acquires a deadly power of which it is not usually possessed, but which it may thenceforth retain for years, if not permanently.

Just as the ferment germ in putrefying animal matter has not always the same potency, but is daily brought in contact with open sores with the most perfect impunity, and the self-same germ, after it has been propagated in the blood of an unhealthy (septicæmic) patient, becomes most deadly to all inoculated with it—so with the germ of Anthrax; it may appear for a succession of years in a very limited number of animals in any given locality, and suddenly under some specially hurtful condition, it may acquire a virulence that gives it the character of a veritable plague. The alleged South American source of the disease now prevailing in Nova Scotia may serve to explain the special virulence in this particular case, the tropical climate, rich soil and still septic atmosphere having concurred in developing a malignancy which even the health-giving sea breezes of Nova Scotia have been powerless to destroy.

In connection with this subject it may be well to note that M. Bert has detected in the virulent Anthrax fluids two poisons, one an albuminoid fluid precipitable by alcohol, and the other the true *Bacillus anthracis*. Each will destroy life, but the one much more rapidly than the other, and there is every probability that the extreme virulence of the Anthrax poison in certain cases is mainly due to the special condition of the albuminoid virus associated with the *Bacillus*.

On the whole, then, it is always well in case of Anthrax diseases to dispose of the carcasses where they will not bring danger to other animals, and to use disinfectants freely on all objects with which the sick animals or any portion or product of the dead has come in contact. Thorough burning of the carcass is probably the safest method of disposing of it. If this cannot be done, the burial should be made in a secluded place from which stock are fenced out, and which is not employed to produce hay or other fodder. The carcasses should be buried over three feet deep, and each should be covered with quicklime. This will hasten decomposition and the destruction of the germs, and will prevent the attacks of worms and the conveyance through them of the poison to the surface. In the selection of a burial place, open, warm, dry soil—sandy, chalky—is to be preferred to the closer and more retentive clays, loams and rich alluvial deposits. The first favors decomposition and the destruction of the poison, the second contributes to preserve it. All objects contaminated by contact with the diseased or their products should be disinfected by the free use of powerful agents (chloride of zinc 1 oz., water 1 gallon; or, chloride of lime $\frac{1}{2}$ lb., water 1 gallon). The manure should be burned or freely sprinkled with the same, and the greatest care should be taken to avoid contact of raw sores on the hands of owners or attendants with any of the morbid products. In handling the sick or the carcasses a weak solution of carbolic acid (1 part to 100 parts of water) should be constantly at hand to wash the hands before and after such manipulations.

Foot Disease in a Cow.

The common disease in cows and sheep which appears by watery blisters on the feet and between the claws of the hoof, followed by raw spots which are difficult to heal, is known as aphthous fever. Sometimes it is accompanied by similar blisters on the lips and tongue, when it is called foot and mouth disease. It is a fever, or blood disease, and is contagious and troublesome, but not serious, and easily submits to treatment as follows:—Give one pound of salts, and when that has operated, give one ounce of hyposulphite of soda daily; wash the sore spots with water and soap, and dress them with an ointment as follows: Melt four ounces of lard and one ounce of spermaceti together, add once ounce of acetate of copper (verdigris) and stir thoroughly, and while still fluid add one ounce of turpentine and stir until cold. Keep for use. The ointment is excellent for any raw sores or galls and may be usefully kept in any stable.—[Rural World.]

RED WATER.—A safe and effectual remedy for red water in cattle is 1 lb. of salt and 1 pint of nettle juice. Immediately after giving this drench, turn the animal where it can have free access to water. In getting the nettle juice put the nettles into a mortar, pound them well, and add a pint of water, a little at a time, until the nettle juice and water make a quart. Of course the whole quart must be given with a pint or pound of salt. I never heard of this remedy failing.—[Agricultural Gazette.]

Over-big horses for any purpose are a mistake; so the Corporation of London have found out. When they started to do their own scavenging, instead of contracting for it, they selected all the giants they could get—17 hands was preferred. The mistake has been found out; 16 hands is now the favored height. These do more work, are less subject to roaring, and are altogether more healthy.

Dairy.**Storing Butter.**

Butter is an exceedingly sensitive product, and, when it is to be stored for two to four months, great risk of loss is taken. The best butter is liable to be spoiled in a few days by exposure to bad air, or, it may be said, by exposure to any air of a temperature above 55 degrees. The important thing to do is to exclude the air. If we had a package that could easily be sealed air-tight and then placed in a storage-room not above 60 degrees, the finest butter might be kept indefinitely without injury. It is now well established that the air is filled with germs capable of destructive development in any fit medium. If butter were freed wholly from all casein and albumen, destructive fermentation could not occur; but we have no process of butter making by which the oil in milk can be separated in an absolutely pure state. It is therefore liable to rapid injury by contact with air.

The Danes put up their butter which is to be kept for an indefinite period in air-tight tin packages of five to ten pounds, and these again are packed in wooden cases. But the objection to tin is its liability to corrode; it would be much more appropriate to put the butter into small, air-tight glass packages, and pack these in safe wooden cases. It does seem as if this might be practically accomplished, and then no possible harm could come from contact with glass. The finest aroma and flavor of butter ought to be preserved, in this way, for years.

But at present the most practical way of excluding air from butter is to suspend the sacks of butter in brine. By surrounding the butter with strong brine the air is quite effectually excluded. This plan has been tried and found, practically, to work well.

One way is to stop churning the butter when it comes in small granules, of the size of a wheat kernel to that of a pea, wash it, and then, without any working, place it in large tubs or barrels, made so as to hold brine; fill loosely with granulated butter, then saturate the whole with strong brine, and head up tight. This has been found, months afterwards, to come out in the finest condition. Another way is to have straight tubs, slightly flaring at the top, and the butter, after being worked in the usual way, packed in a muslin sack, made 2 inches smaller than the tub. The upper head has a tight 1½ inch plug, the head is removed, the sack of butter placed in the tub, the head replaced, and hoops tightly driven. Now, strong brine is introduced through the hole in the head, and the tub completely filled, when the plug is driven and the sack of butter is suspended in the brine and the air excluded. Butter may thus be kept in hot weather.—[N. L. S. Journal.]

Feed of Milch Cows.

Grain can be worked in with other cow food when grass is gone. Wheat bran is one of the best, if not really the best food. Corn meal and ground oats in small quantities are good. These grains give the aid to the cow which she needs to keep up her strength. When these are fed in quantities adapted to the time the cow has given milk, a satisfactory return will be obtained, and the butter will have a pleasant aroma, but still be far inferior to that of June. The bran increases the flow of milk, the meal aids the solidity of the butter, and carrots and sugar beets give sweetness to it, but add nothing to the aroma or solidity. I am of the opinion, from my own experience, that it pays well to feed a good cow at each milking a quantity of corn meal and bran, even when she is on grass; not to add to the quantity of the butter, but to keep up the strength of the cow. She will pay it back with interest.

Could the dairymen have wisdom enough to retain in the food given to cows the volatile oils in them at a certain time of their growth, by care in harvesting, a reformation in the quality of butter would be secured. Nothing yet discovered can equal the richness and peculiar goodness there is in the spring grasses. If these volatile oils are once lost they are gone forever. No grinding, cooking or steaming can replace them. These oils also give to the butter the gilt color so admired. This color is attempted to be kept up when dry feed is used by artificial coloring. Artificial coloring is a fraud. The butter of a good cow, fed on early cut hay, millet and bright cornstalks, all well cured, with suitable grain food, will be of fair solidity and flavor.—[Ex.]

Cream Globules.

The best of the cream globules rise soonest to the surface, because they are the largest, and the flavoring oils rise with them because they are the most volatile; hence it is that the finest butter is that which is made from cream that is skimmed before all of it that will rise has risen to the surface, while that which rises afterward but tends to reduce the quality. Cream is a singular product; all of it will not rise—would not rise in a month, even if the milk could be kept sweet during that period, and some of the globules actually sink instead of rise, while others remain in suspension, neither going up nor down. Thus the specific gravity of the globules varies, not on account of size only, but also on account of composition; but, in any case, the cream which, under ordinary conditions, rises in the first twelve hours, will make the finest butter.—[Dr. De Klinze, in Farmers' Review.]

Butter Packages.

We see frequent statements of losses on butter in consequence of discoloration from the packages. Dairymen should not trust to oak packages, since a single stave from the sap-work of white oak will stain the butter so as to reduce the price on the whole tub. And then the manufacturers are so unskilled in detecting the different kinds of oak, that red or black oak is often sold for white oak, and, when this is the case, the butter is ruined by a dirty, inky color from the package. There is no safety in using any wood that can give out a black coloring matter. White ash, although a slightly more porous timber than white oak, never stains, and is much safer to use. Sugar maple is also a sweet, colorless timber for butter packages, and spruce has been found to work well. But all these timbers should be seasoned by steam under some pressure, which forces out the sap and renders the albumen insoluble. Thorough steaming would greatly improve oak and remove what is soluble. The timber, after such steaming and drying, is not liable to swell and shrink to the same extent as when seasoned in air. We are sadly in want of a complete butter package that shall have none of these drawbacks.—[Ex.]

Care of Milch Cows.

During the intense hot weather of summer, cows, unless in very extra pasture, with a plenty of shade and good water, fail very much in their productiveness. When once partially dried up, it is hard to bring them into a full flow of milk again during the season. The greatest care should therefore be taken to give them plenty of some kind of nutritious soil-feed, corn, oats, or whatever other green feed a farmer may happen to have. Feed them must have or dry up—there is no such thing as milk and butter without feed.

If cows are obliged to work hard all day, in a short pasture, during hot weather, to obtain barely enough to keep them alive, they will become both too much heated and fatigued to keep up a full flow of milk, and whoever expects any profit from cows in hot weather must feed them enough, so that as the heat of the day advances they may retire to the shade for comfort and repose. Excessive heat is more injurious to a milch cow than short feed. Cows require plenty to eat without great exercise to obtain it, and repose. It is more profitable to feed shorts, oil meal, or other grain, where pastures are short, than to suffer cows to dry up.

Cows should be driven very slowly, particularly in hot weather, that they may not be overheated; and if yarded nights, should always have a full supply of clean water. Cows give more milk and do better when kept constantly in the pasture, unless they are soil-fed in the yard or stable.—[Western Rural.]

Water is a much better deodorizer than is generally supposed. It has great absorbing capacity. Fresh water running through a milk room keeps it free from odors. Standing water soon becomes charged with odors, and then gives them off again. Water used in a milk room to cool the milk is a great purifier, but must not be allowed to stand more than 12 hours before being removed. A deodorizer for dairy purposes must not have any odor, therefore such powerful agents as chloride of lime, carbolic acid, &c., must not be used. Perhaps the best absorbent and deodorizer is sulphate of iron.

Miscellaneous.**The Danger from Equine Diseases.**

The great value of the horse to the farmer, and the risk of his loss by any of the diseases to which he is subject, are sufficient inducements to his owner to give him that care that is necessary for the preservation of his health. The greater number of cases that demand veterinary treatment are of animals suffering from neglect, bad treatment and undue exposure. Even diseases that become chronic and often contagious might have been prevented by judicious treatment. There is additional reason why we should take every precaution to guard especially against diseases that are, or may finally become contagious. Man is liable to be infected with fatal diseases by taking the contagion from the animals with which he is brought into contact. How simply the contagion may be communicated from the horse, and the susceptibility of man to the infection, are too often shown. The following is a remarkable instance of it:—

A surgeon in the German army calls the attention of all who have to do with horses to the danger of using the pocket handkerchief to wipe away any foam from the mouth or nose of a horse which may have been thrown upon their clothes. Some months ago, the writer states, an officer came to him suffering from an obstinate cold and cough. The usual remedies were prescribed, but in vain; a visit to the baths at Reichenhall also did the patient no good. Returning to duty, the officer became worse; fever, attended with great pain in and swelling of the head, set in, and ultimately, after much suffering, he died with every symptom of glanders. Inquiries were set on foot, and it was found that some time before he was taken ill he had ordered a horse which he believed was suffering from glanders to be shot. Neither the groom nor any of the other soldiers who had been near the horse have been attacked by glanders, and consequently it is suspected that the officer who died may have conveyed the disease into his system by perhaps using his handkerchief to wipe some of the foam from the mouth or nose of the horse from his uniform.

Live Stock—Its Relation to Wheat Growing.

Prof. Miles, of the Michigan Agricultural College, has, as we notice by the Farmer, made some suggestive comparisons in which the relations of the yield of wheat per acre to the number of cattle and sheep to each 100 acres of improved land is shown in the most striking manner.

The countries that have an average number, or more, of cattle and sheep—with two exceptions that may be readily explained by local causes—have more than an average yield of wheat per acre, while those that have considerably less than the average number of cattle and sheep have less than the average yield of wheat below what might be expected from the small numbers of live stock.

These results, although surprising from their uniformity, were not unexpected, as they are in accordance with principles of farm economy that are recognized by all intelligent farmers.

In the country where commercial fertilizers are not in general use, the supply of barnyard manure must furnish a fair index of the fertility of farms that are nearly equal in natural productiveness, and the proportionate number of cattle and sheep kept on the farm will best indicate approximately the quantity of manure at command.

The acreage of grain must also have an influence on the results. An excess of grain without corresponding supply of manure and high tillage must tend to produce a diminished yield per acre, while with a liberal manure supply, the yield of grain may be retained at a high average, even with an increased acreage.

Success in wheat growing seems, therefore, to depend largely upon the attention given to live stock, and the statistics under discussion agree fully with the old time saying; "The more cattle the more manure—the more manure the better crops."

Garden and Orchard.

Screens and Pear Blight.

Some observations on the influence of evergreen screens in protecting pear trees from the effect of the blight, may afford additional hints in drawing general conclusions relative to the causes which bear on this disease. An orchard of standard pear trees, fifteen years old, and containing about three hundred trees, mostly Lawrence, was protected on the west side by a line of evergreens. From this side the prevailing winds blew, after sweeping over some miles of the water of a lake. The screen was formed of Norway spruce, planted fifteen years, the trees planted fifteen feet apart, the branches beginning to meet, and the trees averaged 25 feet high. They stood on each side of a farm road, constituting thus a double screen. The orchard extended away from them to a distance of fifteen rods. The blight which prevailed to such a fatal degree some years since, was more destructive to these Lawrence trees than to any other part of the several additional acres of adjoining pear orchard. But the protecting influence of the evergreens was quite striking. The half of the first mentioned orchard farthest from the screen was nearly all destroyed, not one tree in ten remaining; while most of those within a few rods of the evergreens remained, and are now in a vigorous condition. As the screen extended for thirty rods along the side of the orchard, the result was plainly not accidental; for the sheltered trees escaped along the whole line. They bore abundantly last autumn, and those within four or five rods of the screen had finer and larger pears than such as grew on the remaining scattered trees away from protection.

The question may be asked, What influence did the evergreens have in preventing the blight? Simply this—that the sheltered trees, not being exposed so much to the cold winter winds, made a stronger, more vigorous and more healthy growth, and the wood, maturing more perfectly, was better able to resist the attacks of the disease.

Horticulturists have often had occasion to observe the retarding effect of the intense cold of winter in checking the subsequent season's growth, and sometimes trees which have been intensely frosted are several weeks later in opening their buds. Sharp and cutting winds, in the instance already referred to, doubtless somewhat enfeebled the trees and made them more liable to blight. This fact indicates the value of the practice which some planters have adopted in situations much exposed to the sweep of winds, of planting evergreen trees distributed at regular distances through the whole orchard for the purpose of affording shelter for their range.—[Ex.]

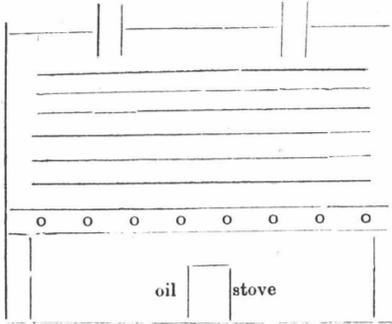
Slips and Cuttings.

Cuttings of fuchsias, zonale, geraniums, feverfews, smooth-leaved begonias, and many other plants may be easily rooted in sand. Fill a flower-pot with coarse, gravelly sand, and stick in the cuttings close to the outer edge and quite near together. They are fond of company. Press the sand tightly around each one, then set the pot in a saucer, and soak it with water until it will hold no more. Put it in the sunshine, and keep it there every hour of the day that you can; but never let the sand get dry or even approach that state. When a slip once withers it is done for. In two weeks the cuttings should be well rooted and ready for transplanting into thumb pots, and good soil mixed with sand. They must be kept shady for a few days. After the first watering they will need little if any until signs of growth appear. For those varieties that do not root so readily the safest plan is to select a small shoot; break it half way off at the joint, leaving it partially attached to the parent plant. In this way a callous is formed which is the first step in striking a cutting. In the meantime the slip is nourished from the main stock. At the end of two weeks the cutting may be completely severed and treated as described above, or planted in sandy soil, and shaded in the ordinary manner. Cuttings should be kept at as even a temperature as possible. They will not thrive when subjected to extremes.—[Am. Cultivator.]

Turnips exhaust the soil mostly of potash and next of phosphoric acid. Half the ash of the turnip is potash and one-fifth is phosphoric acid. Wood-ash is the best special fertilizer for turnips, as this substance contains precisely these elements in about the right proportion and in an available condition.

How to Make a Fruit Dryer.

G. M. G., Glen Wild, N. Y., says:—An effective fruit dryer may be made of sheet-iron in the shape of a box or even filled with wire-gauze shelves. The floor of the oven should be made double, and the upper one, two inches above the lower one, may be pierced with small holes to let the hot air pass up. A few holes should be made around the sides between the floors to admit fresh air, and ventilators provided at the top by which the vapor escapes. The form of the oven is shown in the diagram. A lower part holds an oil stove or lamp, which is used to supply the heat on the bottom. A door is made to fit closely. An oven of this kind 3 feet by 2, with 6 shelves, would dry 50 pounds a day.



Salt for Plum Trees.

Many years ago a blight called the black knot destroyed all the plum trees, and then attacked the cherry trees and killed them. Every one felt the loss of these delicious fruits, and purchased new trees to take their places, but in spite of all efforts to save them, they met the same fate. Discouraged with repeated failures, the inhabitants of this vicinity gave up, and luscious plums were unknown. Three years ago I sent to another part of the State and purchased a few trees of different varieties, and set them out with care, hoping to have more favorable results. For two years they grew finely. In the spring of 1877 I saw signs of the old disease upon the limbs and twigs; I felt quite desperate, and determined to do something for their salvation. It was evidently a case where it would be kill or cure. I had heard that plums were indigenous upon the sea shore and islands in the ocean. I had quite a quantity of fish brine and salt cucumber brine, and I gathered it all, and with a small mop washed the trunks of the trees, and gave the boughs a good shower bath of the brine. What was left I turned around the roots of the trees. Two trees I left unwashed. Everybody said I had killed my trees. Perhaps I had; but the black knot would have killed them if I had not. I bought the trees myself, and had a right to experiment upon them if I choose.

The last of May my salted plum trees were one mass of bloom, and in September I could sit down under them and eat all the plums I choose. They were delicious. I had the Lady Washington, the large white Egg plum and Apricot, and some other varieties that I could not name, as the labels were effaced. The trees that did not enjoy a salt bath did not blossom or fruit; made little growth, and the knots put in an appearance. In October I scraped off the black excrescences and put on some brine, hoping to save them. I looked at them the other day, and the wounds are healed over and there are no new eruptions. The trees which I doctored in the spring are still free from all signs of the blight. I enjoyed my plums enough last fall to pay me for my trouble, and I had enough of them for my family and home use, and to give my friends a treat. A neighbor said that my plum trees bore so full they were sure to die. It may be so, but I have had the satisfaction of eating the fruit of the trees I planted. If they die, I shall put out some more; and if they live, I shall plant them again.

My plum trees are all alive, and not a sign of disease is to be seen, either on branch or twig, and the bark is bright and smooth. I state the facts as they occurred, and leave it to chemists to give the reasons for the results.—[Country Gentleman.]

Apples.

We have an abundant crop of apples this year all over Canada. Thousands of bushels will be allowed to rot, and the time will come when we shall have a scarcity. We should advise drying to be practiced much more extensively than it has been, also the making of boiled cider and apple butter. It is our opinion that a great and lucrative business is yet to be developed in bottling cider and in making cider vinegar, as the cider vinegar is so much superior to the abominable vitriol vinegar so often used in making pickles, etc. In our next issue we shall give you an account about the best home-made apple dryer we have ever seen. We shall have the cut and description ready by the 10th of September. If any of our subscribers would like to see it before the next issue is published, we will send them a proof of it if they send 5 cents to pay for the postage and printing of it. There is no patent on it, and any common mechanic can erect it.

Pruning the Roots.

A contributor of the London Garden who has thoroughly experimented with root pruning, and who evidently understands well the subject, furnishes that journal some valuable information on the subject, pointing out the causes of failure as well as success. As the operation is to be employed only on trees whose vigorous growth is at the expense of productiveness, the mistake is sometimes made of root pruning trees already too feeble, and thus increasing the difficulty. The tree becomes still more stunted and the fruit smaller than before. Failure has resulted whenever the pruning has been performed too late in spring or after the buds have swelled or exploded. In other instances the pruning has been too severe, the roots being cut as short on large trees as on small ones, without judgment or discretion. The experiments were made on the apple and pear. A vigorous apple tree, eight or ten years old, which had scarcely made any fruit buds, has done best when about half the roots were cut in one season and half three years later, by going half way around on opposite sides in one year, and finishing at the next pruning—working two feet underneath to sever downward roots. It has always answered well, also, to cut on such trees all the larger and longer roots about two and a half feet from the stem, leaving the smaller and weaker ones longer, and going half way around as already stated. The operation was repeated three or four years later by extending the cut circle a foot or two further away from the tree. By this operation unproductive trees became completely studded with fruit spurs, and afterward bore profusely. This shortening of the roots had been continued in these experiments for twenty years with much success, the circle of roots remaining greatly circumscribed. The best time for the work has been found to be in the latter part of August and beginning of September, when growth has nearly ceased and while the leaves are yet on the trees, causing a greater increase of bloom buds the following year than when performed after the leaves have fallen.

Fruit Trees on the Lawn.

Why are not fruit trees more generally planted on lawns or in gardens, instead of purely ornamental trees? The idea seems to prevail that fruit trees must be confined to the orchard or kitchen garden; yet what can be more beautiful than the pale pink and white of the apple blossom, the pure white of the cherry and pear, and the deep rose of the peach? Cherry trees literally white with blossoms are of no rare sight, and what is more charming than the graceful branches clad in spotless purity. Then, too, the ripe fruit, in thick clusters upon them, is no less pleasing to the eye than gratifying to the taste. There are many varieties of trees which are planted in yards and lawns, which have no more sightly appearance than an apple tree, without its wealth of fragrant bloom, or its shower of luscious fruit.

On the continent fruit trees are planted along the sides of highways and lanes, and the fallen fruit is looked upon as common property, provided the traveller does not trespass for it. Even in the suburbs of cities and large towns, where but a few feet of land are allotted to each home, and where one would suppose that each inch of room would be made available, the front yards are planted with evergreen trees, or purely ornamental shrubs, to the utter exclusion of apple, pear or plum trees—any of which would be far preferable in every respect.—[Ex.]

The Agricultural Commission.

The Agricultural Commission have had several sittings since our last issue, and from the evidence taken before them we extract the principal facts which have not appeared in our report of their proceedings.

At Chatham, Stephen White, of Charing Cross, was examined:—Of the different varieties of wheat he preferred the Bene Stem, as being earlier than others, freer from rust, while it was at the same time prolific, and bore the winter well.

Clover turned under and used as a seed bed was found to be a good way of sowing wheat. The cost of an acre of fall wheat, including interest on capital, and all labor involved until it was marketed, was about \$16. The cost of an acre of barley or oats was about \$14.50: that of corn was \$15. Potatoes were planted by some wholly or in part under straw instead of soil, and the plan seemed to succeed well, and the potatoes were very easily gathered. No special efforts were made for the preservation or protection from exposure of barnyard manure, or the utilization of the liquid manure, and he believed fully 50 per cent was lost in consequence. Considerable numbers of good grade steers were being raised for fattening and exportation to England. He had tried the Galloways, but for the general purpose of the farmer the Durhams were altogether preferable. He was in favor of inspecting and licensing stallions, so as to put off the road some of the wretched stock which the farmers patronized at a loss to themselves, simply because their services could be cheaply obtained. The evil in question was rapidly increasing, to the great injury of the present and future stock of the country. Alluding to the question of labor, he thought a farmer, in order to cultivate a farm of one hundred acres to advantage should employ the labor of two men besides himself if he had no boys.

Edward Caddy, of Essex County, who has had considerable experience among the fruit-growers of S. Essex, said:—All the common fruits of the temperate zone are grown in the district, and a large amount of fruit is shipped yearly. They had at first planted their apple trees 30 feet apart, but they found they had made a mistake and were now planting them 35 to 40 feet apart; standard pears and strong-growing cherries, 20 to 25; Duke and Morello cherries, 15 to 18; peaches, 12; quinces, dwarf pears and dwarf apples, 3 to 10 feet each way. He approved of packing apples in wheat bran, but to wrap the finer kinds in tissue paper would be better still; along in the fall, until the winter frosts set in, they should be kept in any cold outhouse, or even in the open air; he preferred keeping them in a temperature of one or two degrees below freezing point, as he found by experience that they were benefited by that degree of cold; generally speaking he found it a good plan to have the boxes or barrels under the trees until the cold weather set in, for if the barrels were headed in they would stand sufficient cold to freeze water an inch and a half thick; it would not do to winter them in cellars with potatoes and other vegetables, as they had to be kept too warm; it was better to put them in an outhouse built for the purpose, or in an unoccupied room in the house. He recommended the construction of out-door cellars built wholly above ground, with doors large enough to drive through them. In these apples should be stored in barrels, tightly headed and conveniently packed away. Did not approve of going further south than Rochester for trees, and would get them further north if possible. Where land was very valuable and space important, he would not object to orchards being cultivated with hoed crops, but after they begin to bear in paying quantities it would be asking too much of the ground to have it yield two crops. He thought the trees from Canadian nurseries did equally as well as those imported from Rochester or Michigan. If only the small limbs were taken a tree would remain healthy if grafted time after time, but if cut below where it was grafted before the section would be difficult to heal.

Mr. McKinlay gave evidence in regard to bean culture as follows:—Beans succeeded best on sandy loam with clay subsoil, or on a gravelly loam with porous subsoil, and the land must be well drained; the best mode of preparing the land was to plough in the fall, harrow in the spring, and perhaps roll down and cultivate with a gang plow; the oftener it was harrowed and cultivated the less trouble would there be with the weeds; the best time to plant was from the 5th to the 10th of June, thus allowing the weeds to start their growth, so that they were killed before the crop was sown. Beans

were sometimes grown successive years on the same land, but the practice was a bad one; thirty bushels per acre was a good average yield, and the price was about \$1.25 per bushel; plowing sod in the fall or spring for beans was the next best thing to summer fallowing for fall wheat, and they got the two crops for about the labor of one; the total cost of planting beans per acre would be about \$14; the medium-sized bean was more profitable than either the small variety or the marrowfat; the bean crop was not considered any more exhaustive than barley or wheat; they had machines for cutting two rows of beans at a time, and they were left in small bunches; the threshing was often done with a flail, but the concave of the common threshing machine could be adjusted to thresh them; the straw made excellent food for sheep; the bean did not suffer from insects or disease to any extent, but sometimes the blossom would blight if the weather was very hot; late beans produced the heaviest crops, but there was a good deal of risk in harvesting them, and they had often to be hand picked.

Seaforth.—Important Canadian salt works are situated here, and the Commission held a special sitting to enquire as to the value of salt for agricultural purposes. Canadian salts are rapidly growing into favor among pork packers and dairymen, both in the United States and Canada. From practical tests before scientific and practical dairymen, it has been proved to be superior to either the English or American salts for dairying purposes, and chemical analysis shows that there is 98.73 per cent. of pure salt in Canadian salt, 97.82 per cent. in Higgins English salt, and 97.81 in Onondaga salt. The coarse salt is sold at the works for fertilizing purposes at \$2.50 to \$3.00 per ton, on wagons or in cars. In 1868 the Royal Agricultural Society of England offered a prize of £100 for the best essay on the use of salt as a fertilizer, and the essay which took the prize recommended the following quantities:—

Description of Crops.	Pounds of salt per acre.		
	Light soil.	Heavy soil.	Heavy loam.
Wheat.....	500	450	400
Rye.....	550	500	400
Barley.....	600	550	450
Oats.....	650	600	500
Peas.....	600	450	400
Hops.....	600	500	400
Potatoes.....	600	400	350
Turnips or beets.....	500	400	300
Clover and grasses.....	700	600	450
Hay, 20 pounds per ton.			
Fruit trees, 4 pounds, in trenches on each side of tree.			

Mr. Richard Rainsforth stated as follows:—I have followed these directions, and have received a great deal of benefit in grains, hay, pasture lands, and roots; on the hay land I scatter it lightly by hand in the spring; I believe the benefit gained from the use of salt is chiefly in the strength of stem; as a chemist, and coming from England where salt is used so much, I always took it for granted that it was beneficial as a fertilizer; salt acts in several ways on the land; it acts largely as a solvent, dissolving the ingredients of the soil much more rapidly and effectually than water; it retains the ammonia in the manure for the use of the plant, instead of letting it evaporate; and it attracts moisture from the air, and gives it to the soil; a certain amount of salt enters into the composition of all plants, and it is necessary that our farmers should use more salt than is used in England, where so much saline matter comes to the land from the sea; salt must not be used, however, as the sole manure; barnyard manure must be used along with it; I don't think there can be any practical danger from using too much salt on land; I have sown salt in both the fall and the spring but I prefer the spring. Other witnesses testified they received much benefit from the use of salt as a fertilizer on grass and root crops; it benefits grain by stiffening the straw, filling the cereal and preventing or mitigating rust and insect plagues. They considered it produced better results on strong loamy soil than on light sandy land. Roots fertilized with salt were found to ripen a week earlier than those which had none. The effect on grass is somewhat similar.

Geo. Houghton, of Seaforth, who is a very extensive dealer in horses, said:—Canadian horses are preferred in New York and Boston to horses from the W. States, and command from \$25 to \$50 a head more; for ordinary horses he paid from \$90 to \$100, and for good Clyde horses from \$125 to \$200; I consider Clyde horses more profitable for farmers to raise than any others.

The reason Canadian horses are preferred to Western American horses is that they are not fed up so high and will wear better; Western horses are fattened on corn like so many pigs, and it injures them; Canadian horses will thrive, while Western horses go backwards; in all cases I think farmers should use thoroughbred stallions, and as good mares as they can get.

Other witnesses gave it as their opinion that there should be a tax imposed on stallions, so as to banish cross-bred horses from the road as breeders; farmers will use these impure animals to their own disadvantage and that of future generations, simply because they can procure their services cheaper than the services of a pure-bred beast.

Polled Angus Cattle.

The report of the Standing Committee on Immigration and Colonization for the year 1880 was received at our office recently, and we find some very interesting matter regarding stock-raising, and given as evidence by Mr. Lowe, Secretary Department of Agriculture of the Government of Canada, who has recently visited England and made enquiries with a view of benefiting our cattle trade. He finds the ordinary cattle we ship are not good enough to bring the best prices, with the exception of those sent by extensive Canadian breeders and feeders, but even these average about £5 less than the better class grown in Great Britain. The ordinary grade of Canadian cattle are too coarse, with too much belly, not as smooth and regular as they should be, though large. It costs as much to send an inferior animal from Canada to England as it does a first-class one, and the difference in price obtained for our best over our ordinary cattle, and the latter we have sent in large numbers, is, according to Mr. Lowe, from £14 to £15 sterling. As regards the different breeds of cattle, he spoke very reservedly, although apparently in favor of the Polled Angus, and he produces a letter written by Mr. Adamson, juror from Scotland to the Paris Exposition, which we here insert in full:—

DEAR SIR,—In reply to your several enquiries about the Polled Aberdeen and Angus cattle—I am convinced that the bulls of that breed will, sooner or later, be universally recognized as the best adapted sires for crossing, especially in the impressiveness of a well-bred Polled bull, I state, without fear of contradiction, that the progeny of 100 horned cows served with a high-bred Polled Aberdeen bull, not one will be other than black and Polled. This should be a great consideration with shippers; more can be put into a truck, or a feeding compartment, and no damage by going.

The Polled Aberdeens are a hardy race, thriving where Shorthorns cannot live. There is an impression abroad that they are slow breeders; this is not the case, as they will grow and weigh with any Shorthorn, and carry their meat evenly and in the prime parts. As an instance, the Polled bullock which gained the cup at the Smithfield Club Show this year (1779) as best Scott, and fed by Sir W. Gordon Cumming, was only two years and eight months and scaled 17 cwt. 2 qrs.—a greater weight than the Shorthorn or Pure Breed this year of the same age. At the late Paris International Exhibition I had the honor of acting as a juror, and when the £100 prize for the best beef producing breed was adjudicated thirty-four jurors were on the bench. The Polled Aberdeen or Angus scored 27 votes, the Shorthorns 4, and the Crossheds 3. Mr. McCombie, of Tilleyfour, had the honor of taking this high award with a group composed chiefly of animals under two years of age. This of itself speaks for the early maturity of the breed.

A Polled Scott, in the London market, commands one-half to one penny a pound more than a Shorthorn or Hereford; the hide is likewise worth a good deal more.

Mr. Lowe further said he showed the above letter to Mr. Clay, one of the Royal Commissioners, who said he concurred with every word of it, but he says the difficulty he has found with these bulls is that the impress from them in the second and subsequent generations was not so decided as from the Shorthorn. Mr. Giblet, a large seller in London, who has been for many years in the trade, also strongly endorsed Mr. Adamson's opinion. Our farmers should be alive to all these matters, and every effort made to produce the very best, and nothing but the best. The cost of raising a first-class animal in the first outlay may be a little in excess of a scrub, but in the end it is much more profitable. High-feeding and a productive farm go hand in hand.



CORRESPONDENCE

NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open, and postage will be only 1c. per ½ ounce. We do not hold ourselves responsible for the views of correspondents.

Crops in South Huron.

SIR,—The harvest is generally over in this part of the country. We can, I think, report a full average crop of fall wheat, the grain good in quality, and will average somewhere between 25 and 30 bushels per acre—the Seneca threshing out best, the Scott being more than usual, short in the head. The spring wheat is a complete failure; some say the Arnecta will yield 15 bushels to the acre, but as far as I have seen of the Lost Nation and other varieties, it will not yield 5 bushels to the acre. The midge went for it lively, and it broke completely down before ripe. Oats are a fine crop; barley middling, and peas more full of bugs than ever. Can you tell us anything about the Fultz and Reliable fall wheats?

H. L., Hillsgreen, Ont.

[From all reports the Fultz wheat has done well this year. The Reliable is the same as winter wheat, known in some sections as Egyptian, and in this vicinity is one of the best varieties.]

SIR,—Please give information concerning the Houdan fowls—color, points, &c.

J. M., Shelbrooke P. O., P. Q.

[These birds derive their name from a village in France where they originated. They are held in high esteem there. They are easily reared and fattened, and the quality of the flesh is excellent. They are rated among the first-class as egg producers, and are in many respects a desirable variety to keep. They are said to be descended from the English Dorking, crossed with the Silver Padone, and are required to possess the five toes on each foot, as in the Dorking. In color they are rocky white and black—even speckled proportions of each preferred. Occasional stained feathers appear in the purest bred, but red ones tend to disqualify. The head is crowned with a tuft, and on the front double-leaved comb. The whisker grows well up over the face in both hen and cock. The legs are spotted leaden gray. The hen's crest should be thick and free, showing as little comb as possible.]

SIR,—I saw an account of the Janesville Grape in the FARMER'S ADVOCATE for 1876 or 1877. Please be kind enough to let me know (1) if it is the earliest ripe, hence (2) the best for this northern part of Canada? Also (3) where it can be had? (4) Does it continue to give general satisfaction?

J. G., Fort Coulonge, Quebec.

[1. It is one of the earliest hardy grapes we have, ripening about two weeks earlier than the Hartford Prolific on light warm soils; on clay land it is about a week earlier, coloring up a long time before fully ripe. 2. It is well adapted to Northern Canada, being very hardy and productive. The fruit is black, size of Concord, bunches a little smaller and more compact, but not so good. 3. Although a heavy and regular bearer its flavor is not good enough to make it a general favorite. We consider the Champion a better grape, being equally as hardy and early as the Janesville and a better table grape. The Janesville may be procured from our nurserymen. We would recommend Leslie, of Toronto, Ont., or Ellwanger & Barry, Rochester, N. Y.]

SIR,—I have a young cow that on coming in this spring gave bloody milk out of one teat. It is bloody when first drawn out and again gets bloody when she is stripped. Can I do anything to cure her?

J. I., Springford, Ont.

[Give ½ of a pound of Epsom salts every 5 days, dissolved in a quart of warm water, to which add 3 tablespoonfuls of common sugar. Repeat until a cure is effected. She may be cured in four or five doses, or if a bad case, may need treatment for four or five weeks.]

From Manitoba.

SIR,—August number to hand, but no July. I don't suppose for one moment the fault is yours, but should not like to miss a number, as I am going to have them bound. I believe they are lost? between Winnipeg and here. I would not be without the ADVOCATE for five times its cost.

Geese, as you are no doubt aware, are something new in Manitoba. This spring I hatched 20 goslings—10 from a three-year-old bird and 10 from a 1-year-old bird. Nine out of the latter died in about three weeks. Their wings drooped, their heads went back between their wings. This lasted about one or two days, when they seemed to stagger around and die. Those from the old bird all did well. Can you account for this? 2. How can you tell a gander from a goose? I wish to kill the young ganders and keep the geese.

We have the best crops this year that I have seen in seven years.

A large number of cattle have died of anthrax in the last two years here. This year a number have "the fouls" if you know it by that name—sort of foot disease. I have used a knife and carbolic acid. What is your cure?

J. F., Cooks Creek, Manitoba.

[From your description we could not say what ails your goslings. It has always been a difficulty with breeders of geese to distinguish the sex, especially while young. It can only be done by close observance. Generally speaking, the head of the goose presents a shorter and more chunky appearance than that of the gander. The carriage of the body and neck of the goose is not so erect, and her body presents a somewhat shorter and deeper appearance. While quite young the ganders take the foreground, and do a great deal of chattering and pointing. For sore feet, dress with "butter of antimony" every second day, and apply a hot bran poultice every second or third night; also give a pound of epsom salts once a week. When a cure seems affected dress with tar. Keep the animals out of mud or filth while the feet are sore. See article on Anthrax in the present number.]

Crystallizing the Juice of Sorghum.

SIR,—Could you give a brief description of the process of crystallizing the juice when pressed from the sorghum. A friend has a small plot of sorghum, and he wishes to make sugar from it, if he can, as an experiment.

A. F., Amherstburg, Ont.

[The process is thus explained by an agricultural exchange, who seems to speak from experience:—The process as usually carried on is briefly as follows:—The expressed juice is placed in a tank to which heat is applied until the temperature of the juice is brought up to 180 Fahrenheit. Lime is added in form of milk of lime or saccharate of lime until a piece of litmus paper dipped in the juice shows a bluish-purple color. The heat is next raised to a boiling point and then shut off. The liquid remains at rest a few minutes until the sediment subsides, when by means of a siphon the clear liquid is decanted off. The clarified juice, which during the above operation is not permitted to cool below a temperature of 150 degrees, is emptied into an evaporator and there is added to it a solution of sulphurous acid in water until the lime present is neutralized. The evaporation is now hastened as rapidly as possible, and when the juice has arrived at a point of density which is indicated by a boiling temperature of from 220 to 225 degrees (Fahrenheit), it is drawn off into the cooler. Crystallization takes place ordinarily in from three to twelve hours. The density of the crystallized mass of sugar depends upon the degree of evaporation to which the juice has been conducted.]

SIR,—I have a gravel house, and notwithstanding there is 1½ inches bond timber between the walls and the lath, it is very damp, so much so that the water runs off the plaster on the floor in winter, and clothing and bed clothes soon get almost wet. Would water lime, applied on the outside with a brush, prevent absorption in damp weather, and consequently prevent so much dampness inside.

J. H. D., Elora P. O., Ont.

[We do not think water lime applied with a brush would have the desired effect. A coat put on with a trowel and given a smooth finish would doubtless give the best results. Before applying, the walls should be well wetted.]

Vetches.

SIR,—I desire to get some information concerning vetches, through your columns. Are they nutritious food, and for what kind of stock are they best adapted? Are there two varieties—winter and spring vetches? if so, which is the best, and what is the proper time to sow them, and also to harvest them? or are they only used as green food? J. D. McL., Thessalon, Algoma, Ont.

[Vetches (tares) are a very nutritious food for all domesticated stock. We have fed them extensively to horses, horned stock and swine during the summer season. Spring and winter vetches are two distinct varieties, the winter vetches coming in for soiling early in May in Britain. Fall vetches would not endure the winter of Canada.]

SIR,—In the ADVOCATE for August I notice a letter from "Stockman," who is perhaps himself a breeder, complaining of the indifferent quality of the stock at the Ontario Agricultural College at Guelph. I fear the writer paid his visit at an unsuitable time. Had he driven out in the forenoon and partaken a good dinner there, his opinion might have been slightly different. Perhaps he was not aware that recently a 3-months-old heifer calf of the Hereford breed was sold for \$175 to an American breeder. Mr. F. A. Stone also testified that the principal part of his stock is purchased by American breeders—a fact which is simply disgraceful to our Canadian farmers, many of whom can well afford to pay good prices for well bred animals, but they are such inveterate money-grabbers that they allow their farms to be overgrown with Canadian thistles and wild oats, and breed from any worthless scrub in their neighborhood, whilst they lend their money out at interest, taking, of course, as much as they can get, though, to do them justice, they seldom ask more than 25 per cent. With regard to the crops in this section of the country (County of Gray), the fall wheat is, as a rule, very good, and but slightly affected by the midge. Spring wheat will scarcely be more than half a crop. The rust also made its appearance in the blade, but the dry warm weather checked that, and I do not believe it will amount to much. Oats are a heavy crop; so are peas, and the root crops are looking much better than they did last year; potatoes especially, both as regards quantity and quality. Potato beetles are not so numerous, and so far there are comparatively few grasshoppers. Hay is a heavy crop and well got in, except in the case of some dilatory farmers, who allowed their hay to be caught in the July rains. In this township (Sarawak) we had rain, more or less, on eleven days, between the 23rd June and 25th July, which was favorable for the pastures and root crops, although in some cases, as before noted, unfavorable for the hay. Stock, such as is in this part of the country, for the most part scrubs, looking well; and as for the temperature of the weather during July that has been anywhere between 91° and 56°. A few thunder showers but no tornadoes or hail storms, in which respect we have been singularly fortunate. The prospects of fruit are generally good, although in some localities the June frost caused some of the blossoms to fall off before they were set. Wild raspberries are unusually plentiful, and I hardly know how they would gather them all in some places unless they were assisted by the bears. In a recent Penance paper I noticed a report of a mangold so large that a sow and litter of pigs eat their way into it and lay down in it, but now, although I am aware of the fertility of the soil in the neighborhood of Penance, yet I do not vouch for the truth of the story, I only give it as I found it. We should be well content here if we could raise mangolds large enough for one little pig to get into, as most of them as regards size are more fit to get into the pig. Owing to the demand for the beef cattle for the English market, ordinary store cattle for the home market are in demand at fair prices. Harvest is progressing rapidly, whilst preparations for sowing fall wheat are progressing fast.

SARAWAK.

[We wish to give all fair play; we therefore publish our correspondent's letter in full, knowing that "Stockman" is able to take care of himself, as he is a man well posted in his business.]

A. C.—Chickens are always healthier when they have plenty of sand and gravel about them,

Osier Willow Culture.

SIR,—I wish to grow a patch of Osier Willows; must I obtain swamp land for their culture, or can they be cultivated on uplands? What is the right time of the year to plant, &c?
S. M., Whitevale, Ont.

[In reply, we will quote an article from the "Farmers' Gazette." It may be well to remove an impression too generally entertained that, because a willow will grow almost anywhere, and is a moisture-loving plant, the site for an osiery plantation, the soil and drainage, are secondary considerations. As regards the site, it is by no means necessary that it should be low or near water; some of the best and most paying patches of planting we have seen were on well-drained upland sites. There are, however, on many a farm or holding patches of low-lying, marshy, or wet spots which cannot be properly drained or advantageously cropped, by reason of being occasionally inundated, where willows might be profitably grown, provided that the removal of superfluous water and moisture were cared for by means of intervening furrows and water-cuts, which should invariably take the direction calculated to allow the water to pass off freely. Where there is facility for this, we believe the occasional flooding of an osiery plantation is rather an advantage than otherwise. Peat or turf bog is altogether unfit for the purpose. Doubtless, where it can be afforded them, a sound, dry soil is the most suitable; but no matter what the soil is, it should be well drained and as thoroughly prepared as for a green crop, manured too, though not so heavily. If previously cropped with potatoes or other root crop, it would be an excellent preparation for the willows, and there would be no necessity for manure. In whatever way prepared the land when ready for planting should be laid off into beds or ridges from six to eight feet wide, with rather deep intervening furrows. The insertion of the cuttings may take place any time from the beginning of October to the end of March, when the weather is mild and open, not, of course, during frost. For ourselves, and from what appear to us valid reasons, we give preference to October or Autumn planting.

The cuttings may be made of last or previous year's wood; they are generally cut in lengths of from fifteen to eighteen inches, the end to be inserted pointed sharply, with a view to thrusting it into the ground. A better practice, however, would be to cut the base horizontally immediately below a bud, and with an iron or wooden dibbler make a hole for its reception. They should be inserted about two thirds of their length, leaving about four inches, or thereabouts, above the surface. The distance apart should be from two to two and a half or three feet, according to the kind of willow—robust growers requiring more room than the more slender kinds grown for finer work. During the first year care should be taken to keep the beds clear of weeds and surface pointed, or they might be advantageously utilized for a crop of potatoes, cabbages or turnips, and also the second year, when the tallest growths must be cut down. The third year all are to be cut. The after culture consists in keeping the beds clear of weeds, surface stirring, occasional top-dressings of manure, and clearings of the intervening furrows. Properly cared for, and with a convenient and ready market, osier culture may be made a very profitable feature of rural industry, and one deserving of the attention of farmers or others who happen to have patches of ground that could not otherwise be so advantageously utilized.]

SIR,—Would you advise the cleansing of fruit trees with soap? I have seen such a course recommended for freeing fruit trees from ants, with which some of mine are infested. My trees, though they are not old, have a very rough, scaly bark. Would you advise this washing in preference to lime-wash. For the appearance, at least, I would prefer the washing with soap.

FRUIT GROWER.

[The advantage of washing trees with soap is no new idea, though it has not been so generally practiced as it should. A fruit grower observed that some trees looked unthrifty and were crowded with ants. This led him to wash with soft soap. With this he washed the whole trees, stem and branches. He accused the ants wrongfully of injuring the trees. The wash, however, caused the trees to put forth new vigor. They flourished as they had not done before.]

England.

(From an occasional correspondent.)

SIR,—As an English subscriber to the FARMER'S ADVOCATE, I feel that a report of the harvest prospects in the south of England will be interesting to the readers of your instructive and valuable paper.

Wheat—Under average; bulk of straw light, especially on poor land and heavy soils. Slug and wire worm did much damage through winter and early spring. In the few places where straw is heavy it is badly laid by heavy rains. With prompt heat and good harvest weather, the quality will be superior. Harvest retarded by terrific rain of the 29th July; may be general second week of this month.

Barley—Over average, and excepting those places where early beaten down, never recollect this crop to be more promising. With fair harvest weather the quality will be very superior.

Oats—Much under average; a really good field hard to find. Quality likely to be good.

Peas and Beans—Peas over average; a very good crop. Beans, both winter and spring, all but a failure.

Roots—Splendid crop of potatoes, and to date free from disease. Swedes and turnips most luxuriant; mangel wurzels inferior.

Hay, including Clover and Rye Grass—Much under average; second crop of clover growing fast.

General Remarks—The *resumé* of nearly half a century passed in farming in this district may not be out of place at this time. To summarize briefly, I regret to say that a feeling of distrust and general perplexity exists amongst agriculturists. Our present position is evidenced by farms to let in every direction, with land untenanted and out of cultivation. This is the result of bad seasons, crop failures, ground game, hedgerow timber, sheep rot, inefficient and unprofitable farm labor, high rents, increasing taxation, supplemented by overpowering foreign competition. Add to this dull and drooping markets, and the spectacle is complete. The most bountiful of harvests will not reinstate the English farmer.

The rain is now pouring in torrents, washing deep channels in the arable fields and destroying the grain and root crops. This, upon the verge of harvest, makes matters very serious. R. T. S. Dorking, Surrey (Eng.), Aug. 2, 1880.

Prickly Comfrey—Mules.

SIR,—I procured one pound of Prickly Comfrey last spring, and now have about 60 thriving and promising plants. Four weeks after I planted it I made my first cutting at 12 inches high, but I lost that plant, the only one I lost of all I set out. At present the plants are looking very promising, some standing 30 inches high and measuring 7 to 9 inches in circumference. I have tried feeding it to a pig with other green food; a preference was shown for the comfrey. So far I am encouraged with its utility.

Are mules generally esteemed for farm teams, and where could I procure heavy animals?
N. C., Newburgh, Ont.

ANOTHER ABOUT MULES.

SIR,—Do you think it would pay the farmers to raise mules instead of so many horses for farm use? Where could a jack be got, and what would one cost? Would it pay to introduce one?
J. A., Binbrook, Ont.

[Mules are in great demand in some of the United States, especially in the south, not only for hauling heavy loads, but also for general farm purposes. They are harder than horses, will thrive and work on coarser food, and endure the heat better; this in itself is a matter of importance. Their hoofs, also, are less liable to be injured in hauling on the hot, rough roads. These are all large animals, say 15 to 16 hands high. They are bred, not from the common jack of the country or of England, but from the Spanish jacks that have been imported for many years to the States, as well as to Britain, from Spain. Such jacks may be purchased now in the States, especially in Kentucky, for about \$200. Many of these mules were purchased in the States by England for the transport department in the Afghan war. We do not know of a Spanish jack in Canada, nor of any very heavy mules, but our correspondent could find them in abundance in the U. S., particularly in Kentucky.]

Blackberries.

In compliance with the request of a "Young Farmer," who is about entering pretty largely into the cultivation of small fruit, and wishes for information and the experience of older cultivators, we give below an extract from a "Visit to a Fruit Farm" in the Prairie Farmer. The growth of blackberries as a garden fruit is something new in Pomology; but all our fruits have been produced from a wild state, and by careful selection and good cultivation brought to their present state of perfection, as well as the blackberry. Blackberry culture has been found profitable.

The method of cultivation on this farm in growing the blackberry is to till the land one year before planting. The land is a sandy loam, rendered highly fertile by manuring with a compost prepared on the place and rich in fertilizing matters, consisting of well-rotted stable manure, the droppings from the poultry house, ashes, gypsum, half-rotted hair (which is obtained from the tannery), and muck from adjacent low grounds. This, thoroughly mixed, is distributed at the rate of a bushel to about five rods of the single row. The ground here is well prepared in advance.

In blackberry culture Mr. Galusha thinks that the greatest drawback is in pruning too late. Late pruning excites a late growth that does not harden before winter weather sets in. He prunes first when the canes are about 3½ feet high; then, (not later than the first of July), removes the tips. The ground is stirred well through the summer and mulched. This secures strong canes, well branched, giving great crops. We noticed that blackberries were heavily mulched with straw. The rows are from seven to eight feet apart. The mulch is not removed, but more straw or corn stalks are added once in two years. Land that will grow sixty bushels of corn to the acre is rich enough for blackberries.

The value of evergreen screens and wind-breaks is often demonstrated on this farm. Double rows of evergreens, and evergreens and cedars, and again of maples branching low, protect the fruit plantations from fierce winds that sweep over the country, and so often prove disastrous to fruit. Trees here are supplied from a plantation of evergreens of different kinds, and of different ages and growths, on the place.

"B. B. R. Game" Fowl.

SIR,—Will you give me a full description of the pure-bred Black-breasted Red Game? Which do you consider the best variety of Game?
SUBSCRIBER, Orono, Ont.

[This variety has many admirers. Mr. Allen, in his poultry work, described them as follows: The plumage should be a bright red, deeper on the body than on the hackle. Red eyes denote pure blood—any other color of eye in this breed stamps it as a cross. The cock's hackle is striped underneath, but never above. The comb and wattles bright red; the wings are of the same color on the upper part, and rich red chestnut in the lower, with steel-blue bars across. Breast bluish-black, with glossy reflection; thighs the same; tail greenish-black, without much down at the roots of the feathers; legs are usually willow in color. The hen should be a rich partridge-brown, with red fawn-colored breast; reddish golden hackle, with dark stripes. The varieties of game fowls are almost innumerable, each variety having its fanciers. We have always favored this variety. We also like the Brown Reds.]

SIR,—When is the best time to sow salt on fall wheat? The ground is rather low.
SUBSCRIBER.

[Salt has been applied to fall wheat at different seasons; by some in the fall and by others in the spring. It is to be observed generally that all soluble manures, such as common salt, are to be applied during the season of growth. Experience has convinced farmers that the best time is early in the spring. The quantity to be used is from 112 lbs to 200 lbs per acre. By some 3 cwt., or 336 lbs., are applied as a top-dressing. See "Farmers Review" in this paper for its effects.]

The Temperature of Cream.

SIR.—At what temperature should cream be when churned? What advantages are there in churning whole milk? and at what temperature should it be churned?

W. H., Oakwood.

[In reply we extract the following from the American Dairyman:—"A temperature of the cream of 57 to 60 degrees Fahr. has been found the most suitable for making butter, but it depends somewhat upon the quality of the cream, the nature of the season, and the temperature of the air, etc.

In regard to the churning of whole milk, this method has been frequently tried, but on account of the extra labor involved in the operation the practice has not been generally popular.

"It is claimed by some that churning the whole milk makes more and better butter than to set the milk and churn the cream. A good many experiments have been made in Germany to test this question, and Peterson says if the process be properly conducted, butter made by churning the whole milk is of infinitely finer flavor than that made from churning cream alone, and this he affirms is the universal verdict whenever both systems have met with fair trial. He gives the average amount of milk required to make a pound of butter by both systems, thus showing that when cream is churned alone it takes from 16 to 17 litres of milk to make a pound of butter, but when the whole milk is churned about 14 litres are sufficient. A litre is a little over 1½ pints.

"In 1869 Mr. James Zoller, N. Y., was requested by a Committee of the New York State Agricultural Society to make experiments to test the quantity of milk required to make a pound of butter when only the cream was churned, and he gave as the result the following:—When the milk was strained in pans and the cream churned 208 quarts of milk yielded 17½ pounds of butter ready for packing, and when the whole milk was churned the same quantity of milk made 19½ pounds of butter ready for packing, being a gain of about 10 per cent. over churning the cream. The milk was allowed to sour, but was not loppered when it was churned.

"A temperature of about 65 degrees is said to be the best for churning whole milk if sweet, but the usual temperature employed is lower, from 60 to 63 degrees Fahr."

The Scotch method of churning whole milk is as follows:—"In some sections the milk is churned sweet, either a few hours after milking, or the night's and morning's mess of milk mingled together and churned in the afternoon. It is so much more work to churn the milk than the cream that whole-milk churning is not very widely practiced."

Now, it will be observed, that these experiments were made before the discovery by Swartz of the ice method or so-called Swedish system of setting milk to get the cream. What the comparative result would be in churning cream raised on this system or churning whole milk, we cannot say, as we have no recorded experiments to hand, if, indeed, any have been made.

In experimenting on this matter, it is important that all the conditions be properly attended to. The milk should be thoroughly mingled together, and divided by weight into two equal parts—the one set for cream, and the other churned as whole milk.

A great many experiments are made of little or no value. Thus, for instance, one man, by pursuing a certain course, will make a pound of butter from a given weight of milk, and his neighbor, by another course, will get a better ratio. Now, it may or may not be true that the difference in the result depends upon the particular manner of manipulating the milk. It may come from cows that give a richer milk, either on account of breed, feeding, or care of the cows. Again, when the experiment is made with milk of one herd, by dividing into equal parts, if the milk is not thoroughly mingled together at the time of division, but is turned from the pails as they are drawn from the cow in one part and the other, the milk from cows that give the richer quality may be placed on one side, and that of the poorer on the other.

We once saw an experiment made by dividing several pails of milk, the top portion of the milk from each pail going on one side, and the bottom of each pail going on the other side. The result was that the top milk gave the most butter, but which was not verified when all of the milk was massed in one vessel, thoroughly mixed, and then divided.]

From the United States.

[BY OUR OWN CORRESPONDENT.]

Washington, D. C., Aug. 17, 1880.

There are now growing in the beautiful grounds of the Government Agricultural Dept. 40 varieties of sugar cane. In the Dept. building there is a corps of chemists at work making a chemical analysis of these canes at various stages of growth. The tables prepared, and which will soon be published, give the result of this scientific examination of the various sugar yielding canes, from the lofty Louisiana cane to the common corn-stalk. The tables show what each plant contains in its first stage, second, third, and so on until time for cutting. For instance, the per cent. of juice, per cent. of solids, per cent. of glucose and per cent. of sucrose. Now, the glucose being an objectionable element, and a large percentage of solids being unfavorable to the production of pure sugar, it required the critical eye of science to make known in which of the canes and corn stalks they existed, and the extent. The result has so far shown that the common corn stalks, such as you grow in Canada, begin in the first stage with about four per cent. of glucose and 2 per cent. of sucrose. In its fifth stage, which it has already reached, glucose had decreased to 1½ per cent., and sucrose increased to 10 per cent. It has a number of stages yet to run, and it is thought it will exceed many of the varieties of sorghum and sugar cane. Already it is less in glucose and greater in sucrose than several varieties of the regular sugar canes, and a number of the sorghums. Its chief defect seems to be in the large per cent. of solids. From this as well as samples of sugar made from these corn stalks, it is apparent that even in the latitude of Canada sugar may be made with profit from the corn stalk, the leaves being used for fodder and the corn plucked and used while young. The early amber, among the sorghums, the most hardy and abundant yielding, and also suited to a northern latitude, has shown in these analyses a greater decrease in sucrose than all others. The yield of sugar from this cane at the Department has been at the rate of two tons to the acre. Two tons of sugar at present prices, even deducting expense of manufacture, will yield an enormous profit compared to which an acre of wheat or other products is insignificant. Such a yield, however, as General Le Duc, Commissioner of Agriculture, says, is only attained by the judicious use of the best fertilizers, and the most careful cultivation.

A recent investigation by an officer of the Agricultural Department shows that the spread of that contagious cattle plague, known as Pleuro-Pneumonia, is not so extensive nor so rapid as public rumor and exaggerated reports have made it. In New York State it was found to exist in the counties of New York, West Chester, Putnam, Kings and several others in that vicinity. In Connecticut it is not epidemic, but five cases being found in one locality; in five or six counties of New Jersey; in the counties surrounding Philadelphia, in Pennsylvania, and in several counties in eastern Maryland. Early last spring there were no cases in the District of Columbia nor that portion of Va. adjacent. Now there are a few in both. As its progress is slow but apparently sure, Canada farmers and stock men will do well to give the subject some consideration and study.

It having been recently reported that a few of the cattle shipped from the Western States to Liverpool, England, were found on examination to be afflicted with Pleuro-Pneumonia, and that this contagious disease, so far as the Government investigation has gone, was confined to the Eastern and South-eastern States, the report was thought to be an error. It was also stated by individuals interested in the cattle shipping trade that few steers from the Western States, reported to be infected, were in reality Canadian cattle. In order to clear up all doubt on this subject Dr. Lyman, V. S., U. S. Department of Agriculture, proceeded in person to Liverpool, England, from which place he has just reported that an examination convinces him that there were a few infected cattle from the Western States, but that they doubtless contracted the disease at some of the stations in passing through the infected Districts of the Eastern States. He also reports that in his investigation so far he has found no infected cattle shipped from Canada to Liverpool.

The Consul-General of the United States at London has furnished the Department of State at Washington with a copy of the Constitution of the "International Food Exhibition" to open at London, October 13th next, and close October 20th. It states that the objects of the Exhibition are to bring prominently before all classes of the public and in a comprehensive manner, the multitudinous article applicable for food in both the animal and vegetable kingdoms, British, Colonial and foreign, together with the various modes of producing and preparing the same for consumption, embracing all the different processes of manufacture, preservation and cooking. Among some of the exhibits to be sent from this country are a lot of curious and mysterious Indian foods, one of them being "grasshopper flour," made by pulverizing dried grasshoppers in a stone mortar.

CONDITION OF THE CROPS.

The following statement, showing the condition of the cotton, corn, spring wheat and tobacco crops, was issued by the Department of Agriculture today:

Cotton—The returns to this department since August 1st show an increase in the condition of cotton since those returned in July. The average condition for the whole country is 102.

Corn—The general average of the corn crop shows some decline since a month, and is for August 1st: 98 against 100 on July 1st. As compared with the condition reported on August 1st, 1879, there is an increase of five per cent. The whole Mississippi valley shows an increase over last year, except Illinois and Indiana, where there was too much rain early in the season, followed by a severe drouth in June and July.

Spring Wheat—The returns of August first show a condition of spring wheat of 88 against 81 last year. The weather during July was favorable—more so than during the last two years. In Minnesota the report is very high. But in Iowa and Wisconsin it is not much better than last year. The damage is attributed to rust and chinch bugs. In Nebraska and Kansas the early months were very dry and the rains which came were too late to restore the loss. California and Oregon report the highest condition since several years.

Tobacco—The general average of the whole country is 86, and was in 1879 at the same time 77 and in 1878 84.

Several communications are unavoidably left over, and will appear next month.

Poultry.

The Dust Bath.

This is nature's renovator, and is as necessary for cleansing the feathers of fowls from vermin and promoting the secretions of the skin from impurities as a water or vapor bath is to the human family. If we watch the habits of fowls we will see an instinctive desire in the young and old to have frequent access to the dust heap. Before dusting they will pulverize the material if in lumps, and will then adjust their feathers, and by the rapid action of their claws are enabled to dust thoroughly, and by shaking rid themselves of lice.

Breeders who value their fowls and look to their comfort and health, usually provide them baths. But there is another class of poultrymen who never think of such things. We say to these go and do likewise, provide ample heaps of road dust, coal ashes, finely sifted sand or wood ashes for your fowls to roll in, have it placed where the genial rays of the sun will keep it warm and dry, and to make it more effectual in removing vermin, mix a pound of the flour of sulphur in the dust heap. Avoid using wood ashes that is wet or has the least moisture in it, as the lye will injure the fowls feet, head and wings. The dust heap should be set in a sunny nook of the fowl house or outbuilding and should be accessible to the birds at all times. By pursuing this course you will have reason to be thankful, and at the same time you are following nature in her wise provisions and teachings, and the benefits of comfort, cleanliness and good health, which must naturally come to your fowls from habitual dusting, will more than fully compensate you for your trouble.



The Family Circle.

"Home, Sweet Home."

How We Failed to Make Both Ends Meet.

Shortly after our marriage I am ashamed to say we found ourselves in difficulties. We had begun life on our own account very comfortably. Jack had saved enough to furnish a home, and I had put away from my salary as a governess, as much money as bought us ever so many little elegancies and comforts which we must otherwise do without. When our friends came to see us, as they looked at our cosy dining-room, and charming little drawing-room; at the garden, bright with flowers, which was to be kept in its present state of perfection by our own unassisted efforts; and the neat little maid-servant who waited on us, and who, under my supervision, was to be our help, I could see with pride that they admired our surroundings very much. Perhaps I fancied that some of my own particular bosom friends were inclined to envy my happiness, and would themselves be ready to take possession of such a nest with such a mate. Jack was handsome, there was no doubt about it, and he was so bright, and so loving, and so good; how could I help being delighted with my new husband, and my new home?

And yet we had only £250 a year.

"How are we to arrange about the money, little woman?" said my husband, as we were having a quiet walk together, soon after we had settled down.

"How do you mean about the money?"

"Well, as you know, the house has been furnished out of our mutual savings. The expenses of the wedding and honeymoon trip have been paid out of the £50 note your uncle John gave you as a wedding present. That £50 is now nearly spent, and I think we ought to arrange together about how we are to lay our income for the future. I should like to make both ends meet."

"Oh of course, so should I," I answered; but at the same time I should like to have things nice. We can do just as we like now, and everything depends upon how we begin. If we make a good start we shall keep it up; if we begin having things commonly done, we shall grow worse and worse. I should like your friends to see that you have improved your position by marrying, not lowered it."

"That is all very well," said Jack, "but we must be economical too."

"This is not a question of economy, it is a question of resolution. With management things may be done properly with as little expense as it will cost to do them badly. I wish Mary Anne could cook a little better, though," I added in an undertone, as the remembrance of the dinners we had partaken of since our marriage, which had been cooked and served anything but properly, flashed across my mind—"that leg of mutton on Sunday was horrible."

"Yes," said Jack with a sigh, "I have tasted dinners better cooked than that one was. I was sorry that we had Jenkins to dine with us, because he is such a particular fellow about his food. However, my dear, you must teach Mary Anne."

"That is just it," I said; "I am afraid I do not know myself, and so cannot teach her. You see, Jack," I continued in a depreciating tone, seeing that my husband looked rather blank, "I went out as a governess almost as soon as I left school, and I only left to be married."

"I thought all young ladies knew how to cook, as a matter of course," said Jack. "But to return to the money question. How is that to be arranged? I want us to settle it, because the day after to-morrow is the day the quarterly salaries are paid at our place. Let us begin as we mean to go on."

"Well, dear, as far as I am concerned, I can only tell you I will be very economical. I can but do my best."

"But would you not like to have a certain sum put aside for household expenditure every quarter?" said Jack, "and then you will know how far you can go."

"No," I answered decidedly, "that I could not bear. I have seen the working of that system again and again. The husband does out a pittance to his wife, very likely quite inadequate to the necessities of the case, and begins to consider himself quite an aggrieved party if the wife goes at all beyond it. Then in a little time the wife gets to look upon her husband as a tyrant and a master, as one who is continually disappointed in her. This feeling leads her to hide her difficulties. You would not like me to tremble before you every time I spent half-a-sovereign more than usual, would you, Jack?"

"Of course I should not," said Jack, "and I should not think there is much fear of that sort of feeling growing up between us."

"I would not say so," I answered. "I should soon get terrified of you if you were to 'allowance' me. No! what I should propose would be this; we will both determine that we will be as economical as we possibly can be, knowing that it is right and necessary and wise that we should be so. That being the understanding, we will keep the money in a locked drawer, of which we will each have a key, and we will take out what we find it necessary."

"Very well," said Jack, after thinking a minute, "so it shall be. I have a very great dread of getting wrong in money matters, but I think I have even a greater dread of any cloud rising between you and me, and I would never willingly do anything to cause that."

At the appointed time, Jack brought home his pile of sovereigns, £62 10s.; together we placed them in the drawer, and took possession of the respective keys. It seemed as if we could do so much with all that money.

"There are no bills to pay, are there?" said I, feeling very wise and prudent as I spoke; "if there are, let us pay them first. Out of debt, out of danger."

"No, there are not," said Jack.

"I should rather like to have a few friends to dinner," said Jack, a day or two after: "what do you say, my dear? I feel so proud of my little wife and comfortable home, that I want my friends to know what a lucky fellow I am."

"Very well, dear, I will make your friends welcome, you may be quite sure. Whom do you wish to ask?"

"Oh, Jones, and Thompson, and Smith, and Robinson, and Jenkins. I should like Jenkins to come again, because we were so unfortunate with that leg of mutton when he was here. I hope Mary Anne will distinguish herself in a different way."

"I shall not leave it to Mary Anne. I shall engage a professional cook, and then we shall have no fear but that the thing will be a success."

"Won't that be a great expense?" said Jack.

"No. Mrs Dentor told me she knew of a woman, a very good cook, who came for five shillings a day. It would be well worth while to pay five shillings in order to know that everything was right."

"If only five shillings is to be the extent of it," said Jack.

The woman came, and with her assistance the dinner passed off very successfully. Everything was good and excellently cooked, and even the fastidious Mr. Jenkins seemed to enjoy his dinner very much, after he had once got over the uneasiness that he evidently felt at the beginning of the evening, lest every dish should be dressed in a similar style to the never-to-be-forgotten leg of mutton.

Both Jack and I felt that the dinner was a great triumph, and Jack told me in confidence how glad he was to find that his wife was domesticated. He confessed that he had misgivings, but that this delightful dinner had removed them entirely, and had proved to him beyond a doubt that I was equal to anything, and that from this time he should leave the domestic management entirely in my hands.

I could not feel that I did quite merit this trust, but determined that I would try and improve, so that I might do so in the future. As a step in the right direction, I devoted myself to learning to cook, and, after placing before my patient Jack a few most extraordinary dishes, really began to make a little progress in the art. Still, whenever we had "a few friends," which happened rather frequently, the services of the professional cook were called into requisition, and as my knowledge of cookery increased I began to see that she went about her work in the most expensive way. Also Mary Anne drew my attention to the fact that she took away with her, each time she came, "broken victuals" that would, economically prepared, have made many a good meal for us.

These considerations, added to the fact that the pile of sovereigns were becoming sensibly diminished, made me resolve to dispense with her services. I told her so, and at first she seemed inclined to remonstrate, but seeing I was determined, she looked insolently at me and saying, "I didn't think it would be over quite so soon," withdrew in high dudgeon. Things were going on in this way, and we were drawing near the end of the quarter, when one day my husband, who had not many expenses and consequently did not very frequently pay a visit to the money-drawer, went to it to get a few shillings, and in a minute or two came down looking very white and agitated.

"We have been robbed!" he said.

"Oh, Jack! what do you mean?"

"There are only £15 in the money-drawer. Are you quite sure Mary Anne is honest?"

"I believe she is thoroughly honest. I have no doubt the money has been taken by ourselves only. I was thinking of speaking to you, dear Jack. We cannot have friends to dinner so frequently as we have had lately without paying for it, and really for the last two months we have denied ourselves nothing."

"I thought you would speak if we went too fast," said Jack, looking very much annoyed.

"And I thought you knew best," I answered. "Then you must remember I have paid for everything. There are no bills owing."

"There will be bills owing now," said Jack. "However," he added bitterly, "I have no doubt that can be easily arranged. After the lavish way in which you have bought things, the tradespeople will give you any amount of credit."

"Oh, they have all said they would be all glad to open an account," I said; "but I did not want to do it."

Once more quarter-day came, and Jack brought home his sovereigns. But there was no question how to dispose of them this time. The rent was due, so were the taxes; Jack's insurance had to be paid; the gas-man had called twice for his money; the coal was out, and now was the time to lay in our winter stock, unless we wished to pay a very high price for it; Mary Anne wanted her wages; and cold winds were beginning to blow, and Jack sorely needed a new overcoat.

The overcoat did not receive a second thought. Jack said it was impossible he could have it. The bills were all to be paid, and when that was done we had only £25 wherewith to begin the quarter.

"We must remember that these bills will fall due every time," said Jack. "We have had a bitter lesson; let us profit by it."

But unfortunately it was very difficult to profit by it. Our lavish hospitality had brought us a number of butterfly friends, who were continually dropping in upon us just before meal-times, and they added very considerably to our expenses. The third quarter opened upon us more darkly than ever. We had no ready-money in hand, and after paying our bills we had only £18 left. The fourth quarter was still worse, and our anxieties were considerably increased by the prospect that was low before us.

I am afraid I was not much of a help to Jack at this time, for I was continually crying. Jack was very patient with me, but his face grew every day more and more anxious. He used to come in his shabby overcoat, he who was always so neat and tidy in his bachelor days, and try to talk brightly to me, till my heart ached. At last, Baby came. The doctor received his fee and terrible extravagance went on down-stairs under the nurse's management. I knew the drawer must be almost empty; I knew that the tradespeople were getting quite anxious about their money; and I was so anxious about their bills, that it prevented me from getting well. One day

the doctor came, and seeing I was very weak, ordered me to have beef-tea and mutton chops, and everything wholesome and nourishing. When Jack came home, he was told what the doctor had said. He looked very grave and went to the drawer, but came back without taking anything out of it. I knew the reason. At last he said—

"I suppose the tradespeople won't supply us any more?"

"Not till they are paid," I answered. "I am terrified now, every time I hear a knock at the door, for fear it should be one of them coming for his money."

"I have only fourpence-halfpenny in the world," he said after a pause.

"Poor Jack!" I answered. "Never mind, dear. Don't trouble about me. It is quite a mistake; I really don't want the things."

"Whether you want them or not, you shall have them," he replied, as he rose, then he went down-stairs. In a short time I heard him open the front door and shut it gently after him.

In about an hour he returned, bringing me everything I needed. He had procured the money, but at such a cost to his pride and self-respect, that he told me afterwards he made a vow on the spot that, at whatever cost, we would free ourselves from the entanglements which were about us. This I am glad to say we did, and the steps which we took to accomplish our difficult task will be detailed at another time.

PHILLIS BROWNE.

Arrangement of Flowers.

Of all the various mistakes made by parties in arranging flowers, the commonest is that of putting too many into a vase; and next to that is the mistake of putting too great a variety of colors into one bouquet. Every flower in a group should be clearly distinguishable and determinable without pulling the nosegay to pieces; the calyx of a clove-pink should never be hid by being plunged into the head of a white phlox, however the colors may look. Sweet-peas never look so well in the hands as they do on the boughs over which they climb, because they cannot be carried without crowding them; but put them lightly into a vase half full of mignonettes; or, rather, ornament a vase half full of mignonette with a few blooms of sweet-peas, and you get a charming effect, because you follow the natural arrangement by avoiding crowding of the blooms, and putting them with the green foliage, which they want to set them off. Few people are aware until they try it how easy it is to spoil such a pleasing combination as this. A piece of calceolaria, scarlet geranium, or blue salvia would ruin it effectually. Such decided colors as these require a much larger preponderance of foliage than is wanted by flowers of more delicate colors. It is unquestionably difficult to resist the temptation of "just putting in" this or that flower, because "it is such a beauty." A beauty it may be—and so may be an apricot, but it would be out of place in a basin of green pea-soup! There is at least one proper place for every flower; and let every flower be in its proper place.—[London Gardener.

To Keep Fruit when Ripe.

During the summer months such fruit as peaches, nectarines, melons, pineapples, etc., often come in much faster than they can be used. When this is the case, put them into the ice house or refrigerator. Pines will keep nearly a month, and some kinds longer, if removed—puts and all—to the fruit room when just about quite ripe; and the period may be much prolonged if they are removed to the ice house before decay sets in. Lay them upon cotton, in tin boxes (bicuit boxes will do) without any packing about them, shut down the lid and set the boxes on the ice. Peaches can be kept quite a month in this way after they are ripe, and nectarines six weeks. Place them in shallow tin boxes, putting a piece of cotton between the fruits, otherwise leaving them uncovered. After they have been long in the ice they should not be brought out long before they are used, as they do not keep long afterward without showing specks. Tender-fleshed melons, that will not keep a week in the fruit room in summer, will keep three or four weeks in the ice house. At gentlemen's town houses, where the fruit for dessert is received in large quantities from their country establishments, a difficulty is often experienced in keeping it tall wanted; but if systematic arrangements are made for storing it in the ice bins there need be no trouble in this respect. In matter of vegetables there is not a more serviceable storehouse than the ice house. Not unfrequently cauliflowers come in with a rush, leaving a blank in the succession. When this happens they should be cut with a short stem and a few leaves and set on the ice, but not heaped one above another.

To clean jewelry wash in soap suds; rinse in diluted alcohol, and lay in a box of dry sawdust to dry.

Minnie May's Department.

MY DEAR NIECES,—Now that the autumn days have come again we must arrange our gardens, prepare plants for winter, and collect seeds for another year. The pansy seed must be gathered quite green, for as soon as the pods turn yellow they burst open and throw the seeds quite a distance. Phlox is another plant that throws its seed by the bursting of the pods, and therefore needs to be watched, and when there is a fair amount of ripe seed pull it up by the roots and spread it on a large sheet in a warm place. Petunia and portulaca we manage in the same way. Verbenas must be hand-picked, going over the beds twice a week for several weeks. Its seed grow on long stems, something like wheat heads, and the seed at the base is ripe and beginning to waste before those at the point are fairly formed. The size of a plant is no index of the size or shape of the seed, and it is a curious study to compare the seeds of different plants. For example, the fox-glove, a plant often growing five feet high, with large leaves and great spikes of flowers, has a seed so small that a single seed can scarcely be discerned by the naked eye, while the nasturtium, a delicate vine, has a seed resembling a half-grown nutmeg. Success with plants in window gardens depends largely upon the previous preparation. Heliotropes are difficult to remove from the ground; they must be taken up carefully and nearly the entire top cut away, leaving the plant in good shape; now pot in rich soil, water, and place in a cool place for a few days, then if placed in a warm room they will grow and bloom freely. Geraniums should be kept rather dry after potting until growth begins, when they may be watered freely. Few persons cut geraniums back enough.

Colens should be put in a shady place, and water only enough to keep them from wilting. Carnations to bloom freely should have been pinched back to cause lateral shoots to grow. They must be given a cool place and an abundance of sunlight.

Bulbs of Hyacinths, Lilies, etc., must have a large amount of root developed before the top begins to grow, in order to bloom freely.

Answers to Inquirers.

IGNORAMUS.—There is no way that we know of to keep zinnias, petunias and balsams double. The best way is to purchase only the very best seed, and change the seed every season. Hollyhocks being hardy perennial, are somewhat different; if you once get a good variety of double hollyhocks, and keep the soil well enriched, you will have good double flowers for years. Geranium slips need not be dried to produce growth from cuttings, they are very easy to strike. When the old parent plant has done flowering, cut it back and take the cuttings and put them all into a box, say four inches deep, with good soil; after they begin to leaf out, take them up and put into small pots, then take the old parent plant and put into a large pot or box, and place in the cellar in a cool, dry, airy place, and water sparingly say once every two weeks. In the spring, as soon as it begins to show signs of life, bring it up, place in the light, water freely, and when all danger of frost is over, transplant again into the ground.

F. A. T. asks:—How can I restore to their natural color a half dozen ink-stained shirts? A.—Most ink stains are readily removed by the application alternately of strong aqueous solutions of oxalic acid and chloride of lime (calcium hypochlorite). Rinse well with water before soaping.

D. M.—Yes, in summer it is well to have the water a little warm. Offer your arm to the lady upon leaving the house. As he chooses, but not necessary.

JILY.—Is it etiquette for all persons to bow when leaving a store, or any business place? A.—No. You may bow to the person who has been serving you, if you wish.

MAUD AND EDITH.—Suppose we know clerks in a store and see them about once a week or oftener when we are in town purchasing goods, we talk friendly enough, but were never introduced, and don't even know their names, would it be proper for us to bow to them should we meet them on the street, or anywhere else? A.—Yes, you may bow, but not seem too friendly, unless you know just who they are and that they would be desirable acquaintances. It would certainly be unnecessarily stiff to pass without recognizing any gentleman that you see and talk with every week.

ALICE.—When a lady is introduced to a person should she not rise from her chair in recognizing the introduction, and should she shake hands? A.—To rise when introduced is a mark of respect; by keeping this fact in mind one may easily decide what to do. A lady usually rises when introduced to another lady unless she happens to be an elderly lady to whom a younger one is introduced, and this being the rule ladies generally rise. A young lady need not rise when introduced to a young gentleman, but should do so when introduced to elderly gentlemen. A married lady need not rise unless introduced to gentlemen of distinction or superior age, but a lady of course rises to be introduced to anyone in her own house, unless at informal afternoon receptions. On the whole, it is best to rise when in doubt.

RECIPES.

LAMB CUTLETS WITH CARROTS.

Trim the cutlets neatly, eggs and bread-crumbs them, and fry them a light brown color; drain and arrange them in a circle on a dish, placing in the center some new carrots, prepared as follows: Trim a quantity of the smallest new carrots that can be obtained and boil them in soft water. When done drain off the water, add a piece of fresh butter to the carrots, some parsley finely minced, a dash of pepper, a little powdered sugar and a squeeze of lemon, moisten with a little stock free from fat and keep them hot till wanted.

A NICE DISH OF TOMATOES AND MEAT.

Take any cold meat you may have, and mince it with an onion, some finely-chopped herbs and bread-crumbs, a little lemon-peel and nutmeg; mix with two well beaten eggs; form into egg-shaped balls. Butter a pie-dish, sprinkle in bread-crumbs thickly, put on the bread-crumbs half a tomato, and one of the meat-balls alternately; then a layer of bread-crumbs and some pieces of butter, another layer of meat and tomatoes, then more bread-crumbs and pieces of butter; bake half an hour.

DRIED SWEET CORN.

Boil the corn as you would in preparing hot corn; as soon as it can be handled, take off the husks, and cut the grains from the cobs with a sharp knife. Spread them on a sheet of cotton batting, and dry them in the mouth of a cool oven or in the hot sun. When the corn is thoroughly dry, put it in paper bags and keep it in a dry place. When wanted for use, soak it over night in water, and then boil it for five minutes in water or milk; season it with salt and pepper, add a little butter, and serve it hot.

CHOCOLATE JELLY CAKE.

One quarter pound butter, two cupfuls sugar, three eggs, three cupfuls flour, one cupful milk, one level teaspoonful soda, two teaspoonfuls of cream tartar, one teaspoonful extract of lemon. Cream for between cakes: One cupful chocolate, one cupful sweet milk, yolks of two eggs, substitute one-half teaspoonful corn starch, one and a half cupfuls sugar; boil as stiff as jelly, stir all the time; this requires boiling over half an hour to be stiff enough; when cool add one teaspoonful extract of vanilla.

TO CURE BACON.

Cut up the pork the day after it is killed. Use Liverpool salt, and rub every piece well on the skin. To each joint of meat take a dessertspoonful of saltpetre and rub it on the flesh; then rub all over again with salt, and pack away in hogsheds, with the skin downward. Let it remain five or six weeks, according to the temperature of the weather, for, if freezing cold, the salt will not strike in so well as under other conditions. Rub in also a little black pepper, pounded and mixed with sugar. Have ready dry ashes from hickory wood, take the pork out of the tubs or boxes in which it has lain for salting, scrape off the salt and rub the ashes on. Hang it up, and make a good smoke every morning, taking care never to let the meat

get heated. Smoke for some weeks. In March wrap each ham in a newspaper, and then put it into a bag to hang up for good; this insures safety from skippers.

PICKLED CUCUMBERS.

The best cucumbers for pickling are not larger than a man's thumb, and should be fresh gathered. Put your cucumbers in a jar and cover them with a brine made one part salt to four of boiling water, pour hot over the cucumbers, cover, and let steam for 24 hours, and to every six cucumbers put one small white onion in the hot brine, wash them in cold water and vinegar, half and half, wipe dry in a soft towel, and put them back in a jar; make a pickle to every quart of vinegar, two ounces of brown sugar, two sticks of cinnamon, two pieces of mace, six cloves, two teaspoonful, of allspice, the same of whole black pepper, one long pod of red pepper, and a teaspoonful of mustard seed; let the vinegar boil for five minutes after it begins to boil; pour the vinegar boiling hot over the cucumbers, and when perfectly cold tie up, and they will be fit to eat in a week.

SPICED PEACHES.

Take the stones from white clingstone peaches, and to eight pounds of them put four of sugar, a pint of good vinegar, some sticks of cinnamon, a few whole cloves and some whole mace. Boil all together twenty minutes or half an hour.

Parsley, eaten with vinegar, will remove the unpleasant effects of eating onions.

Hindoo Girls.

The Hindoo girls are graceful and exquisitely formed. From their earliest childhood they are accustomed to carry burdens on their heads. The water for family use is always brought by the girls in earthen jars, carefully poised in this way. This exercise is said to strengthen the muscles of the back, while the chest is thrown forward. No crooked backs are seen in Hindostan. Dr. Henry Spry, one of the company's medical officers, says "this exercise of carrying small vessels of water on the head might be advantageously introduced into our boarding schools and private families, and that it might entirely supersede the present machinery of dumbbells, backboards, skipping ropes, etc. The young lady ought to be taught to carry the jar as these Hindoo women do, without ever touching it with her hands." The same practice of carrying water leads to precisely the same results in the south of Spain and in the south of Italy, as in India. A Neapolitan female peasant will carry on her head a vessel full of water to the very brim, over a rough road, and not spill a drop of it; and the acquisition of this art or knack gives her the same erect and elastic gait, and the same expanded chest and well-formed back and shoulders.

Why He Left the Church.

"Sakes alive," said the good-natured Colonel Solon, as he rushed into the Oil City Derrick office, "I never felt so warm as this but once afore in my life, an, an that ere time t'wasn't so awful hot in the atmosphere, either." "When was it, Colonel?" "Don't believe I ever told you that, did I? 'Twas some time ago. I was living in Jamestown, and was a respectable member of one of the churches, an' like all respectable members had a ticket for my sleepin' berth during long sermons and hot days. One day when 'twas more than usually hot, I was just a droppin' off to sleep when I thought I'd wipe my forehead. I felt but couldn't find my handkerchief. Just then I noticed suthin' white on the floor beyond my feet, an' bein' a little near-sighted I took it for my missing rag and went for it. There warn't no partitions below the seats in that ere church, so when I reached down I saw some one in the pew front of me had a foot on my handkercher, an' it riled me a trifle, so when I got hold of it I yanked about two hundred weight on it the first haul. Sakes alive! There was the alfredest scream yer ever heard, and there I had yanked her off the seat an' under it into my pew, lookin' like as if we'd been havin' a fight and she'd got the worst of it, an' me not a-knowin' what to say. I aint abin to that church since, an' as Miss Jenkins said I was drunk they kind o' read me out of the place, an' I never had a chance to vindicate my karakter."

The English Thrush.

The accompanying cut is that of an English Thrush. It is a brown bird, having dark spots on its breast, builds its nest in hedges or thick trees, lines it with mud, and lays four blue eggs with black spots upon them. The bird has a few very pretty notes, and enlivens the walks and fields of Old England with its song. When last in England a young thrush fluttered from the hedge on the walk. We picked it up and took it home, but it died in three days. We expressed regret at this, which a little boy heard. The little boy soon got us another one, which we brought to Canada with us. It proved to be a hen bird, and would not sing. A bird fancier in this city, having a male bird, asked for it, as he wished to try to raise some young ones. He put a wire fence around two trees in his garden. They built a nest, laid eggs, but did not hatch. At the same time we brought four young larks but they all died within a few months; perhaps it was the climate. We also brought a pair of love birds, which excel in beauty anything of the kind that we have seen in this country; their habits are peculiar. We were told never to give them water, for if we did they would die, which advice we have followed, and they seem quite well without it. We have had them now two years, and we give them nothing but dry canary seed and a little sand in the bottom of the cage. Everyone is fond of a pet of some kind. Perhaps our failing lies in over attachment for the feathered tribe, of which the most amusing is the parrot. Of course it says many funny things, calls the lazy boys up in the morning, calls the dogs, "here Watch, Watch," "Rover," "Poll is a queer old bird," "You are a queer pill," stops the horses by calling "whoa," and starts them as well by calling "click, click, get up here, what are you about." We were much amused one day with it calling out to a negro, "Helloa, who is that," much to his annoyance, who kept walking past, thinking it was some person making fun of him.

L-ARK-ISHNESS.—First young lady: I hate this horrid walking; we look just like the animals coming out of the Ark. Second ditto: Arkadian bliss compared to this, Maud; they had a gentleman to see them out. Noah would be decidedly preferable to Miss McStinger.—[Judy.

"Just Out!" (at all the libraries).—First young lady: "How did you like 'Convict Life,' dear?" Second young lady: "Pretty well. We've just begun 'Ten Years' Penal Servitude.' Some of us like it, but—" Old Lady (mentally): "Good gracious! What dreadful creatures! So young, too!"

Letter-Writing.

How pleasant is an agreeable, well-worded, and well-spelt letter, with all the t's across like the yards of a man-of-war, and every i with its distinctive dot. There is no accomplishment that one can possess superior to that of the ready letter-writer. Though often it comes as a gift, yet much improvement comes with education; and it is a wonder to us that teachers, who require compositions which give rise to all sorts of reflections upon "Nature" and "Mercy," and "Freedom," should not turn the channel of young thoughts to letter-writing and let the youthful idea "shoot" in this direction. Females have the gift more frequently than males—take to correspondence as naturally as a duck to the water—and write charming letters; at least, those who receive them think so when they tell them that "old story" which forms the subject of so many, even before the school-days are over.

sheet, or matters affecting the tenderest of human relations, he put his whole soul into his work. His letter speaks to the heart as much as his poetry. They are models, though beyond imitation without part of his genius.

By all means encourage the practice of writing letters among the young. The money for paper and stamps is well spent.

Temper and Good Looks.

I recently heard a gentleman from India relate that the native women of the section where he resided had so few domestic labors, and no intellectual culture, that gossip was their only resource. They were not secluded there, as in some sections, and ran about from house to house as they pleased. The results were the same in India as in our land. So much gossip set neighbors in a constant ferment. There being no principle to restrain their

tongues, it was almost incredible the rate at which they run, and the violence of their speech. The result was an ugly, misshapen mouth in almost every woman who was grown up. The gentlemen attributed this ugly feature to the ugly tempers which were allowed such unlimited expression in words.

Come to think about it, have we not observed something corresponding to this in our own favored land? Who ever saw a scolding woman with a pretty mouth? Or one of this class who had a sweet voice? She may sing with great skill and expression, but there will creep in a cat-like note that betrays itself. There is no foe to beauty equal to ill temper. So, girls, be warned in time, and if you are tempted to fall into this evil way, put a check to it at once, unless you are willing to belong to the class who are thoroughly unlovely in the eyes of others.

Crow-feet do not seem to creep into sunny people's faces half so early as into those of the opposite temperament. Good humor, too, seems to give a bloom to the complexion that no cosmetic can impart. There are women more really winning and fascinating in society at sixty than many a young woman of twenty. A bright, cultured mind, joined with a thoroughly good, benevolent heart, which rejoices to do good to others, will make a person truly beautiful at any age and a favorite in any society.—[Arthur's Home Magazine.



THE ENGLISH THRUSH.

Letter-writing is unquestionably a gift. Those possessing it simply put their pen to paper, when thoughts flow from its point as fluently as words drop from the lips of a conversationalist. They may not be talkers—probably they are not; as many sensible people, who are excellent talkers, cannot write a good letter. The missives of the latter are heavy and ponderous, so labored that it almost militates against the pleasure of hearing from them to wade through the turgidity.

The easy letter-writer is one who writes from a fresh heart, who knows just what to say and how to say it; and the spontaneous flow with which it gushes makes us forget, wherever they occur, lapses in grammar or orthography. We feel the spirit of the writer in every word. The driest details are illuminated by it, and the homeliest matters assume an almost poetical interest under the touch of their genius.

Burns was a splendid letter-writer. Whether in a brief note relating to the correction of a proof-

any age and a favorite in any society.—[Arthur's Home Magazine.

The latest gush—Conversation on Piazza, West End Hotel, Long Branch: Fashionable young man to another young man not fashionable:—"Is this chair taken?" Ordinary young man—"No; you can have it." F. Y. M.—"Thank you awfully." O. Y. M.—"You're dreadfully welcome."—[Baltimore Sun.

When young Jeff first came up to town his father told him that it would be polite when being helped at dinner to say to the host "Half that, if you please." It so happened that at the first dinner to which he was invited, a sucking pig was one of the dishes. The host, pointing with his knife to the young porker, asked, "Well, Mr. Jeff, will you have this, our favorite dish, or haunch off mutton?" Upon which, recollecting his first lesson, he replied, "Half that, if you please," to the consternation of all present.

Nucle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—You have all received a present or prize of a book, no doubt, sometime during your life, but have you kept them? Most of you, I fear, will answer no. If you will keep all your books given you, besides buying one once in a while with your pocket money, you will be surprised how soon you have quite a library. The borrowed book, however attractive, is never read with the loving enthusiasm with which you would devour a volume that is your own. The book owned by the child will be read leisurely, returned to and lingered over with loving fondness. It is well known that the value of reading does not depend half as much on the quantity gone over as the deliberate and thoughtful method of using it. And what a precious possession is a library however small, to every youth. Here is a volume with the autograph of a school-mate who has passed on to the great university in the heavens. The faded text-book with its torn leaves recalls the tussle with a hard lesson, which gave you the first sense of conscious mental power. Now, children, save your books, and I am sure your parents will help you in the good work of founding a library.

UNCLE TOM.

PUZZLES.

76—ENIGMA.

My first is in cistern,
but not in well;
My second is in writ,
but not in spell;
My third is in note, but
not in bill;
My fourth is in factory,
not in mill;
My fifth is in window,
but not in door;
My sixth is in ceiling,
not in floor;
My seventh is in wrong,
but not in right;
My eighth is in dark,
but not in light;
My ninth is in true, but
not in false;
My tenth is in slide, but
not in waltz;
My whole is a large city
in the United States.

77—WORD SQUARE.

First, a firm, hard
substance of dull white color. Second, elliptical.
Third, an iron pin. Fourth, girl's name.

78—DIAMOND PUZZLE.

A consonant, a beverage, bright, a part of the
head, a consonant.

79—DOUBLE ACROSTIC.

A small rope, a scent, a question often asked,
variegated, to clasp, water; answer, two English
poets.

80—PUZZLE.

My first is in joy, but not in sorrow;
My second is in earth, but not in ground;
My third is in no, but not in yes;
My fourth is in doubt, but not in guess;
My fifth is in stir, but not in mix;
My sixth is in set, but not in six;
My seventh is in ocean, but not in land;
My eighth is in rise, but not in stand;
My whole is a modern painter's name emblazoned
high on the roll of fame.

Names of Those Who Sent Correct
Answers to August Puzzles

Robt. Luxton, Albert Wilkins, Alice A. Craig, Minnie Scott,
Winnifred Gorman, Tom Wilson, Herbert Kitchen, Clara Ellis,
Walter Moore, Philip Worthington, John Cooté, Charlotte
Blair, Henry Kennedy, Flora Burth, Cassie C. McIntosh,
Mary Thorp, Eliza Errington, Norman Weldon, Jessie McBride,
Charles Bailey, Clara M. Allen.

Answers to August Puzzles

- 67—A lighthouse; X L 40; five hundred times he will have
two ears of his own; civil
68—He had 8½ cents when he started.
69—Wholesale whale, hall, owl, weal.
70—Hearth, heart, hear, ear, earth.
71—Pol, ice man
72—William Weld
73—None so blind as those that won't see.
74—Chaste, haste, seat, wheat, heat, cat, skate, rate, ate.
75—Unquestionably, facetiously, apricot.

HUMOROUS.

A preacher at a Sunday school excursion described heaven as an eternity of picnics—and several young men members of his congregation, who lugged baskets weighing nearly a ton each, and climbed high trees to put up swings, have left church.—[Norristown Herald.]

Little Robby came home with his hat limp as a dishcloth. "For goodness sake!" cried his mother, "where have you been?" Robby began to whimper as he replied, "a fellow threw my hat into the frog pond!" "O Robby!" exclaimed his sister, "you threw it in yourself. I saw you do it!" "Well," said Robby contemptuously, "ain't I a feller?"

Don't Drown with a Shingle Within
Reach.

We have seen a small boy who could not swim a stroke, propel himself back and forth across a deep, wide pond, by means of a board that would not sustain five pounds weight. In fact, that sometime small boy is now writing this. Children and all others should have practice in the sustaining power of water. In nine cases out of ten, the knowledge that what will sustain a pound weight is all that is necessary to keep one's head above water, will serve better in emergencies than the greatest expertness as a swimmer. A person unfamiliar with the buoyant power of water will naturally try to climb on top of the floating object on which he tries to save himself. If it is large enough, that is all right. But it is generally not large enough, and half of a struggling group is often drowned in the desperate scramble of a life-and-death struggle to climb on top of a piece of wreck or other floating object, not large enough to keep them all entirely above water. This often happens when pleasure boats capsize. All immediately want to get out of the water on top of the overturned or half-filled boat, and all are drowned except those whom the wrecked craft will wholly bear up. If they would simply trust the water to sustain ninety-nine hundredths of the weight of their bodies, and the disabled boat the other hundredth, they might all be saved under most circumstances. An overturned, or water-

filled wooden boat will sustain more people in this way than it will carry. It would keep the heads above water of as many people as could get their hands on the gunwale. These are simple facts, easily learned, and may some day save your life.

Girls' Manners.

If our little girls greet their brothers and sisters and perhaps even their parents boisterously; if, instead of "Good morning," they cry, "Halloo, papa! Halloo mamma!" and call to playmates in the streets in the same rough manner, who will be surprised if this style follows them as they grow up and appear as young ladies? Referring to this unladylike manner and mode of address, a gentleman writes that, passing two pretty, well-dressed, stylish-looking young ladies in the public streets, he was surprised to hear one greet the other with, "Halloo, Sid!" and the other respond "Halloo, Tude!" to her friend's greeting, and he remarks: "It was just what two lounging young men might have said, or stable boys, for that matter. It might not have been so much out of the way for the latter, but I confess it sounded very odd and offensive in what I supposed to be two well-bred young ladies—as much so as if I had heard two beautiful, gay and rose-colored birds begin to swear. It was so unnatural, so out of place. It may be 'the style' for young girls or ladies to greet each other with a 'Halloo!' but I can't like it or get used to it." These things may seem but a trifle, but they make all the difference between nice things and, very common things.—[Christian Union.]

KEEP BUSY.—The boy who has nothing to do is the most miserable of beings. If you have no regular work, do little jobs, as farmers do when it rains too hard to work in the field. In occupation we forget our troubles. The boy whose mind and hands are busy, finds no time to weep a wail. If work is slack, spend the time in reading. No one ever knew too much. The hardest students in the world are the old men who know the most.



CHAPTER 1.



CHAPTER 2.



CHAPTER 3.



CHAPTER 4.



CHAPTER 5.



CHAPTER 6.

A FISHING EXCURSION IN SIX CHAPTERS.

An anecdote is told of a physician who was called to a family to prescribe for a case of incipient consumption. He gave them a prescription for pills, and wrote the direction: "One pill to be taken three times a day in any convenient vehicle." The family looked in the dictionary to get at the meaning of the prescription. They got on well till they got the word vehicle. They found "cart, waggon, carriage, buggy, wheelbarrow." After grave consideration they came to the conclusion that the doctor meant that the patient should ride out, and while in the vehicle he should take the pill. He followed the advice to the letter, and in a few weeks the fresh air and exercise secured the advantage which otherwise might not have come.

The other day a Board-school had a lesson which involved an explanation of the term "hypocrite." In one of the classes a teacher labored very earnestly to give her pupils a correct idea of the word. One little girl said she always thought it was a great big animal, and she believed she had seen one at a show. "Oh," said the teacher, "a hypocrite is a man who makes believe to be real good when he isn't! Sometimes a man will give a lot of money to a church just to make people think that he is better than anybody else." "Well, my papa is not a hypocrite," spoke up a little girl, "for his gives only a penny every Sunday."

No Mortgage on the Farm.

BY JOHN H. YATES.

Mary, let's kill the fatted calf and celebrate the day,
For the last dreadful mortgage on the farm is wiped away;
I have got the papers with me, they are right as right can be—
Let us laugh and sing together, for the dear old farm is free!

Don't all the Yankees celebrate the Fourth day of July,
Because 'twas then that Freedom's sun lit up our Nation's sky!
Why shouldn't we then celebrate, and this day ne'er forget?
Where is there any freedom like being out of debt?

I've riz up many mornin's an hour before the sun,
And night has overtaken me before my task was done,
When weary with my labor, 'twas this thought that nerved my arm:
Each day of toil will help to pay the mortgage on the farm.

And, Mary, you have done your part in rowin' to the shore,
By takin' eggs and butter to the little village store.
You did not spend the money for dressing up for show,
But sang from morn till evening in your faded calico.

And Bessie, our sweet daughter—God bless her loving heart!
The lad that gets her for a wife must be by nature smart—
She's gone without paint, her lonely hours to charm,
To have a hand in payin' off the mortgage on the farm.

I'll build a little cottage soon, to make your heart rejoice;
I'll buy a good piano to go with Bessie's voice;
You shall not make your butter with that up-and-down concern,
For I'll go this very day and buy the finest patent churn!

Lay by your faded calico, and go with me to town.
And get yourself and Bessie a new and shining gown;
Low prices for our produce need not give us no alarm,
Spruce up a little, Mary! there's no mortgage on the farm!

While our hearts are now so joyful, let us, Mary, not forget
To thank the God of heaven for being out of debt,
For He gave the rain and sunshine, and put strength into my arm,
And lengthened out the days to see no mortgage on the farm.

A Plea for the Sunflower.

According to M. Grunert, of Lithuania, the sunflower is there universally cultivated in fields, gardens and borders, and every part of the plant is turned to practical account. A hundred pounds of seeds yield forty pounds of oil, and the pressed residue forms a wholesome food for cattle, as also do the leaves and the green stalks, cut up small, all being eagerly eaten. The fresh flowers, when a little short of full bloom, furnish a dish for the table which bears favorable comparison with the artichoke. They contain a large quantity of honey, and so prove an attraction to bees. The seed are a valuable food for poultry, or supply fine groats of a delicate almond flavor; ground into flour, pastry and cakes can be made from them; roasted, they supply a pleasant drink, and boiled in alum and water they yield a blue coloring matter. The carefully-dried leaf is used as tobacco. The seed receptacles are made into blotting-paper, and the inner part of the stock into a fine writing-paper; the woody portions are consumed as fuel, and from the resulting ash valuable potash is obtained. Experience has shown that large plantations of them in swampy places are a protection against intermittent fever; further, that they will grow anywhere, and in any soil with little or no attention. The best seed is obtained from the Crimea.—[London Farmer.

Diphtheria.

In a circular just issued the Boston Board of Health says: Diphtheria is contagious and infectious, and may be easily communicated, either directly or indirectly, from person to person. It may be conveyed directly in the act of kissing, coughing, spitting, sneezing, or indirectly by infected articles used, as towels, napkins, handkerchiefs, etc. The poison clings with great tenacity to rooms, houses, articles of furniture and clothing, and may occasion the disease, even after the lapse of months. Diphtheria attacks all classes, at all ages, and at all seasons of the year. By preference it attacks children and those who are debilitated from exposure to filth, dampness or foul air from whatever source.

When a case of diphtheria occurs in any family, the sick person should be placed in a room apart from other inmates of the house, and should be nursed, so far as possible, by one person only. The sick chamber should be well warmed, exposed to sunlight and well aired; its furniture should be such as will permit of clearing without injury, and all extra articles, such as window and table drapery, wollen carpets, upholstery furniture and all hangings, should be removed from the room during the sickness. The physician and nurse as a rule, should be the only persons admitted to the room. Visitors to the infected house should be warned of the presence of a dangerous disease therein, and children especially should not be admitted.

All clothing removed from the patient or the bed should at once be placed in boiling water or in a tub of disinfecting fluid (three ounces sulphate zinc, one ounce carbolic acid and three gallons water) by the nurse before carried through the house or handled by any other person. They may be soaked in this fluid for an hour and then placed in boiling water for boiling. It is better not to use handkerchiefs for cleansing the nostrils and mouth of the patient, but rather soft rags, which should be immediately thereafter burned. All vessels for receiving the discharges of the patient should constantly contain some disinfecting fluid. Water closets and privies in the house should be disinfected daily with a solution of copperas, two pounds to a gallon of water.

On the recovery or death of the patient the most thorough disinfection should follow. The room and all articles in it should be at once subjected to the fumes of burning sulphur, as follows: (Close the room tightly and burn 2 1-2 pounds of sulphur to each 1000 feet of cubic space. After four or six hours, open the room and expose it to the air and sunlight for a week. Anything that can be boiled without may be so treated. The walls and ceilings should be dry rubbed or lime-washed, and the floors washed with soap and water, to which may be added a little carbolic acid. When death occurs, the body should be immediately placed in the coffin tightly and finally closed. No public funeral should ever take place at the house where the patient died, nor elsewhere, unless the coffin remains hermetically sealed.

Teeth.

Lately, dentistry has become so perfected that no excuse can be given by anyone for unsightly teeth; no lady or gentleman will neglect them, any more than they would be guilty of appearing in company with uncombed hair.

Make it a rule to have a dentist examine your teeth at least two or three times a year. Have the back ones filled with amalgam and those in front with gold. The amalgam will last just as long but does not look as well as the gold fillings. After they are filled take care of them; use a tooth brush with a tufted end, convex in shape—this kind of a brush is better than an ordinary one because it can penetrate parts of the teeth that you cannot touch with another kind of brush; clean them twice a day and oftener if possible. Use a powder (recommended by a good dentist) or white castile soap; brush the front ones lengthwise and be as particular in cleaning the inside as the outside of the teeth. Once a day run linen or silk floss between them, this is the best preventive known for decay between the teeth.

If you find in spite of all this care that tartar is forming, get some powdered pumice-stone, take a match with the sulphur end bitten off, make the end bushy, wet it, dip it in the powder and rub it across the teeth lengthwise, gently, until the tartar disappears.

For a foul breath wash the mouth out with carbolic acid, diluted in water, and lemons eaten occasionally. The latter, however, is not very good for the teeth.

Miss M. D.

The Catacombs of Paris.

It is a sight rarely permitted the tourists to see—the Catacombs of the city of Paris—and there are few who wish to leave the daylight and the freshness of life for this vast subterranean charnel-house; yet there are few objects possessing deeper interest or that excite a more impressive feeling than this, the scene wherein repose, unknown and forgotten, so many millions of the dead generations of the city above them. A party of Englishmen lately procured permission, and paid the dreary place a visit. The entrance is at the old Barrier d'Enfer. The entrance is closed by a thick door, and the Catacombs are reached by a nearly perpendicular descent of seventy feet. As you enter, a man counts the number of the party, giving to each a lighted candle, which must be carried constantly. At the bottom of the staircase is a long, narrow gallery, the sides of the roof of which are supported by masonry. This gallery, in which only two persons can walk abreast, leads to a vast vault beneath the plain of "Mount Souris," where the first deposit of bones was made, and where the principal part of the bones removed from the Parisian cemeteries have been placed. The bones in the galleries are piled up like wood in a timber-yard—quite artistically—to the height of six feet, being arranged in regular order, the larger ones being laid outside, and the skulls being placed on the top. Here and there are inscriptions, stating from what cemeteries the remains were brought, and also scraps of verse. There is one enormous heap of bones which have not been classified, and which is estimated to contain the osseous remains of three millions of people, who formerly walked the streets of Paris—literally walked over their own graves. One of the galleries is nearly five miles long, and they extend beneath nearly half the city of Paris; and dismal tales are told of persons who have been lost in them, and who have lived for days in these immense vaults, with only the bones of the dead for their companions. An official visit is periodically made by engineers, for the purpose of ascertaining whether the props and pillars which support the roof of the gallery are in good condition.

Nations Without Fire.

According to Pliny, fire was a long time unknown to some of the ancient Egyptians; and when Exodous (the celebrated astronomer) showed it to them, they were absolutely in rapture. The Persians, Phoenicians, Greeks and several other nations, acknowledge that their ancestors were once without the use of fire, and the Chinese confess the same of their progenitors. Pompanon, Mola, Plutarch, and other ancient writers, speak of nations who, at the time they wrote, knew not the use of fire, or had just learned it. Facts of the same kind are also attested by several modern nations. The inhabitants of the Marian Islands, which were discovered in 1551, had no idea of fire. Never was astonishment greater than theirs when they saw it on the desert Magellan, in one of their islands. At first they believed it was some kind of animal that fixed to and fed upon wood. The inhabitants of the Philippine and Canary Islands were formerly equally ignorant. Africa presents, even to our own day, tribes in this deplorable state.

FRENCH HOME LIFE.—Englishmen, and indeed most foreigners who judge of France from Paris alone, are apt to think that French people have no home life. So far is this from being the case, that few people are more tenderly attached to home than the French. For this reason they make very poor emigrants. While the Germans and Irish emigrate by thousands, comparatively few Frenchmen leave their country. Not only are they attached to their native land, but to the very spot where they first saw the light. The poorest peasant toiling in Paris sends a part of his scanty earning to his country home for the support of his parents and younger brothers and sisters, and looks forward with delight to the time when he will be able to go back there, buy a plot of ground, and build a little cottage in which to spend the remainder of his days. Well-to-do families, who occupy apartments in Paris during the winter, retire during the summer to the "old homestead" in the country, to which all are tenderly attached.

Ear-wax is not dirt, and mothers ought to be very careful in cleaning children's ears not to gouge out the wax with sharp pointed instruments. The wax is intended to protect the ear, and should not be disturbed except that part which has already partly worked its way out.

ADDITIONAL CORRESPONDENCE.

Lennoxville, P. Q., 5th Aug., 1880. Sir,—Enclosed find item re Ploughing Association started here, which please insert. The Committee would feel glad if you could give a copy of your paper as a special prize. Yours truly,

ROBERT H. WYLLIE, Sec'y Sherbrooke Ploughman's Ass'n.

A meeting was held in the Town Hall, Lennoxville, to organize a Ploughing Association. After some discussion a society was formed, under the name of the Sherbrooke Ploughman's Association, its territory to be limited to the Electoral Town of Sherbrooke, which takes in the City of Sherbrooke, village of Lennoxville, and townships of Ascot and Oxford. The membership fee was fixed at 50 cts. per annum. The following committee was appointed:—President, E. T. Brooks, M. P., Sherbrooke; vice-President, Jas. Addie, Hunterville; Sec. treas., R. H. Wyllie, Ascot, P. Q. The date of this year's matches is not yet fixed, but notice will be fixed in due course.

[We have much pleasure in noticing such useful associations, and will be most happy to give a free copy of the FARMER'S ADVOCATE for one year as a special prize to the association, as well as to every other kindred association, and to every township agricultural society who may apply through their Secretary. We wish you and all our farmers' associations and clubs every success.—ED. AND PROF.]

Timely Hints on Seed Grain.

For many years it was my practice, and also of some of my neighbors, to go into the field shortly before corn was ripened, select the hills and stalks which had the largest ears, and stalks on which two or more ears were found; these stalks or hills we marked by tying a rag on them in order to find them when ripe, before harvesting the field; these ears were strung up for seed. This being done, year after year, a superior variety of corn, giving large yield, was obtained. Of course, all farmers know and understand this, but they do not all think of and practice it in season; it will now soon be time to attend to it for next season's seed. This is the way in which best sorts are produced—selecting the best for seed every year.

The same is true of seed wheat, and other crops; a superior pedigree sort may be secured, as with animals. Every careful, intelligent farmer may produce a new variety, or greatly improve his wheat for seed, in this way: just before the wheat is ripe go and carefully examine different parts of the field, and where the earliest ripe, the longest, plumpest heads, the thickest stooling or tillering-out is found, with any other desirable qualities, leave it stand till after the general harvest so that it may get perfectly ripe, reap it by hand and carefully thrash it with the flail, and clean it well for seed; pursue this course year after year, and a pedigree wheat of high excellence will be produced. Any farmer so disposed can do this. In this way valuable pedigree wheats have been obtained. There is nothing difficult or mysterious about it; care and attention is all that is required, and any farmer who wishes can perform it, and be a benefit to himself and others. A hint on these topics, it would seem, is enough for the wise.—[The Michigan Farmer.

Alkaline Fertilizers for Fruits.

There is no doubt but that alkaline fertilizers are of great value for fruits. Even spent ashes are worth hauling long distances. They have been transported from Central New York to Long Island, 200 miles, with profit, after lying exposed to the weather 20 to 40 years. The writer has used them on pieplant to a great advantage, mitigating its extreme acidity and increasing the size and flavor. They have the same effect on sour cherries, strawberries and many other fruits. On some soils they might produce luxuriance of growth and increased fruit bearing, but in fully 20 years' constant use this has not been so apparent on high, thin, dry loose soils with clay below. Ashes from corn cobs are especially rich in potash. Coal ashes, on which the family slops are thrown and with which the contents of privy vaults are well mixed, are fertilizers of special value for fruit and vegetable gardens, uniformly giving without exception the most encouraging results to preserve in saving and using them properly on the soil.

Commercial.

London Markets.

Table of London Markets including Grain (Wheat, Peas, Oats, etc.) and Produce (Butter, Eggs, etc.) with prices per 100 lbs or other units.

Table of Flour and Hay and Straw prices, including 'Flour, fall wht.', 'Oatmeal', and 'Hay, per 100 lbs.'.

Toronto Market.

Wheat—Fall, 95c to \$1.10; spring, \$1.00 to \$1.08; barley, 50c to 65c; peas, 65c to 70c; oats, 35c to 37c; corn, 53c to 54c. Flour, \$4.10 to \$5.10; clover seed, \$4.25 to \$4.66; timothy, \$3.10 to \$3.10; hogs, \$6.50 to \$7.00; butter, 14c to 17c; wool, 28c to 29c; oatmeal, \$4.00 to \$4.10.

New York Markets.

New York, Aug. 28.—Flour, \$3.75 to \$4.25; for common to choice State and western Wheat, No. 1 white, \$1.17; rye, 88c; corn, 50 to 51c; oats, 35 to 38c.

Chicago Market.

Chicago, Aug. 28.—Wheat dull and weak, 86 1/2 to 86; corn dull and weak, 38 1/2; oats easier at 25 1/2; barley easier at 74 1/2; pork firm, \$17; lard, \$7.75; bulk meats steady, shoulder, \$5.60; short ribs at \$8.80; short clear, \$8.50.

Liverpool Market.

Liverpool, Aug. 28. Flour, 9s 6d to 11s 6d; wheat, spring, 7s 9d to 9s; R. winter, 8s 4d to 8s 10d; white, 8s 6d to 9s 6d; club, 9s 6d to 10s; corn, 5s 1d; oats, 6s 2d; barley, 5s 3d; peas, 7s 2d; pork, 60s; lard, 43s 6d; bacon, 41s 6d to 45s; beef, 62s 6d; tallow, 36s; cheese, 65s. The receipts of corn for the past three days were 29,000 cwt.

Montreal Market.

Montreal, Aug. 28. Flour—The inquiry for superior extra is active, and prices for that grade are hardening. Sales were effected after 'change at \$5.35. We quote superior extra at \$5.35 to \$5.40, spring extra, \$5.45 to \$5.50, and strong bakers at \$6.00 to \$6.50. Ontario bags are nominal at \$2.65 to \$2.75, and city bags are in good demand at \$3.15. Wheat—The English market shows no disposition to brighten up, and continues dull and inactive, with very few bidders. Wheat, nominal—N. C. spring, no transactions; white winter, \$1.10 to \$1.11; red do at \$1.09; corn—sales to arrive at 53c in bond; oats, 33c; barley, 55c to 6c; rye, 72c; oatmeal, \$4 to 4c; butter, 17c to 19c; cheese, 12c to 13c.

Cheese Markets.

New York—A determined effort has been made by buyers to weaken holders and break down prices; the prices have, however, been maintained. Sales have been made at 11 1/2c to 12 1/2c.

Utica—The July cheese held by members of the board have been pretty nearly cleaned out; prices have been 12 1/2c per lb or an advance of \$1 per hundred over the prices of the early markets of the month. Little Falls—The same price as at Utica. Ingersoll—Market quiet, holders firm. On the last market day in August 3,465 boxes of cheese were sold at 12c to 12 1/2c. London, Ont.—On Saturday sales were made of 13,140 boxes; prices 11c to 12 1/2c. Cable quotations from Liverpool, from 52c to 62c per cwt.

NOTICE.—All subscribers who wish for one or more copies of the Exhibition issue to give or show to their friends, or who wish us to mail copies to those that are likely to become subscribers, will please inform us by post card or letter, and their requests will be attended to.

One good, active person in each township can make money, do good to themselves, their neighbors and to us, by making a thorough canvass for new subscribers. A most liberal offer will be made this year. Send for particulars.

Provincial Exhibitions and District Fairs.

Table listing various provincial exhibitions and district fairs across Canada and the United States, including dates and locations like Toronto, Montreal, and New York.

Since taking our trip to the Maritime Provinces, we have been into the following States: New York, Pennsylvania, Ohio and Michigan, in search of useful knowledge to impart to our readers. We have been from home to take journeys on the Grand Trunk, Great Western, Credit Valley, Northern, and Nipissing railroads, and witnessed trials of implements at Islington, Ayr, Markham and Norway. Therefore we have not had sufficient time to write much about our journeys yet, but during the coming winter months we hope to give a good account of the time thus spent. Illustrations are being prepared, but they are not quite ready for this issue.

LARGE EXPORTATION OF LIVE STOCK.—A large exportation was made per the steamer Texas, of the Dominion line, which left the Mersey for Quebec on Monday, consisting of 22 bulls, 105 cows, and 16 calves, all of the Hereford breed, selected from the herds of Messrs J. B. and J. A. Green, Mr. Price, and Mr. Rodgers. Also sheep: 5 rams 15 ewes Cotswolds, and 25 rams and 54 ewes Shropshires, selected from the flocks of Mr. Bird, Leightondale, and 3 sire stallions. Dogs: 2 greyhounds and 5 collies. These were all selected by the well-known stock farmer and breeder, George T. Morgan, Esq., of Newman, Illinois, and is believed to be the largest shipment hitherto made for account of the shipper. The steamer Brooklyn, of the Dominion line, which sailed on Thursday last, took out two magnificent Clydesdale sires.

The Exhibition issue is a special number made up from the regular issues of the FARMER'S ADVOCATE, and is intended to increase the circulation of the paper. Our regular subscribers receive all the valuable information contained in it in their regular issues.

Any subscriber may become our agent. Postmasters are requested to act as our agents. A cash commission of twenty-five cents will be allowed for each new subscriber paid for one year, sent in singly. Increased commission for ten new subscribers and over. Our new premium list will appear shortly, and will be found liberal and attractive. One name or a dozen may be forwarded at any time. Subscriptions can commence with any number of the ADVOCATE.

Our regular subscribers are freely invited to send for as many copies of the Exhibition number as they may be willing to distribute among those who are interested in rural affairs. All our friends who are satisfied with the efforts we have made to please and instruct them, are solicited to aid us, through this Fair number, in so extending our circulation that further improvements may be inaugurated and sustained during 1881.

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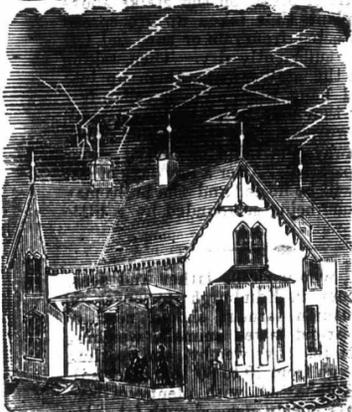
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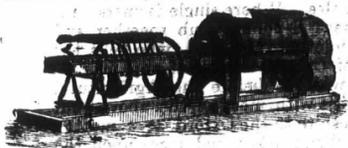
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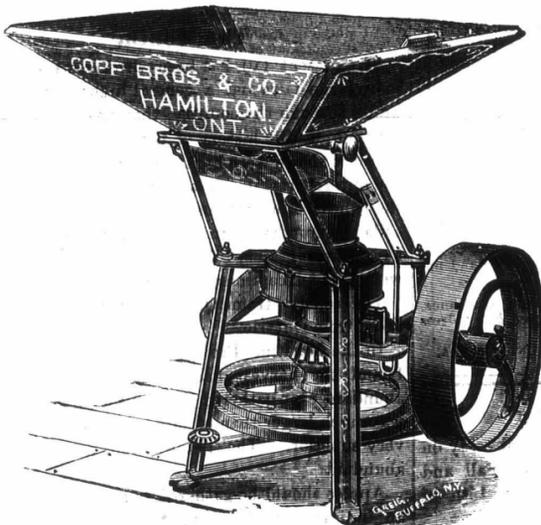
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