

THE
FARMER'S ADVOCATE.

"PERSEVERE AND SUCCEED."

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Editor & Proprietor. }

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The Government Farm.

We paid another visit to this establishment in August. We found the flower department had been better attended to. Vegetables were in abundance. The crops of turnips and barley were good. We might speak in high praise of the crops, but we should err if we said that we noticed anything in the management superior to what may be found on hundreds of farms.

There is most unmistakable mismanagement somewhere. The profits to the country must be farther in the future than our spectacles will allow us to penetrate at present. Good may result in some future day and under some different management. The crop of turnips raised is about 30 acres; they promised a fine crop and were well cultivated. There is not stock enough to consume one-tenth of them. There is a large crop of barley and a lot of vegetables. We fail to see such great improvement as some can. We do not consider that the purchasing of stock at \$1000 per head or upwards, to consume the crop of turnips, would be to the advantage of the farmers, or will ever pay the farmers for the sum we shall have to pay for them. The buildings that cost so much are now considered totally worthless; in fact, one of the principal officials informed us that it would have been better if they had none on the premises. As it is, they are about to pull down strong, substantially-built buildings, and are erecting and altering others. Were we to fully explain all things in regard to it, we should be thought touching on political questions; this we avoid, and merely quote the words of one of the most practical and best farmers in Wellington, who has had a good opportunity of watching and noticing the expenditures.

He said: "If the farmers of Canada knew what was carried on there, it would raise a rebellion in the country."

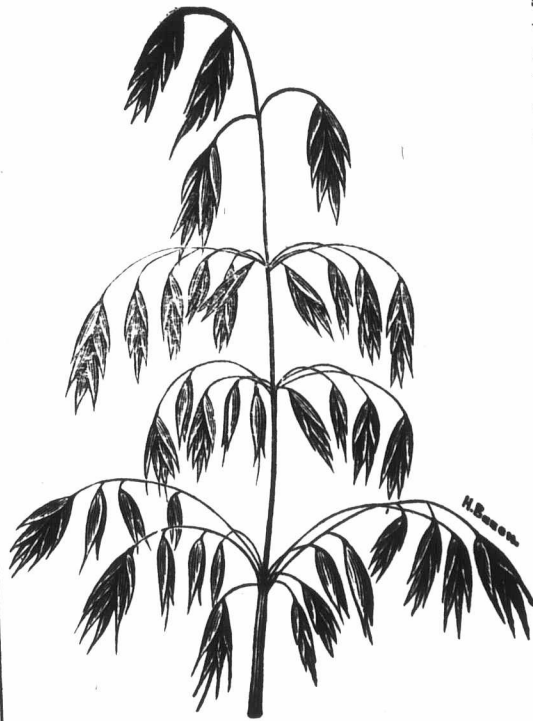
THE BOHEMIAN OR HULLLESS OATS.

This was the only new cereal, plant or shrub we saw growing on the Government Farm. We give the following illustration of it, having sent a head to our artist to have it cut. The peculiarity of this oat is that it grows in clusters, having from a single oat to five oats in a cluster, and also in not having any hull on the kernel, as other oats have. When we first heard of these oats we thought them a humbug; we would not purchase any, or have anything to do with them, as we had been humbugged so many times by wheat, corn, plants, etc.; this made us shy. The only price these oats could be obtained at was \$10 per bushel; the parties owning the stock would not sell for less. The Government paid \$10 per bushel for them. The crop looked well, but was not so long in the straw as other oats.

Now, for the information of the farming community and the country generally, we respectfully ask the Minister of Agriculture or any of the employes of the Government to furnish us with information regarding them. We will give you their report as soon as we receive it. We think if benefits are to be derived, we should at once be able to give reports, as a year's delay may cause profit or loss to the country.

We believe if the Government sets the example and uses more oatmeal porridge in this institution, and at their own private tables, the inhabitants of Canada would be improved in health and vigor by

following it, as nearly all doctors consider our wheaten flour less suitable for food than oatmeal or coarser diet. If farmers can raise their own oatmeal, without the necessity of being dependent on oatmeal manufactories, it would be a decided advantage, especially in newly or sparsely settled parts of the Dominion, and in localities where wheat does not thrive as well as oats. We hope to have the Government report of this cereal, and to hear from those who have had direct experience with it.



Agricultural Exhibition at Guelph.

We paid a visit to this Exhibition on Wednesday, the 15th inst. The Exhibition on the whole was a very good one, and highly creditable to the inhabitants of that locality. Each department was well represented.

The exhibitors were nearly all local, very few being from the east, west or south. The harvest not yet being completed in the north, tended to keep many away that would otherwise have attended. The Guelph Exhibition takes place too early; if it were a month later, we believe there would be a much larger attendance.

We have not space to enumerate the good qualities of the many fine animals exhibited there. To appreciate the merits of all the implements and the beauties of the art department, these exhibitions must be seen. Farmers and their families should by all means go to some one or more each year, to notice what improvements are made, to chat with their friends and gain profit and information they wish; to notice any new improvements made in implements, to find any new and valuable seeds, or notice any marked improvements in breeds of stock, or any thing that may strike us as of importance.

When examining the contents of the building devoted to field crops, we admired the classification of the turnips; but it is a matter for surprise that while the prizes were awarded to the numerous different varieties, our great staple article, winter wheat, was merely honored with

prizes for the best red and best white varieties. We therefore suggest that there should be a better

CLASSIFICATION OF WHEAT.

Wheat and other cereals are of very great importance to our country. New varieties are continually needed, as from some cause or other, wheat in particular, after having been grown for a series of years, yields much less and becomes unremunerative. The prizes offered for grain we believe require revising; encouragement might be given to persons who introduce new varieties, and the old system gives prizes for the best red or white wheats. The Diehl wheat has been the whitest, and carried off more prizes than any other variety. We believe this has acted injuriously to the farmers; it has given that wheat a much higher position than it deserves, as it makes but a very inferior quality of flour, being of a weak, chalky nature and containing much less gluten or saccharine matter than is contained in many other varieties. Would it not be judicious to award prizes to the different varieties of wheat? Prizes are awarded for the different breeds of horses, cattle, sheep, swine and poultry, and is not wheat of as much importance to our country as any of the above stock? Perhaps the directors of the Provincial and other Exhibitions might add to their interest and to the wealth of the country by giving prizes to all good varieties of wheat, as some varieties are best adapted to light soils, others to heavy clay soils; some are also best adapted to the northern parts of the country, and some to the southern. The present system has excluded the Treadwell wheat from being able to take a prize; as it is an amber wheat, it could not compete against the red or white wheats. This wheat has been found as valuable to the country as the wheats that have carried off the prizes at exhibitions. The Red Fern wheat being a small grain, but of good quality, does not compare in size with the grain of the Rio Grande; the size of the grain generally draws more attention than the quality. In stock, the Merino and Leicester sheep should not be judged in the classes of the Lincoln and Cotswold; the Alderneys and Ayrshires are not classed with the Durhams and Galloways. There are just as distinct varieties of wheat and other cereals as there are of breeds of stock, and our cereals are as important to the country as our stock.

Mr. J. Anderson, the ex-President of the Guelph Exhibition, showed us some of the Bohemian oats he had raised. He said he sowed 7 bushels, and threshed 209 bushels of clean oats, weighing 50 lbs. to the bushel. He says it requires three-fourths of a bushel of seed for one acre; he measured one acre and found he had 42 bushels—this of real meal, such as it would require about four bushels of the common oats to make. He informs us that the farmers owning this variety of oats have combined to maintain an equal price, which is at present \$10 per bushel; none are to sell for less or in a less quantity than a bushel. Of course these high prices cannot stand very long, as they increase so rapidly. He speaks in very high terms of the variety, although he does not altogether believe in the high price charged.

We do not purpose offering these oats for sale.

A subscriber sends us by registered letter from Napance, \$1, without any name. Who is he? Give date of mailing, &c.

The Potato.

ITS VALUE AS A FARM CROP—ITS DISEASES—ITS INSECT ENEMIES.

Value of the Potato as a Crop.

Now, when the potato crop of the season is matured and generally saved, it is well to give some consideration to it. It was throughout the season attacked by the enemies now so well known to us, and threatened by the old diseases and by some little known. The potato crop is a valuable one to the farmer, and it is an expensive one. It demands no little of his care and labor. Plowing and re-plowing, harrowing, drilling, planting, cultivating, taking up and storing, with seed and manure (when manure is applied), when added up, make a pretty good sum to be placed on the debit side in the farm ledger. But after all it has been a remunerative crop. Shrewd, practical men have for years continued its cultivation, and they would not have done so if they did not find it profitable. No other crop on the farm has given so large a cash return as the potato. This can be seen at a glance. The produce of an acre of potatoes is worth from \$60 to \$80 (the estimate is for good yield, but such as can be easily obtained, and at the ordinary market price of the last few years.) It must be a good acre of wheat, and be sold at a good price, that will bring nearly that amount—25 bushels of wheat at \$1.25 per bushel, amounts to \$31.25. Barley this season has paid \$30 per acre—40 bushels at 75 cts. per bushel. From these figures we see at once the great comparative value of the potato crop. The expenses attending it may be heavier than of others, but expenses are not necessarily losses. Another profit of this crop is the good condition of the ground on which it has been grown, for succeeding crops. The summer fallowing (for such the cultivation of potatoes is) frees the ground from weeds, and exposes it to the fertilizing influence of the atmosphere. This is the case with all root crops in a greater or less degree. Some call them impoverishing, but the heavy grain crops that we have had the following year, and succeeding them the good yield of clover and grass, prove the reverse.

Diseases of the Potato.

Let us confine our observation to the diseases of late years, and principally to that one that from the virulence of its attacks and the extent of its ravages, is known as the Potato Disease. Its origin is doubtless owing to the degeneracy of the potato. A dry, bracing climate, such as that of Canada, generally wards off its attacks. It is always most destructive where the atmosphere is murky and lowering. The more luxuriant the vegetation, the more liable is the potato to be destroyed by the disease. But there were as wet and heavy seasons before the disease made its appearance. The disease originates not from the condition of the atmosphere; it would be powerless to produce the disease if there were not already a predisposition to disease in the plant or tuber. The seeds of disease are often present unseen, and, it may be, unsuspected, till developed by some adventitious circumstances. While plants of every species are capable of improvement by cultivation, the improvement may be at the expense of their vital powers. Fungus, or mould, or whatever it may be that is the immediate cause of the potato disease, would not have such an effect if the potato had not degenerated. Though Canada does not suffer so much from the potato disease as the more humid countries of Europe, we are not exempt from it. Even this year there was danger of it for a few days, and in parts of the Dominion it has done much injury. We can use means by which we can so guard against it as to lessen our losses from it

very considerably, by selection of warm, dry soil as much as possible. Let no stagnant water lie on the surface or beneath it. If manure be applied for the crop, let it be well decomposed. It would be better to plow it into the ground in the fall. It is better still to plant on a good fertile soil without manure. An application of lime to the soil would do good service. Plant early. Late crops always suffer most. If the disease come, the nearer to maturity the potatoes are the less injury it will cause. Select for planting such varieties as are least liable to the disease. There is a great difference in the several varieties in this respect. The writer had potatoes entirely rotted by it a few years since, while he had other varieties beside them very slightly affected. Do not plant so close as to prevent the plants having abundant air and sunshine. This is very important, and it will not lessen the yield. Of all the means for guarding against it, none is more important than the selection and preparation of the ground. Deep plowing is requisite; a hard pan beneath a shallow surface soil will retain the water too near the roots of the plant.

A New Disease Affecting American Potatoes in England.

In a recent number of the *Advocate* we gave an account of this disease.

As it has been described by later writers it seems as if it were the Curl, and not a new disease, though now prevailing to a greater extent. We were well acquainted with it in our agricultural pursuits. The plant ceases growing as luxuriantly as before the disease develops itself. The leaves curl, and the tubers, as well as the plants, cease growing and are never worth anything. Ash-leaved Kidneys and Bangors, choice early varieties, we knew to be especially subject to it. The potatoes from the curled plants we were careful not to use for seed. As a remedy for it we planted in moory soil the potatoes designed for raising seed potatoes, and did not apply manure. The disease we concluded to be the result of forcing, thereby weakening the reproducing powers of the potato. The remedial measure we used had the desired effect. Further information leads us to think the first reports were exaggerated.

Insect Enemies of the Potato.

Of these enemies the potato beetle has proved to be the most destructive and to have added more to the farmer's labors than all others. They are so well known and the means for their destruction so familiar to all, that we have no occasion to dwell on the subject. Paris green is the only effectual remedy yet applied. Lime, wood ashes, coal ashes and other substances have been tried as remedies, but have failed. Though the bugs may leave for a time after their application, they soon return as vigorous and voracious as ever. Vegetable poisons seem to have no power to injure them; they have been seen feasting on the deadly henbane and night-shade. Arsenic, whether in Paris green or otherwise prepared, must, as far as yet known, be applied.

Another insect has been making havoc with the potato crop in the Western States. It is a flea-beetle, of the same family as that which preys on the cucumber and turnip, and is not unknown to gardeners here. It is very injurious to cucumber vines, eating the leaves in small holes, and not ceasing till the only thing left of the leaves is the bare vein. The skeleton left cannot perform the function of the leaves, and the plant dies. This year they have infested the potato vines, and in such vast numbers as to endanger the growth of the crop. The means used for destroying the potato bug are equally effective when applied to the flea beetle, and the remedies used by gardeners for

the preservation of their cucumber vines will be of good service against this enemy to the potato. Sprinkling the leaves with dry slaked lime, plaster or coal ashes has been found an effectual remedy, and lime will be still more effectual if carbolic acid be dissolved in the water with which the lime is slaked. That they have not before now been a means of great injury to the potato crop is owing in a great measure to the aid of our good friends the birds, that prey upon the young insects, and thus prevent their rapid increase. Were this destruction of the young of insects at any time to cease, our labors for the preservation of our crops would increase many fold, and the produce of our fields and gardens be obtained only after incessant contests with our insect enemies. Every day brings us additional proof of the policy of protecting the birds as our faithful allies, and of preserving our trees for their dwellings and the shelter of our grounds.

Pruning Gooseberry and Currant Bushes.

The first consideration is—When are we to prune gooseberry bushes? We have for some years pruned in the fall, and we are satisfied with the result. Spring pruning is recommended by many, but having had such a trial and having during that time been successful in having abundant crops of large, luscious fruit, we think this doubtful method is proved to us by an experience of years. We transplant in the fall also, as bushes two years old transplanted now will commence bearing next summer. Every year we propagate a few young bushes that we may plant in place of any that showed symptoms of failing in the fruiting season.

The object of pruning is to obtain young bearing wood and to have none but such as is young and vigorous, as young trees and young bearing branches bear larger and richer fruit than old trees and old branches. By pruning out the old wood we have a succession of such as is best suited for fruit bearing. This is our object of pruning—it is but one. A free circulation of air and easy access to heat and light are essential to the growth of good fruit. If bushes be suffered to grow unpruned, the branches will be so crowded as to deprive the inner branches of this atmospheric influence. Not a ray of sunshine nor a breath of free air can find a way into the heart of the bush. The objects, then, of our pruning are to obtain young bearing wood, and that this wood may have all the benefits of sunshine and air, and hence we learn how to prune. Cut out old wood, but not indiscriminately. It would not do to leave no branches but such as are of this year's growth. The shoots that are left should be evenly distributed, and not so crowded as to prevent the due expansion of the leaf and the growth to largest size of the berries, with their earlier ripening. Keeping the bushes pruned to a single stem is not suitable to Canada. In the moist climate of Britain we found it the better way; but here in Canada that tree shape does not afford the shade for stem and roots and soil that are needed in our hot summers. This shade is not at all inconsistent with the pruning we have recommended. In pruning we must bear in mind the necessity of shade for the root as well as of uninterrupted air and sunshine for leaves and fruit.

While the demand for currants has been constantly increasing, they are becoming scarcer in our markets and the price higher. This is the case especially with the black currant, which is now better appreciated than heretofore. To grow good crops of currants requires, it is true, care and labor, but not more than the fruit is worth many fold. The currant flea and currant worm have now to be contended with; but nothing worth possessing is to be had without striving for it, and we can

by a little care and fruit from their in those who will not fruit gardens prop glected they will loss on the owner. nually, manured i we have found a t spring of great ad cessary for gooseb Heavily covering t the heat of summ tive of the mildev superior varieties

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The steamship Aug. 27th, report in a fog she came in the Straits of ber. The Strait severity of last w magnificent iceber out their entire le the season, exten attributed to the of ice drifting fro freed, probably, f a milder season These icebergs, d southern latitude the vapors asce landward, have f have generally b though in places torments that in many fertile vall houses of thousa causing loss of li thought the rain as the icebergs a our shores, and weather till the farther north.

To the same c weather that has enjoyable. Th humid, has resear summers, at leas Though the harv one, there has done to the crop to be darkened ing more. Th country; to this testimony, and a source of pro over. The spr better condition er's expression—hope for a rap seed, and this i ceeding crop.

We have had of extirpating clover, etc., a bare fallow, an ject of fallowin attention amon to the subject, following in co Among the r agriculture, ev our readers, no til very lately deemed necess of wheat. If

by a little care and expertness, protect our small fruit from their insect enemies. But we advise those who will not take the pains to cultivate their fruit gardens properly to grub them at once. Neglected they will be but an eye-sore and entail a loss on the owner. They should be pruned annually, manured in the fall with good compost, and we have found a top dressing of coal ashes in the spring of great advantage. Mulching is more necessary for gooseberries even than for currants. Heavily covering the ground about the roots during the heat of summer is said to be a good preventative of the mildew that prevents our growing the superior varieties of English gooseberries.

The Rains of 1875.

The steamship Moravian, from Londonderry, Aug. 27th, reported on her arrival at Quebec that in a fog she came into contact with a large iceberg in the Straits of Belle Isle, on the 2nd of September. The Straits exhibited proof of the unusual severity of last winter in the very great number of magnificent icebergs still proudly towering throughout their entire length. The unusual rainfall of the season, extending over the whole continent, is attributed to the presence of those enormous fields of ice drifting from the Arctic seas to the Atlantic, freed, probably, from their winter confinement by a milder season than is usual in those regions. These icebergs, drifting with the current into more southern latitudes, have been rapidly thawing, and the vapors ascending from them and attracted landward, have fallen in the abundant rains that have generally been so beneficial to the farmer, though in places it has swelled the rivulets into torrents that in their resistless force have devastated many fertile valleys, sweeping away the crops and houses of thousands, and in not a few instances causing loss of life, as well as property. It is thought the rain may continue some time longer, as the icebergs are still thawing in the vicinity of our shores, and we need not expect unbroken fair weather till the icebergs have all melted or drifted farther north.

To the same cause is attributed the cool, pleasant weather that has made the summer of '75 so very enjoyable. The season, though far from being as humid, has resembled somewhat our old country summers, at least the driest and clearest of them. Though the harvest has been, for Canada, a wet one, there has been very little, if any, damage done to the crops. Barley and oats are reported to be darkened in color in some places, and nothing more. The rain has been a blessing to the country; to this our granaries and root crops bear testimony, and to the dairy especially it has been a source of profit. Nor are its advantages yet over. The springs are full. The soil is in much better condition for the fall crop. To use a farmer's expression—there is blood in the soil. We hope for a rapid and healthy germination of the seed, and this is in itself a good omen for the succeeding crop.

Summer Fallows.

We have had many queries as to the best mode of extirpating such annuals as wild mustard, wild clover, etc., and replies recommending—some a bare fallow, and some a half fallow. As the subject of fallowing is by this means causing no little attention among our readers, we give a little space to the subject, first, of bare fallows, and then of fallowing in connection with grass crops.

Among the many changes and improvements in agriculture, even within the memory of many of our readers, not the least is in bare fallows. Until very lately, a summer fallow was generally deemed necessary to the production of a good crop of wheat. If the root crop, when there was one

in the farm rotation, was stored in good season, fall wheat usually followed, but neither a large yield nor good quality was expected from any but the fallow ground. In the state of agriculture then practised, it was a necessary part of the system, but it has now given place to a half fallow (called by some pin-fallow), a change connected with the other great changes in agriculture. The introduction of the four-years rotation, with turnips as a farm crop, into Norfolk, first taught farmers to rely less on the bare fallow. To this may be added the other great improvements in culture—drainage, subsoiling and the introduction and more general use of commercial fertilizers and green manuring.

The bare fallow, though not generally accounted an essential of good farming now, is even still admitted to be requisite under certain circumstances. In heavy clay lands it is necessary sometimes to expose the rough clods to be baked by the summer's sun. This burns up the weeds, a task not always to be otherwise accomplished in the stiff clay; it also mellows the clay soil better than any other process can. It requires, no doubt, a good crop of wheat to pay the two year's rent, or interest on purchase, and the cost of labor, but a good crop is expected from it; besides, the advantages from the fallow are not limited to one year.

If ground designed for bare fallows be infested with weeds—annuals, as wild oats or mustard, it is advisable to plow shallow in the fall, or, better still, to cultivate, so that the fallen seeds may germinate and be destroyed. Otherwise bare fallows are brought into their best condition by commencing the plowing in spring. Plow with a strong, deep furrow. In about two months afterwards the weeds will have pretty good growth, and then plow again, reversing the furrows. This will suffice till midsummer; this is the time for the third or cross plowing. In this let the land be laid up rough, so as to be thoroughly scorched and to receive the ameliorating influence of the air. The rough ridges of stiff clay are afterwards broken down with cultivators and harrows, and having been mellowed by the cultivation and the summer dews and showers, they are in the very best condition for a seed bed to which a heavy clay soil is capable of being brought.

The beneficial results of a good bare fallow on such soils is experienced for some years. They are more easily cultivated, more permeable to light and heat and air, and consequently more productive. From a good wheat soil so cultivated, sixty bushels per Imperial acre were an ordinary crop, and much more has been realized.

Two objects, as we have seen, are to be obtained by the bare fallow, but only on heavy clay soil. On other soil the one object was the destruction of weeds, annuals and perennials; and of this the extensive cultivation of roots, with the accompanying half fallow, has obviated the necessity. The root crop is in reality a fallowing crop, with the additional advantage that no loss of a season's crop is incurred by it, as in the bare fallow. It cleanses the land from weeds, and renovates it. In order to obtain a good root crop, the land should have, when infested with weeds, a light fall plowing or cultivating. For spring plowing and culture there is ample time before the seeding, and after the seeding a summer cultivation is continued. So there is a fallow-culture progressing throughout. This, with the manure for the crop, must bring the soil into the very best condition. If we cannot at all times, after the root crop, have the land prepared in good season for fall wheat, the land will be in good order for spring seeding—wheat, or barley, or oats, as may be deemed best. In such instances, it is well to take the plow into the field and run furrows at a regular distance

apart, if nothing more, so that the water may run off early in spring, and an early seeding may be had. Land is greatly injured by stagnant water being allowed to remain on it for any length of time.

Besides the bare fallow and the half fallow mentioned, there is a method somewhat different. By it there is, with the fallowing, the growing between the times of plowing of such crops as, being plowed under, will ferment and decompose in the soil, being thereby good fertilizers. For this purpose the ground is thoroughly plowed in the autumn, that by the influence of the atmosphere and frost, it may be brought into as good state of tilth as possible. Some crop, such as rye or peas, is sown early in the spring. When this has grown to a good height, it is plowed under—it is not allowed to come to seed. Another crop is then sown—Hungarian grass, buckwheat, millet—whatever will make rapid growth and cover the ground. This is also to be plowed down as soon as it blossoms. By this method the land is freed from weeds and enriched by the green manuring, and is in good order for a fall crop; from it more than from the bare fallow you have no crop for the season. Both systems are designed to improve the soil and prepare it for future crops.

Rye for Soiling.

For soiling in whole or in part, the first consideration is how to provide sufficient green forage for the stock of the farm in the first weeks of the summer. By that time the stores laid up in the fall for the winter feeding are nearly or altogether exhausted, and it is necessary that cattle have some green food. If there be pasture enough for the stock, it is very injurious to it to be trodden down by cattle early in the season, and the young tender shoots of grass and clover plants, if eaten down in their first springing up, will not yield so much feed during the succeeding months. And letting cattle stroll on the roads and commons, searching for a scanty subsistence, will make dairying and stock-raising a losing business.

To provide food for stock for that season, which is the most trying time of the year, there must be some green crop for soiling, and in this climate the best, if not the only one, is rye. In Great Britain winter tares (or vetches) afford good cuttings early in May, but our climate compels us to use some hardier plant for early soiling.

Rye has peculiar value as a soiling crop. It is very hardy. It will stand the Canadian winters better than any other cereal. It grows rapidly, earlier in the spring than almost any other grass or cereal, and is earlier fit for cutting. It can be mown in the middle of May, and will give a welcome supply of nourishing food for the cattle—most needed by the milch cows. It gives a very heavy yield of fodder, growing from four to five feet high before it becomes at all too hard for soiling.

In order to obtain the earliest supply for soiling, rye should be sowed in September, but if this has not been done, it may be sowed in this month. It will not be quite so early as if sowed earlier, but it will give good soiling later in May, and where there are stock to be fed, an acre or a few acres will be a very profitable crop. If the rye crop for soiling be found to be more than is needed, it can be harvested and will pay as well perhaps as any other crop on the farm. Rye in the New York market brings a price not much lower than wheat, and if sowed on a good soil and with as much care, will produce a far higher yield than wheat.

To prevent horses' feet from cracking or scalding in summer, and enabling the shoes to be carried a longer time without injury, the French practice is to coat the hoofs once a week with an ointment composed of equal proportions of soft fat, yellow wax, linseed oil, Venice turpentine and Norway tar; the wax is melted separately before mixing.

Stock.

A PROFIT POSSIBLE IN THE FACE OF DEAR FEED AND CHEAP MEAT.

SIR,—A subject of daily increasing importance is that of the particular kind or breed of stock that the farmer shall keep, and the most economical and effectual manner of maintaining such stock.

When hay, last winter, was worth from \$18 to \$25 per ton, and turnips from 18 cts. to 25 cts. per bushel in the market, on the one hand the temptation was very great to sell off a far larger amount of good feed than should have been removed in the interest of the land, whilst on the other, farmers, with the low price of beef staring them in the face, were forced to look very closely to the rigid economy of their feed on hand.

Our own experience has, however, been that notwithstanding the combined agencies of short and high priced feed and flat markets, the driving of our produce to the market in the shape of beasts, was far more profitable than would have been the selling of hay, straw and roots. But the fact was also forced upon our attention that this state of affairs could not have existed had not our cattle been well bred, warmly housed and regularly and systematically attended to. We will quote an instance to prove our assertion:—

At our market town straw was worth \$12 and turnips 18 cts. We bought two heifers for \$20 a piece, both in calf, in fair order, on the 30th day of November last. We fed them on barley straw and turnips, stabling them well and warmly. They were fed at the rate of 14 lbs. of straw per day, cut, and 45 lbs. of turnips, and were sold on the 25th of March for \$50 and \$48 respectively.

We calculate that it is worth \$4 per ton to draw our straw to market, a distance of eight miles, and turnips cost to market 7 cts. per bushel. The value then of straw (barley) in the barn was \$8 per ton, and turnips 11 cts.

Our account stands thus:—
To original price of two heifers \$40 00
4 months at 14 lbs. straw a piece per day—3,260 lbs. at 40 cts. per 100 lbs. \$13 04
4 months at 45 lbs. turnips a piece per day—10,800 lbs. turnips at 11 cts. per 60 lbs 19 80

Total cost of feed. \$32 84
SUMMARY.
Cash received on 25th March. \$98 00
Original cost. \$40 00
Cost of feed. 32 84

Total cost. \$72 84
Cash Profit. \$25 16

We consider this as an actual profit, for if we be inclined to charge for interest on the original purchase money, the labor of feeding and the wear and tear of the straw and turnip cutters, we think that we may fairly credit as a full set off the amount of manure made by these two animals.

These animals brought us a high price in March, far higher than most of our neighbor's stock at the same age could command, and why? They received no more food than our neighbors' cattle, but they were well bred, systematically, regularly and economically fed, comfortably housed, and disposed of at once when a fair and profitable price was offered.

This profit was made in the face of high feed and low prices. What can, then, be done when our feed is cheap and plentiful and prices equally high—as is generally the case in Canada? From this little instance we would beg our farmers to deduce the following golden rules:—

1. Have none but good grades around the premises.
2. Feed them economically, and never waste a straw.
3. Feed them regularly and at stated intervals, so that they never lose flesh by pining.
4. Provide their food in the manner most easy to digest, by cutting, and, better yet, by steaming.
5. Provide warm accommodation, for warmth in winter is an equivalent to so much food.
6. Be gentle and kind to them; the loud-voiced brutal feeder takes many pounds of flesh from the beast in four months.
7. As a subdivision of No. 2—Never give them quite as much as they can eat.

We could on the 1st of April buy beasts the same age as those above mentioned for \$30 or \$40, which have cost twice as much to winter as those for which we a week ago received \$50, for they required extra feed to keep up the animal heat, and wasted probably a little more than they have converted into flesh.

The Sheep Bot-Fly.

SIR,—I have lost 21 lambs out of a flock of forty. With some desire I have examined them but can't find out what is the matter. Some tell me that it is grub in the brain, but on investigation I could not find any. They die very sudden. Some live two or three days after taken with it. They seem stupid and want to stick their heads in the fence. They are fine, thrifty lambs. If you, or any of your many readers, can inform me of the cause, you would confer a great favor on a new subscriber. I like your Advocate very much, it is worth five times its cost to any farmer.

JOHN ANDERSON.

Sweabourne P. O. August 28, '75.

[For grub or sheep maggot we think this article may be safely relied upon. From the description given, we cannot say definitely if it is the disease, but it seems probable that it is.—Ed.]

All sheep growers know of the insect which bears, in addition to the name Sheep Bot-Fly, the titles "Head Maggot," and "Grub in the Head" (*Oestrus ovis*—Linn.), though but few, comparatively, know at sight either the grub or mature insect. The fly is described by Riley as being somewhat larger than a common house fly; of a dull yellow color above, marked and variegated with brown; eyes purplish brown; under side of head puffed out, and white; feet brown; wings transparent, and extending beyond the body. It

having an average width of three-fourths of an inch. Each sinus at the point nearest to the eye opens into the posterior part of the nasal cavity by a large but tortuous canal which opens downward (i. e. toward the back part of the roof of the mouth) and a little forward. Now, when the fly deposits its larva in the nostrils, they crawl back through the nasal cavities, and through these canals into the sinuses, where they live until the following Spring, by which time they have attained their full size. During this time the grubs feed upon the mucous matter in the sinuses, and cause a considerable irritation of the thin mucous membrane which lines them. The stories occasionally told of the grubs penetrating the brain are in all probability fabulous; the real injury, I apprehend, arises from the communication of the irritation of the membranes of the sinuses to the other membranes of the head. When full grown the grubs crawl down the canal and through the nostrils, falling to the ground, in which they bury themselves. Here they undergo their final transformation, changing first to the pupa state and emerging in June and July as the perfect winged fly ready to go on providing for a new brood of grubs.

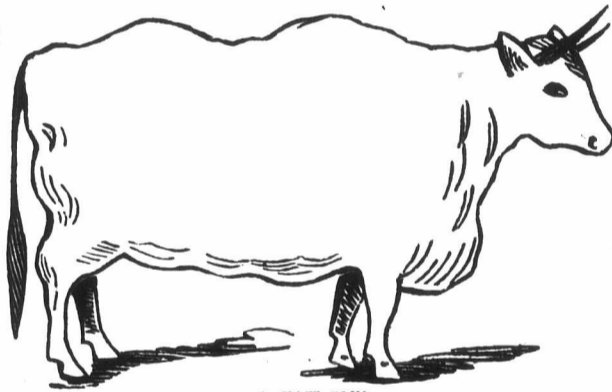
Tar is the remedy which seems to be most relied upon, for the reason, perhaps, that it is the easiest of application, while at the same time it is measurably successful. It is often daubed upon the nose of the sheep during the time of the deposition of the young grubs, that is, in June and July. It is also sometimes daubed in the trough to which the sheep resort for salt; in this case the tar is best applied to the edge of holes bored in the bottom of the trough, and into which salt has been put; the sheep, in trying to get the salt, will very thoroughly tar their noses. Some sheep growers provide dusty places in their pastures, to which the sheep may resort. A furrow or two in several places in the field will do. When the fly attempts to deposit its larva, the sheep escapes by thrusting its nose into the dust. Some have tried giving the sheep something to make it sneeze, hoping thus to dislodge the young grub. While this might dislodge the young grubs, when still in the nasal cavities, it could not possibly do so after it had reached the frontal sinuses. Others again have made the horrible suggestion that a wire be run up the nostrils, and the grub thus dislodged. This is as useless as it is cruel. It is absolutely impossible to run a wire up the nostrils into any part of either sinus.

The practice of some men, and I hope of but few, of shutting up a large flock of sheep in a tight room for many hours, expecting that the bad air and heat will dislodge the grubs, must be emphatically condemned as cruel and useless. The same must also be said of the practice of burning brimstone in a tight room, in which the sheep are kept for some hours and made to breathe the poisonous fumes. The simple fact is, that such insects can endure many times more of these sulphur fumes than can any warm-blooded animal. I make the following suggestion: As the bone over the frontal sinus is thin, let some of our sheep-raisers make this experiment: Take a sheep known to be troubled with "grub in the head;" make a half dozen applications of some strong and penetrating liniment, right over the sinuses, and then in a few days kill the sheep and examine into the condition of the grubs. It is possible some application can thus be found which will kill or drive out the grubs, although I must confess to a pretty strong unbelief.—[From Prof. C. E. Bessy's Report to Iowa Agricultural Society.

A Fat Cow.

At the Guelph Exhibition held last week, one of the most remarkable animals was a fat Hereford. She had taken the first prize last year, and she has been fattened out of all proportion; the poor beast can hardly stand. We had this cut made of her to give you some faint idea of her outline. She had taken on fat on the back at the points indicated so as to bring one in mind of a domed arch; the hindmost lump was about three inches lower in the centre of the back than on the sides. We think this animal was more disfigured with fat than any animal we have seen.

In this district we are, at present, experiencing a succession of heavy showers, which can do no harm now, seeing that the crops are nearly all in, or should be.



A FAT COW.

is viviparous; that is, instead of laying eggs, as most insects do, it retains them in its body till they hatch, when they are laid as minute grubs.

Observations upon this point (the laying of the grubs) are of course quite difficult to make, so that it is not to be wondered at that some still assert that the fly deposits eggs, while others assert with equal positiveness that the grubs are laid. I have myself not been fortunate enough to witness the operation, but having seen other flies lay larvae, or hatched eggs, I am quite prepared to accept the statement in the case of the species under consideration. It can readily be seen to be much to the advantage of the young insect to begin its life in this way, rather than to exist for a time in the egg state. This will be made plainer by closer examination. In early summer the flies appear, and begin laying their young in the nostrils of the sheep; these grubs or maggots are quite lively, and soon wriggle their way upward through the nasal passages into what is known as the frontal sinus. Now it must be admitted that an egg would be much more easily blown out by the sheep than would the active little maggot, which begins to work upward as soon as deposited.

The frontal sinus of the sheep includes two large, irregular cavities in the frontal or forehead bone, situated between the eyes. There are two cavities, one on each side of the middle line of the head, so that they are mates; but they are not directly connected, but are separated by a strong bony partition. If a line be drawn from the middle of the right eye to the middle of the left, these cavities will be found back of and above it, beginning at a point half an inch from the edge of the bony surroundings of the eye, and running transversely to the middle line of the head, and

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Notes on the Garden and Farm.

English Ivy.

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

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

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

Poultry in Orchards.

The Massachusetts Ploughman says:—

Some farmers make it a practice to keep their poultry in their orchards from early spring until cold weather sets in, and they find it pays them for so doing. A picket fence should be built around the orchard, high enough to prevent their flying over, with a suitable house or shed in one corner of the yard to shelter them at night. Thus situated, the poultry will thrive and prosper, keeping themselves in good condition, and the increase in eggs will be greatly augmented and their usefulness and value enhanced to their owners at least, on account of the thousands—myriads of insects and worms which they destroy, and which will more than repay the cost and labor of building the fence. By keeping them enclosed in this manner, a large number of fowls may be retained in an orchard; and the continued scratching which is done by them will prove advantageous both to the soil and the trees themselves.

NATIVE PLANTS IN HANGING BASKETS.—No one need be deprived of hanging baskets on account of remoteness from greenhouses, or inability to purchase greenhouse plants. No baskets are produced more exquisite than can be made by judicious use of the plants found in the forests and fields. The basket itself may be made of woven twigs, the end of an old keg covered over with rustic branches and roots, or the steel springs of a superannuated hoop skirt. Then, for filling, the forest furnishes abundance of moss, rich, light soil, ferns, partridge berry, saxifrage, and all the immense variety of other plants which love to nestle in its shades, or seek its open, sunny banks.—*Cor. Country Gentleman.*

INTERESTING TO DAIRYMEN.—At a meeting of milk producers in Massachusetts, some time since, a Mr. Wetherell stated that cows, upon an average, need forty-five pounds of hay per day, or its equivalent, whilst giving milk. That large cows produce more milk for the amount of food given, than small ones. That scrub cows give annually 1400 quarts of milk, whilst the Holstein and some other breeds will produce 4000. All cows should be kept clean, as well as their surroundings. In producing winter milk, cows without grain will do nothing.

THE HORSE AND HIS RIDER.—M. Perret, a French pharmaceutical chemist, has discovered a very simple and economical method of saving horses, particularly when they are not in motion, from being tormented by flies. It consists in merely rubbing them with a little concentrated oil of laurel, which is extremely disliked by the flies. The oil should be specially applied to the parts where the flies usually settle. With about three-pennyworth of this oil a horse can be anointed for three days. There is not the slightest danger in using it, and, indeed, its slightly stimulating action is beneficial to horses, and keeps their coat in good order. This expedient may also be usefully replaced by a solution of sixty grammes of asafetida, mixed with one glass of vinegar and two of water. The strong odor of the asafetida drives away the flies, and if horses be well washed with this, not a fly will settle on them. No apprehension need be felt in using the asafetida, which has no deleterious properties.

A WONDERFUL FLOWER.—One of the most exquisite wonders of the sea is the oplet, a flower resembling very much the German China-Aster. It has the appearance of a large double aster, with a quantity of petals of a light green color, glossy as silk, each petal tipped rose-color. These lovely petals are never still, but wave about in the water, while the flower clings to the rock. So innocent and lovely looking, no one could suspect it of eating anything; certainly, if it did, only a bit of rainbow or a drop of dew. But those beautiful waving petals have other and more material work to do—to provide food for a large mouth, which is cunningly hid deep down among them. They do their duties famously; for, as soon as a silly little fish comes in contact with those rosy tips, he is struck with a poison, fatal and quick as lightning. He dies instantly, and the beautiful arms wrap themselves about him, and drag him into the greenly mouth. Then those lovely petals unclose and float innocently on the water, just like our water-lily. This flower was long ago talked of, but its existence doubted until the last century. Now the oplet is known to be a thing that really exists.

The Green Fly in Plant-Cases.

Much the easiest and completest way of keeping these sap-stealing and destructive vermin in check in crowded plant-cases, is to use the fumes of tobacco. These will penetrate every crevice, and reach every hidden aphid without the handling of a pot or a plant, requiring only the use of a good syringe to shower and wash the foliage after the fumigation.

Put in a small case it is quite difficult to get up smoke of sufficient density to be effective, without evolving a damaging amount of heat from the coals which it is necessary to use—as a few coals will not sustain fire enough without flame, which is deadly to the plants. And smoke from a fumigating bellows is not sure to reach every insect, but is sure to annoy the operator and pervade the room with the unpleasant odors of the burning weed.

After two or three victories, bad as defeats, in campaigning against these marauders in the recesses of a plant-case, I caught a happy suggestion about "touch," which opened the way to full success by so simple and so beautiful an operation, that I now almost sigh for more aphides to conquer.

I made some touch-paper by soaking soft felt-like wrapping paper, or the thinner sort of blotting paper, in a solution of saltpetre, and then allowing it to dry. Taking a strip of this, three or four inches wide and twice as long, strewing shreds of tobacco all over it, and rolling it up from one end into the shape of a giant cigar stump or a tiny roly-poly, I had a quasi cartridge, one of which proves sufficient to destroy every aphid in a 6 by 3 feet window case. A bit of wire serves to hold it together and to hang it by, and there is nothing more to do but to touch it with a light and to close the window, laying wet strips of paper on the joint, if necessary, to keep all smoke out of the room. The fumes pour incessantly and copiously from the ends of the cylinder, rise to the glass, and then fall cool among the foliage—sure asphyxiation to every one of the robbers.

This is a peculiarly eligible method for a small case; but in a large plant house, hot coals can be used in sufficient quantity to maintain dense fumes for half an hour if desired, without risk of burning the plants.—*Country Gentleman.*

Poultry Yard.

Feeding Chickens—the Use of Troughs.

Theoretically the feeding of chickens on the ground may answer very well, but practically such a course is open to serious objection. The great benefit supposed to be derived from feeding on the ground is that the chickens pick up with the food more or less sand and grit, which aids digestion.

This is the only advantage we have ever heard claimed for this method of feeding, except that it is "handy."

The sand and gravel argument, however, amounts to nothing, since these can otherwise be easily provided, and, in fact, they usually are in every well regulated poultry establishment.

It matters but little how wide a range is given to poultry, they naturally congregate at particular places at certain times in the day for their accustomed food, and it would be a useless task for us to attempt to keep clean enough for feeding the ground over which they tramp so continually. Neither is it always possible to toll them a short distance to clean ground, even if the space at command would permit. But even when the ground is as clean as we would wish, if the food be thrown on it the strongest fowls or chicks get the first and best of the rations, while the weaker are compelled to eat what has been tramped over and more or less soiled. They cannot relish such food as they would that which is fresh and clean, and therefore eat merely enough to keep themselves from starving. So, of course, they cannot thrive, but must remain the weak and profitless members of the flock.

All this may be avoided by placing the food in shallow troughs, so arranged and covered that the chicks can help themselves to what they want without trampling the contents; and in case any should be left over, it may be kept clean in the trough or taken away and saved until the next feeding.

Such shallow wooden trays as we recommended in June last, for holding water vessels for chicks, should be used. They keep the food clean and prevent waste. They are made about seven inches wide, one and one half inches deep, and from one to three feet long, as may be most convenient. On each corner of the tray or trough is nailed a strip of lath, which serves as a leg to raise the trough an inch or two from the ground. These same laths extend above the upper edge of the trough about two and one-half inches, and from the top of one to another are tacked other laths, thus forming a frame, on which a board is laid for a cover to shade the food beneath, as well as to keep the chicks from trampling it, the food being reached only from the sides and ends of the trough beneath the cover.

A flock of thirty or forty half-grown chicks will feed nicely from two such troughs of three feet each in length.

Chicks of this age should not be fed too often. Liberal feeding has been so persistently preached to beginners, of late years, that many seem to have been led to think the perfection of liberality is to keep up such a constant supply of food that the chicks may never know what it is to get even a little hungry.

"Many and many an amateur splits on this rock, feeding his chicks as often when six or eight weeks old as he did when only say a fortnight out of the shell, and thus never giving them time to get any real appetite, without which nothing will healthily grow. It is very well to feed newly hatched birds say every two hours, though even then it is not very well unless care is taken that not a scrap of food be left after each feed, but the whole two hours passed with no opportunity of eating anything but grass, insects and so on. That is the great secret, the patent process; if any have not thought of it, let them begin now, and after each feed of the little chicks, unless they have to be left for some time, scrape all remains of food away. But as they grow the time must be extended, and at two months old they ought not to be fed oftener than every four hours. It not only saves trouble and food, but makes larger growth. Water, on the contrary, will, of course, be always by them, and let it be always fresh, always clear, always cool."—*Prairie Farmer.*

Ducklings need food every two or three hours. A little wheat middlings is good to mix with the meal; and they should be confined in a pen until several weeks old, and not allowed to have access to water, except in a pan or saucer for drinking.

Stock and Dairy.

The Sussex Cow.

The *Agricultural Gazette*, in speaking of the Southern Counties Agricultural Association Show, at Corydon, Eng., says of the Sussex breed:—

The Sussex classes, in that this breed has no other such a gathering, were probably the most interesting of all the classes of cattle. Huge red beasts these are, heavily fleshed, upon large frames, with no deviations many have from the red color, except as to the tip of the tail, which was generally white. These seem likely to be the red breed of the future, at all events for dry counties. Their hair was generally harsh, and their skins thick. There can be no question that these animals can face wind and flies, and maintain themselves in condition with ordinary treatment. It is not probable that any intruder will drive these out of the district which they now hold. Their size, for age, is of the largest, whether as calves or yearlings; indeed, such big calves were not to be found in any other classes. That the breed will stand wet, or forage for themselves upon hill pasture, cannot be foretold; but that, in the eastern side of England, especially where oxen are worked—and it seems probable that work-oxen will become once more common—no breed has more useful qualifications.

That they are a cross, and have Devon and Short-horn blood, seems certain. Possibly this cross is the reason of their great growth and stature. It may be that the introduction of fresh blood took place beyond the period of the recollection of their present owners. Yet there are sure and certain signs that some herds have more Teeswater, and some more Devon affinities; but all have also a "tertium quid" belonging to another stock, which makes this a distinct breed now, whatever it may have been once. Happily they are not "fancy stock" as yet. It is to be hoped that breeders will resist lustily any attempt to convert them into rivals of parrots and lapdogs, and white elephants.

In the class for old bulls eleven appeared; and of these six were not much over two, and none much over three years old. It is probable, therefore, that the public has not yet seen the stature this breed can attain at full growth. The cows would indicate that enormous steers can be raised from them. The prize list will give the names of the winners. Nearly 100 animals were shown in the classes. No other breed had such numbers, nor did any sheds hold so many lookers on as did those occupied by the Sussex breed.

Alderney Cows.

Alderney is well known for the breed of good cows which bears its name. These are so called probably because the first ones exported were from that island, although now very few that are sold as Alderney cows are directly from there. Those of that breed actually exported from these islands are generally from Jersey, where the cattle are much the same as those of Alderney, small, with tapering heads, and of a delicate fawn color. The Guernsey cow is esteemed by some even more highly than the Alderney; it is rather larger, and more of a red, brindled, in color. The cows are milked three times daily, and the milk is churned without skimming; one pound of butter a day is by no means an uncommon yield for a good cow. The cow cabbage is made to reach a size so large that the leaves are used to wrap the butter in for market, while the stalks are varnished and armed with ferrules and extensively used at St. Helier's for canes. The cows are very carefully coddled. The grass they feed on is highly enriched by the vrac, a species of seaweed gathered from the reefs at low tide. There are two vrac harvests appointed by the government, one in the spring, the other in August, although it is gathered at other times in small quantities. All hands turn out in the season with boats and carts, frequently at night, and it is a very lively, picturesque occupation, though often attended with risk and loss of life from the overloading of boats or sudden rise of the tide.

The cows are always tethered when feeding; they eat less in this way, really giving more milk than if glutted with food, and while they are cropping the grass on one side of a field, it has time to spring up on the other side. When they have done eating, they are at once removed from the sun into the shade. The breed is preserved from intermixture with other breeds by strong and arbitrary

laws very strongly enforced. No cattle are allowed to enter the islands, except for slaughter, within a certain number of days, with the exception of oxen for draught.—*S. G. W. B., in Harper's Magazine.*

Guernsey Cattle.

From time immemorial the island of Guernsey has been famous for its breed of cattle, and a very just reputation it is, for there are few localities in Europe, and certainly none in her Majesty's dominions, where a more jealous care has been observed to prevent the mixture of foreign element. Of course, the isolated position of the island has greatly aided the inhabitants in their endeavors; in fact, we doubt if any but a locality so situated could for so long a period have preserved a breed so intact. The cattle are larger and more valued than even those of Alderney, the name of which is so familiar throughout England. They are exquisitely delicate in form; colors varying from light red to fawn and dun, with a few black, each generally with white intermixed. The head is long and handsome, eye large and prominent, horns gracefully formed. For flesh-giving qualities they are profitable, and for dairy stock they are truly excellent, yielding on the average, if properly fed and cared for, 1 lb. of the finest butter per day throughout the year. The size is a fair average, and doubtless the breed would be much larger were it not for the peculiar treatment they have ever been subject to. The farms of the island being limited in size, it is found necessary to tether the cattle, whereby they lose much of that exercise and freedom which would tend to larger growth. They are also by this means too frequently exposed to excessive heat or cold, without the possibility of choosing the necessary shelter. Notwithstanding these drawbacks, it is really remarkable how well the animals have thriven. So great is the demand for this breed that, on an average, seven hundred cows and heifers, with about a dozen bulls, are annually exported.

Lice on Stock.

I will admit that kerosene oil will kill lice. A certain housewife killed all the cockroaches in her pantry by applying kerosene to the shelves, and then touching it with a lighted match. The new house cost about \$1,500. In like manner may any one kill the lice and stock too. Such a remedy should not be used for any such purpose. Neither can any one afford to make soap at the expense of the suffering which it would be likely to cause your stock should they become wet from any cause. Such recommendations are outrageous, and a disgrace to civilization. Any kind of sheep oil, with attention and an occasional soap-suds washing, is good, and will usually destroy all the lice on stock. Good keep, pure air and water, are among the chief enemies of all parasites. One of the best applications for the destruction of lice on stock of any kind is two drachms of pulverized arsenic, mixed with a full quart of soft water. Use a moderate-sized sponge, and keep shaking the bottle while using. Rub it to the roots where the lice are the thickest, and be sure to find every location of the pests. This is a powerfully acrid poison, the nature of which I perfectly understand, and I recommend it from experience. There is no danger from licking, as the animals can only lick certain parts, and usually not where the lice locate; and should the whole two drachms be licked off in a few days, neither horses nor cattle would be the worse of it. Young stock, of course, require much less.—*Wm. Horne, V. S., in Country Gentleman.*

Success with Sheep.

There have been indications for some time and from various quarters, that wool is going to advance in price. The demand appears to be heavy in England, and this affects our own market. We have watched the sheep and wool business for 20 years, during which time there were several panics, sheep being butchered for pelts and tallow, but immediately after prices rose, and then every sheep was saved. Meanwhile, those who kept on steadily and sold at the going prices have done well, while those who held wool over a year or so thereafter were well paid. The truth is, there is no better business, year after year, than that of sheep husbandry, for the reason that the increase of our population is so constant and great as to keep up a steady demand for all kinds of woollen fabrics. As it has been in the past, so it is quite likely to be in the future, and those who have sheep may safely get more. But let not inexperienced men rush in, for complete knowledge is required and constant

attention. The best way to get a good flock of sheep is to raise them, because there are but few chances to buy such sheep as will pay to keep, unless at high prices. He who has good sheep knows it as well as anybody else, and as a general thing, if he offers to sell sheep they will be culls. A beginner should buy a few good American merinos, say from twenty to fifty, and if they are really good—that is, young and free from disease—there is more increase and money in them than in a flock of 500 culls, old, scabby, and otherwise unsound. In fact, such sheep are not worth the feed required to winter them, and the best use to make of them is to send them to the butcher, if such a thing is allowable.

By commencing with a few sheep a pains-taking man can learn how to manage them as fast as they grow, being like some school-teachers, who learn as fast as their scholars do. It will take from three to five years to learn the sheep business, and by that time the flock should be of respectable size. We hardly know of an instance of young men going blindly into the business with 500 head who have not lost their whole investment.—*New York Tribune.*

Selection of Lambs for Breeding.

A Western New York correspondent of the *Chicago Live Stock Journal* says:—

By keeping only the best ewe lambs, a continual improvement in the style and quality of the flock may be expected, provided always that good rams are used. Therefore all lambs to be reserved for breeding should, if possible, be put, at the time of separation from the ewes, into a separate pasture from the rest of the flock, putting in with them a tame, dry ewe or a wether, so that they can be taught to come readily at the call. Many breeders put a trough into the pasture where the lambs are put for weaning, and they are fed bran or oats once a day, until winter. Such men always have sheep that shear heavy fleeces, and they do not lose any lambs before spring from anemia, or "pale disease." But if the lambs are put into clover or other pasture that is up to their eyes, they do very well without the bran. The ewes should be put into rather short feed for a few days after the lambs are taken away, until the flow of milk has ceased, and they have become dry. Then let them be thoroughly overhauled and examined; and all whose teeth are getting narrow and loose, and those that do not produce good lambs, should be separated from the rest and put into good feed, so that they can be fattened for the butcher. Usually there are enough yearling and two-year old ewes that have never had lambs to take the place in the flock of the old and unprofitable ewes, so that the flock can be kept up to the required number. If the selection of the breeding flock is left until later than August, the hollow places of coarsely built sheep become so filled out with wool that it is much more difficult to throw out those that are not perfect in shape, and as a consequence, the flock of lambs is apt to be somewhat uneven. Indeed, some prefer to select their breeding ewes at shearing time, rather than later.

Contour and Quality in Breeding Cattle.

Dr. Sprague, in a paper read before the American Short-Horn Breeders' Convention, at Cincinnati, stated the points in breeding as follows:—

To learn a trade is to learn to do things precisely upon the same general principles, and up to the same general standard that experts in the same trade attain to. The principles are simple, though the parts are complicated. So of the Short-Horn beast. He is merely a machine for converting crude grain or grass into bone, muscle, adipose matter, and hair; and the whole secret of excellence—the superiority of one beast over another—consists in his ability to convert the most crude food in a given time into the finest quality of the tissues named, so distributing these as to give us a roomy frame of bone in the parts where we want room for the vital organs, and for the choicest cuts, and thick, fleshy, well-marbled roasts, and broad, well-marbled steaks, in the parts where the best fibre is produced. Such a conformation should be secured as will answer these ends as effectively as the engine is expected to generate steam through the consumption of fuel in the furnace.

The conformation of the trunk of the cow is a subject worthy of very careful study. The bony frame is of secondary importance, the vital organs within being of the first importance, and the size and vigor of these, if accompanied by a liberal dis-

tribution of cellulose ensures a rapid of particles, and the os tissues. Liver, and give si width to the bos most importance, face. From this we consider the i the air cells of t tended surface in a large surface in results.

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The third a we will treat whilst striving of the carcass point—the the that are to be of texture is and the excel viz., fair size meat, are the estimate of a tion is, that a high flavored idea, proved We couple tv cure well-for if the parent will general have dark, u and all the p same, unless having light

For the where it is p for next sea statements receipts of and truthfu turns as thi generally, c probably a mon or po during win in operatio to Oct. 31s the cow sh 300 pounds will receive more the c making fro worth from Much be receipts of figures.—

tribution of cellular tissue throughout the system, ensures a rapid conversion of food into nutritive particles, and the deposition of these into the various tissues. Large lungs, a large heart, stomach, liver, and give size and rotundity to the trunk and width to the bosom. A large stomach is of the utmost importance, because furnishing a large surface. From this the gastric juice issues, and when we consider the inner surface of the stomach, and the air cells of the lungs, we must prize an extended surface in those organs as highly as we do a large surface in a steam boiler, if we expect great results.

Two of the worst faults in the construction of a Short-Horn are the following, viz.: The ribs starting from the spine in a downward direction, giving a wedge shape to the upper third of the chest; the other is a long rib deficient at the lower end, causing a curve upward in the lower line, immediately back of the fore legs. We doubt if any other two defects are so hard to breed out as these. A drooping rump or low carriage forward may be brought up in one or two crosses, so that with after care they may not reappear; but the defects in the chest pointed out above depend upon deficient vital organs within. It is much easier to raise one corner of a house that droops than to remodel the inner walls and fixtures; so it is difficult, even by several well-advised crosses, to plant large vital organs in the offspring where deficient even in one of the parents. The reorganization and enlargement of heart, lungs, stomach and liver, require many discreet crosses to accomplish.

Passing from the chest backward, we would call attention to the importance of the short ribs being long and standing out horizontally from the spine, forming a level plain forward of the hips. This broad, level loin generally keeps company with a round, deep chest, and is a point of excellence that should always be sought. When we reflect that in every inch of additional width we get in the rear third of a beast, we secure what would be represented by a section or cut one inch in thickness, and extending from top to bottom, and front to rear of the hind quarter—a pretty good slice, the cook would say. The hind quarter that holds its width well back carries a large amount of meat not represented in the quarter that narrows in rapidly from the hip back. A perfectly symmetrical or organized frame, with the fleshy part so well distributed and packed as to make it difficult to tell where one portion of the carcass ceases and the next begins—this is the goal to be aimed at.

The third and last part of our subject, 'quality,' we will treat very briefly. No intelligent breeder, whilst striving to increase the depth and breadth of the carcass, loses sight of the equally important point—the texture of those parts of the animal that are to be consumed as human food. This idea of texture is never lost sight of by the fruit grower, and the excellences that fix the value of an apple, viz., fair size, smooth surface, and tender, juicy meat, are the three things upon which we base our estimate of a Short-Horn. Now, the common notion is, that all animals that handle mellow have high flavored, tender flesh. This is an erroneous idea, proved so every day upon the butcher's block. We couple two animals together, expecting to secure well-formed, ready feeders in the progeny, and if the parents possess this fattening tendency, they will generally transmit it. But if both the parents have dark, unsavory flesh, they and all their get, and all the progeny after for all time, will have the same, unless modified and improved by new crosses having light colored, savory flesh.

Profits from Dairying.

For the benefit of farmers in neighborhoods where it is proposed to establish cheese factories for next season, it may be well to give some general statements as to what may be expected. Annual receipts of from \$50 to \$100 per cow are reported, and truthfully, by some dairymen, but such returns as this are not to be expected by farmers generally, especially at the first. The following is probably a fair average, for average cows, on common or poor grass, and with only ordinary care during winter. The cheese factory should be kept in operation at least six months, say from May 1st to Oct. 31st—or say 180 days. During this time the cow should give 3,000 pounds of milk, making 300 pounds of cheese. For this milk the farmer will receive from \$27 to \$30. During three months more the cow will give say 1,000 pounds of milk, making from thirty to thirty-five pounds of butter, worth from \$6 to \$10.

Much better than this is done by many, but the receipts of many fall considerably below these figures.—*Western Farmer.*

A New Food for Horses and Sheep.

A favorite and rather a new kind of mash for horses is coming into use, composed of two quarts of oats, one of bran, and half a pint of flax seed. The oats are first placed in the stable bucket, over which is placed the linseed; add boiling water, then the bran, covering the mixture with an old rug, and allowing it to thus rest for five hours, then stir the mass well up. The bran absorbs, while retaining the vapor, and the linseed binds the oats and bran together; a greater quantity of flax seed would make the preparation too oily and less relished. One feed per day is sufficient; it is easily digestible and is specially adapted to young animals, adding to their volume rather than to their height—giving substance to the frame. Professor Sanson reminds us not to overlook the food, in the nourishment question in connection with the amelioration of live stock. He considers oats, as so generally given to sheep, as objectionable, and approaching the unprofitable; rams generally receive one pound of oats daily, ewes half that quantity. Oats, forming an exciting food, are especially suited for rams during the season when they serve, but for hastening the development of young sheep, they only build up the bones, not the flesh.—*California Farmer.*

Clyde Horses.

The London *Field* says that Clydesdale breeding in Scotland has grown in popularity, and is apparently increasing. The Clydesdale is admittedly the best sire for a farm stud. The great rise in the price of horses has stimulated farmers in breeding, and the encouragement given to this valuable breed of horses by the Glasgow Agricultural Society has aided in the improvement of the Scotch farm horses. The best animals in the country are annually attracted to the Glasgow meeting, and there the agricultural clubs throughout the country have facilities for selecting worthy sires, which are nowhere else obtainable.

Weighing Cattle by Measure.

The following are rules by which the weight of cattle can be ascertained approximately by measurement:—

Take the length of the back from the curve of the tail to the fore-end of the shoulder-blade, and the girth around the breast just behind the fore legs. These dimensions must be taken in inches. Multiply the girth by the length and divide by 144. If the girth is less than 3 feet, multiply by 11; if between 3 and 5 feet, multiply by 16; if between 5 and 7, multiply by 23; if between 7 and 9, multiply by 31. If the animal is very lean, one-twentieth must be deducted, and if very fat, one-twentieth must be added. Another rule: Take all dimensions as before, in feet, and then multiply the square of the girth by the length, and that the square of the length will be pounds. If product by 3.36. The result will be pounds. If you desire to know what an animal will dress, multiply the live weight by the decimal .065: the product approximates to the actual net weight very closely.

Stable Floors.

Upon the proper arrangement of the floors of stables depends much of the comfort of the stock and economy in saving manure. Nothing is more detrimental to the health of farm animals than foul earthen stable floors. They are saturated with liquid manure, they are always damp, an unhealthy mould smell constantly pervades them, and millions of the germs of possibly poisonous fungoid growths are constantly inhaled. It is no wonder that there are in consequence constant blood disorder or bronchial or lung diseases. Besides, the appearance and the comfort of the animals are sacrificed, because cleanliness is impossible under the circumstances. We very early in our experience discovered this, and for many years were constantly experimenting to discover the best stable floor. There are two, of which we can hardly determine which is the better. One of these is a double plank floor. The bottom plank is of hemlock—which is as good as any if kept dry, and is the cheapest—ten feet long and two inches thick, is for single stalls. This lower floor being laid, is well saturated with hot gas-tar, and the upper layer of plank, also of hemlock, which under these circumstances is durable, and which does not become so smooth or slippery as oak or yellow pine, and is therefor safer, is laid upon it. The planks are first coated upon the under side with the tar, then laid so that the joints are broken and finally firmly spiked down. These planks should be 1½

inch thick and 7 feet long. They form the bed of the stall, of which 2½ feet are occupied by the feed-trough, and 4½ feet give standing room for a cow. At the ends of this bed or floor of the stall is a depression 1½ inch deep, into which all the manure drops or drains. This may be made of any width that is desirable. When the stalls are single two feet is a sufficient width, with a sidewalk of one foot wide. If the stalls are double, four feet give plenty of room. The depressed portion of the floor should be kept well coated with gas-tar and sprinkled with sand while the tar is hot. The tar is a great preservative of the wood. Such a floor is quite impervious to water, and is equally good for a hog-pen as for a cow-stable. For horses, the floor should be laid with the best white oak, hemlock being too soft to stand contact with the shoe calks.

The other floor is the cobble-stone and cement floor. The floor being graded with a gentle slope, or half an inch to a foot, is paved with cobble-stones selected for evenness of size and for their shape, which should be that of an egg with one broad and one pointed end. The smaller end is laid in the earth and the broader one uppermost. They should be well rammed down, and when the floor is laid all loose sand is to be swept off from it. The finishing of the surface is thus performed: One part of good hydraulic cement and seven parts of sharp sand are well mixed dry, and then water is added sufficient to make a thin mortar. This is thickly spread over the paved floor and worked into the spaces between the stones with an old stiff corn broom. It is laid on thick enough to fill the spaces evenly, and with the bottom a fair smooth surface is formed through which only the tops of the stones are seen. A thin wash of pure cement is spread over the whole, and it is left to dry. The next day a coating of hot gas-tar is laid upon it until no more is absorbed, and fine sand scattered upon it. Then we have a floor which will last indefinitely if only care has been taken to make a solid foundation and to ram the stones down solidly. It is entirely rat-proof, dry, and therefore healthful. This floor is also pig-proof, and suitable for hog-pens which have nothing beneath them but the ground. It is obvious that this paved surface is solely a ground floor, and can not be used over a cellar.—*American Agriculturist.*

The Great Short-Horn Question.

From a long and able article on this subject in the last number of the English *Live Stock Journal and Fancier's Gazette*:—

We consider it no part of our duty to decide between any rival strains, or to pronounce upon the degree of credit to be attached to various statements published as Short-Horn history. It has long appeared to us that the aggressiveness often charged upon admirers of Bates, is fully equalled by advocates of the supposed contrary lines, and that as the real question between these may be said very much to resolve itself into one as to the value to be attached to "handling," it would be far better to argue it out, if at all, on that general ground. We cannot but consider it a real misfortune for both the memory and reputation of the great Kirklevington breeder, that the only professed history of his herd and proceedings should have assumed such an unfortunate character as it has done, and by its too evident partisanship and inability to distinguish between what is evidence and what is not, thrown much doubt even over what may be really true, and added tremendously to the difficulties of those who desire, for their own guidance, to ascertain the real facts. We cannot but express a hope that some admirer of Mr. Bates, of adequate knowledge, some literary ability and competence to sift the proved from the merely probable, and the latter from the merely fanciful, will yet make an effort to place the history of the Kirklevington herd on a more satisfactory basis.

Taking the question, the "Value of Pedigree," we tried to show why a pedigree might be almost priceless in value, from its effects in fixing what had been long and steadily sought; but a pedigree of mere names is, so far, worthless. For instance, supposing in it four Duke crosses in succession; the value of the product does not depend on these crosses having been four "Dukes," but four Dukes of the right sort, all possessing the points in shape, handling, strength and constitution, which are desired. If the breeder who buys a Short-Horn with a pedigree knows that the ancestors were thus valuable, and he sees by the good result that they have been blended with skill and judgment,

he may be justified in giving almost any price, according to his means, for the sake of getting in an "impressive" form what he desires; but if all or any of these ancestors were bad in any marked way, or even if they were not "good" according to the general acceptance of the term, and the result is questionable or indefinite, the ancestors being merely "Dukes" as printed in the pedigree, will assuredly make them no better than if they had been something else.

It will be obvious, further, that a real appreciation of any given pedigree must involve a much more close investigation into the actual character of actual ancestors than many "fashionable" breeders are in the habit of giving. It involves not so much a tracing of the names as a clear idea of what the bulls and dams for generations back actually were.

But another conclusion, at once more general and yet more practical still, obviously follows. It is, that the great want of the present day is for the mass of breeders to have a clearer idea of what they are breeding for—in fact, of their ideal Short-Horn. Those who have most clearly traced the wonderful phenomena of breeding will most fully understand that any "breeding" worthy the name is practically impossible without this; and if a clear apprehension of this truth should lead to a calm and intelligent discussion and settlement of what should be the ideal Short-Horn, towards which all should aim, such would be by no means thrown away. To breed aimlessly nothing but "Duchesses" or "pure Booths" may or may not produce anything good in the end—it is all chance; to know what the ideal Duchess or Booth type is, and breed steadily for that, is truly to follow in the footsteps of those who founded these tribes.

It supposes even more than the mere "pedigree" notion—and we should have especially note—that the animal, supposed to be good itself, be preceded by many ancestors equally good. Were it acknowledged more in practice, we should see not less, but more Short-Horns of a fixed and high type. The difference would be simply this, that instead of the breeder's anxiety being whether his contemplated purchase had a grandfather, it would rather be what that grandfather was; and, in fact, how the whole course of breeding of the animal fitted in with what was desired, and what might be the probable tendencies as regarded reversion. What is, in fact, now confined to a few only, who really understand their business, would be more or less general; and the only effects of such a state of things, which might be considered by some as evils, would be that skill and judgment might to a great extent supply the want of money, and that Short-Horn breeding would, we fear, become to those who thus studied it more fascinating even than ever, as they saw the model predetermined in their own minds stamped upon their herds.

Such a view of breeding, again, would give far more freedom of action than is now generally al-

lowed. The great breeders, from whom we received the originals of our herds, both claimed and exercised this. We have seen especially, that with all the exaggerated value Mr. Bates at least professed to place upon his Duchesses—and we prefer to accept his statement upon this point—whenever he thought a cross necessary or desirable, he did not hesitate to employ it. Having, as we cannot but believe, an object before him, he used any means which seemed to him likely to attain that object; and since he crossed with skill and judgment, his crossing did not hinder his success. If people now want to "breed like Bates," let them breed as Bates did, knowing what they are about; using a cross boldly whenever a cross is needed, first tempering it down with the blood of the main stem for "fear of accident," and rigorously discarding all the weak or faulty animals. It was not

When in England, last year, nothing appeared to us to contrast more with our Canadian road scenery than the beautiful green foliage to be found along the roadsides. The grass is cut and made into hay or litter. Trees are unbroken in the villages, and town flowers and shrubs are seen growing by the roadside or climbing up the wall, unprotected by any fence from travelers or stock. The time may be near when Canadian houses will need no fence. Near some of our towns and cities the law against stray stock is being put in force.

A Jersey Record.

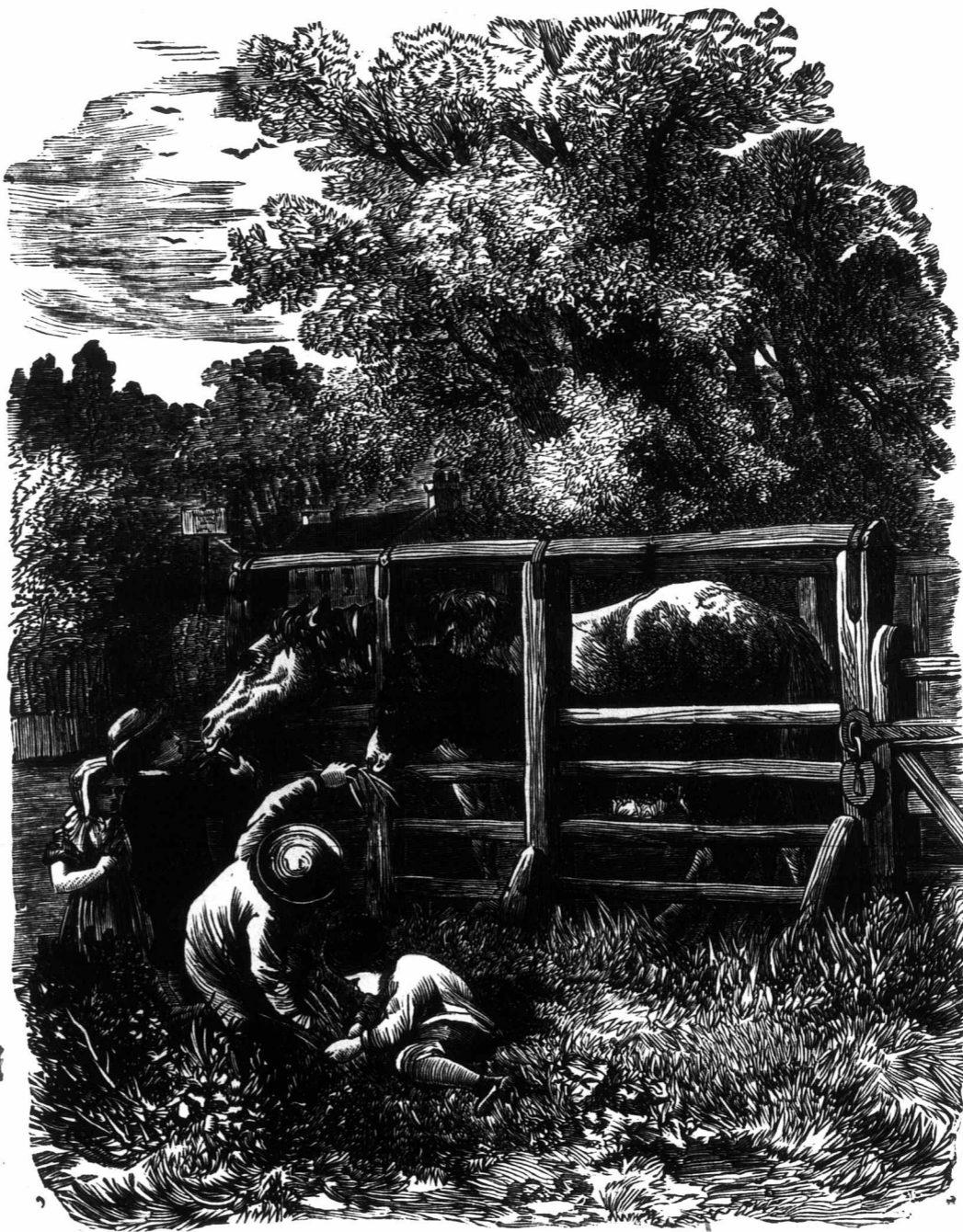
The following is given in the *American Agriculturist* by the author of "Ogden Farm papers."

I have often been asked to give the total product of my herd, per head.

As a perfectly fair specimen of the smaller type of the herd, I will instance the case of "Flora Hinman," a thoroughbred, who weighs now—after dropping her second calf, when she is three years old—603 lbs. Her first calf was dropped on November 10th, 1871, when she was 23 months old; the milk did not go into the dairy until December 3rd. From that time we carefully weighed all her milk until April 13th, 1873, when she dried off preparatory to her second calving (April 23rd). I divide her record into eighteen periods of four weeks each. It stands as follows: 1st, 500 lbs.; 2nd, 419 lbs.; 3rd, 346 lbs.; 4th, 361 lbs.; 5th, 389 lbs.; 6th, 331 lbs.; 7th, 309 lbs.; 8th, 330 lbs.; 9th, 344 lbs.; 10th, 305 lbs.; 11th, 265 lbs.; 12th, 233 lbs.; 13th, 184 lbs.; 14th, 209 lbs.; 15th, 170 lbs.; 16th, 181 lbs.; 17th, 216 lbs.; 18th, 89 lbs. Total in 72 weeks, 5,177 lbs. This is over 8½ times her own weight at the end of the period, and probably over 10 times her own weight at the commencement. Taking 2 15-100 lbs. milk as equal to a quart, she gave 2,408 quarts. I am confident that for the average of her milking period, two winters and one summer, fifteen pounds of her milk would make a pound of butter, and that she actually produced between her two calvings 245 lbs. of butter. To apply a more severe test, we will take her yield during the year before her second calving,

beginning April 22nd, 1872. Her yield was 3,160 pounds of milk, or (by the above computation) 210 2-3 pounds of butter. She had no extra care, and was never in high condition. No well kept dairy cow of average size could possibly have been kept on the same fodder; while to yield as much butter in proportion to her weight she must produce over 300 pounds of butter in her last year, commencing more than five months after dropping her calf, and her first calf at that, and counting the fall time to her second calving.

HOW TO FEED SALT.—A good plan is to have a barrel of salt in the feed room, and to scatter a handful upon each bushel of feed as it is cut and moistened in the feed box. In summer an equal amount of salt may be scattered along a trough.



THE VILLAGE POUND.

by moving heaven and earth to save a half consumptive animal, or going a hundred miles to purchase a heifer cheap because she was thought barren, that Bates—or any other old breeder—made a herd. It is not by such means a good herd can be made now; and as this is being found out, we cannot wonder altogether that reaction in some cases goes too far, and that people who only mean to condemn the present, thoughtlessly and ignorantly condemn even the past.

The Village Pound.

The above cut represents a horse and a donkey that have been found feeding on the roadside, and been impounded. The children are having compassion on them, and giving them a bite of hay.

Extensive

Of all the sheep that produce the most power of a detriments which have to them.

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External Parasites on Animals.

Of all the external parasites, the scab insect produces the most terrible ravages; but there are several others of an inferior order, in point of power of annoyance, which are nevertheless very detrimental to the well-being of those animals which have to play the unfortunate part as host to them.

Ticks, fags and lice are common names for three forms of parasitic pests, which are well known to the shepherd and herdsmen. Ticks—that is, the true tick (*Ixodes ricinus*), and the common tick or fag (*Melophagus ovinus*), are constantly found on sheep and lambs. The former is a true and insatiable blood sucker, which buries its sucking apparatus in the skin, and extracts an amount of vital fluid which sometimes fatally exhausts the animal when a large number of the parasites are collected together, and more especially if the subject of attack is a weakly animal.

Some time ago great mortality was occasioned among lambs in Kent, from the ravages of ticks. The season has been particularly favorable to the development of the young brood; and the lambs, which were feeding in thickly-wooded districts, soon became covered with the parasites, whose united efforts soon exhausted the system of blood, and the animals died from hemorrhage. On post-mortem examination, the tissues and organs were found to be completely bloodless, and it was evident that the lambs had been bled to death by the parasites that had attached themselves to the skin.

True ticks are known by their propensity to bury themselves partly in the skin, from which they cannot be detached. The fag, commonly called the sheep tick, on the contrary, will always be found clinging to the wool, and although the parasite wounds the skin in seeking for food, it does not commit so much injury as the true tick does.

Lice infest all animals which are left in a neglected condition; but although they cause considerable irritation, and are very undesirable visitors, it cannot be said that they do any serious mischief. It is true that animals infested by these parasites are usually in an emaciated state; but the debility from which they suffer is not caused or materially increased by the presence of these parasites, which may be looked upon rather as a consequence of a morbid condition of their host. Not because dirt, according to the popular belief, will actually breed lice, but for the reason that the creatures find in the unkempt coats of poor neglected beasts a favorable locality.

Remedies for external parasites are numerous, and most of them are effectual if properly applied; but the treatment which is adopted commonly fails because certain facts in the life-history of the creatures are ignored. In all cases it should be remembered that, besides the mature parasite, there are the young brood and the eggs in various stages of development to be completely destroyed before the cure can be considered complete. The first dressing may dispose of the newly hatched parasites and some of the adults, but a large number of mature eggs will be left, and some older parasites; these have to be got rid of by subsequent dressings, and, in short, the remedy must be repeated until signs of irritation, which indicate the action of living parasites, and have altogether ceased.

Carbolic acid is a powerful destroyer of nearly all forms of external parasites, but requires care in its use. A mixture of one part of ordinary colorless acid with fifty to a hundred parts of warm water in which soft soap has been dissolved, will be generally effective if used freely, two or three times, at intervals of a week. A more simple remedy is common train oil, which is particularly useful, and a remedy for lice; besides these, any of the arsenical mixtures, which are in use for dipping sheep, are actively destructive to external parasites, and, provided that proper care be taken, they are perfectly safe.—*Agricultural Gazette*

Care of Team Horses.

The following good advice to teamsters has been published in the form of a showy poster and sent out by the Massachusetts Society for the Prevention of Cruelty to Animals:

What constitutes a good driver.—1. A man that sees good care is taken of his horse in the stable, by being well fed with wholesome food of cracked corn and oats, with plenty of good hay. Potatoes or carrots may be given once or twice a week to good advantage. See that he is kept clean, warm and comfortable, with plenty of bedding. A piece of rock salt should always be left in the manger.

ing, taking into consideration the condition of the streets, and the distance to be travelled. Never overload, for by so doing you only distress, strain and discourage your horse, and do him more injury than you can possibly gain by carrying the extra load. When your load is hard to pull, stop often and give your horse a chance to breathe. No good driver will ever resort to the cruel practice of whipping or beating his horse. A light whip may be carried, but there is seldom use for it. Much more can be accomplished by kind treatment and good judgment. Remember, the horse is a very intelligent, proud, sensitive, noble animal, the most useful known to man, and is deserving of the greatest kindness.

Prize Barn.

We gave in a previous number a prize plan of a barn, got up by a Canadian; we now give you the representation of one of the prize barns in the United States.

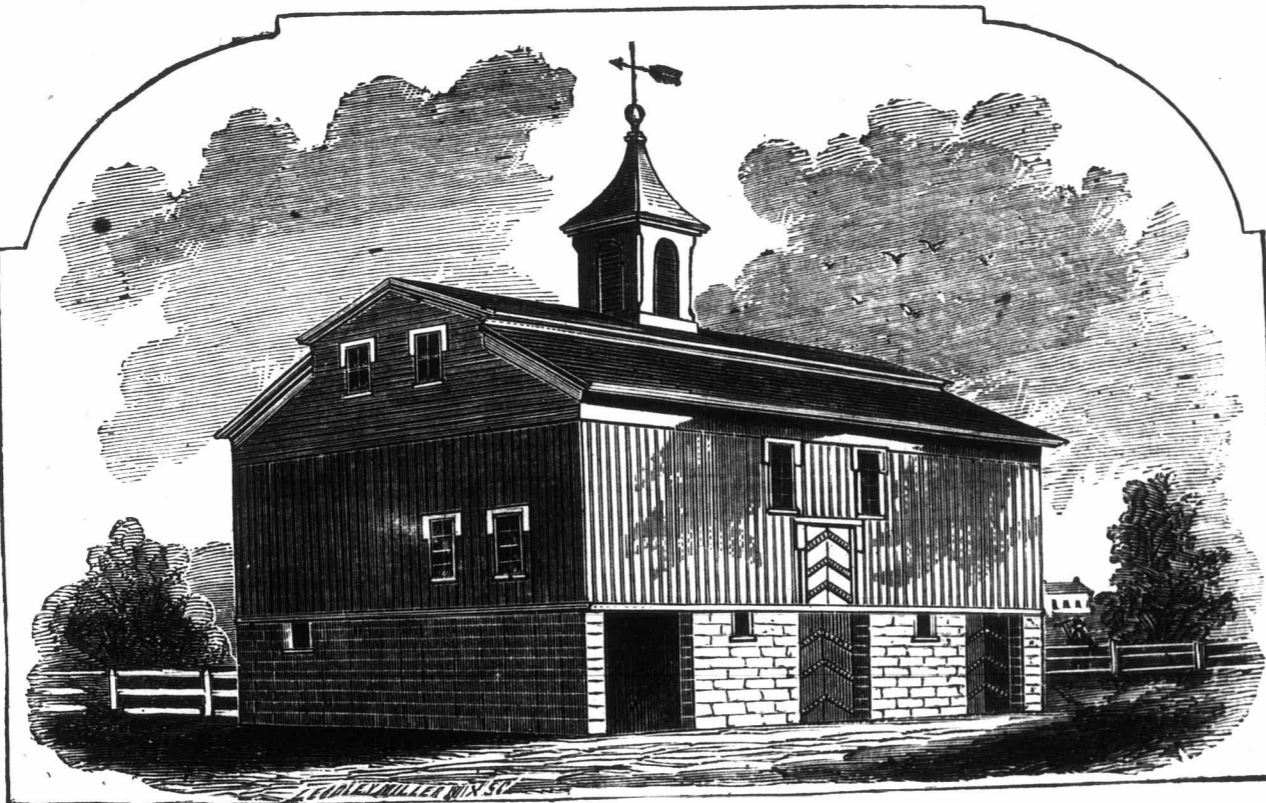
Treatment of the Farm Horse

It is not the amount of food given a horse, so much as gentle treatment and the time and manner of giving him food, that insures good his condition. There are times when he should have a full feed, and there are times when he should be fed in the evening after his day's work is over.

Then, after gratifying his appetite, he will quietly lie down to rest, probably till morning, by which time his food will be digested and his whole system refreshed, and he gets up in the morning with renewed appetite, and his energies prepared to undergo another day's service. His morning meal should not be so plentiful as that of the previous evening, and after partaking of it should be worked moderately for the first hour or two; afterwards, if necessary, his gait may be increased. At midday his

feed should be less than either that of the morning or evening and he will then renew his labor in the afternoon with more vigor and less exhaustion than if he had partaken of a full feed, and will enjoy his evening's meal with greater relish. Were more kind words given to these noble animals we should find their docility increased. Why talk in tones that can be heard half a mile off, when the animal is within less than five feet of you. Where is the necessity for it? Why not speak to him in more gentle and pleasing terms? Rather talk to him in a kindly tone of voice, pat him on the neck, and even sing or whistle to him, for he is fond of music, and those little attentions are sagaciously appreciated by him. He is an intelligent animal, and will obey a command, if given in a gentle tone, quite as readily as if given in tones of thunder. The very best managed teams in the country are those whose drivers rarely speak to them above their ordinary tone of voice. None of the brute creation more readily appreciate kind treatment than the horse, and that fact should ever be borne in mind by those under whose care these noble animals are placed.—*Col. Farmer.*

If stove polish is mixed with very strong soap suds, the lustre appears immediately, and the dust of the polish does not fly.



PRIZE BARN.

2. He should see that his harness is kept soft and clean, particularly the inside of the collar, which ought always to be smooth, as the perspiration, when dry, causes irritation, and is liable to produce galls on the shoulder. The collar should fit closely, with space enough at the bottom to admit a man's hand. If too large, it has the bad effect of drawing the shoulders together. On no consideration should a team or any work-horse be compelled to wear a martingale, as it draws him down, and prevents him from getting into an easy and natural position. The check-rein may be used, but only tight enough to keep the head in a natural position, and it should never be wound around the hames. See that the hames are buckled tight enough at the top to bring the drought iron near the centre of the collar. If too low, it not only interferes with the action of the shoulders, but gives the collar an uneven bearing. Caution should be taken that the girt is not buckled too tight, particularly on string teams, for when the traces are straightened, it has a tendency to draw the girt against the belly, and also distress the horse.

3. See that the horse is kept well shod with a good stiff shoe, always calked at toe and heel on the hind feet, as it is there where the propelling power comes from when heavily loaded. Keep the feet good and strong, but not allowing them to be cut away too much by the blacksmith.

4. The best judgment should be used in load-

Agricultural.

Value of Ashes Leached and Unleached.

We commend to our readers the following article on this much neglected subject, from a correspondent of the *Michigan Farmer*.

The results of the experiments of a correspondent with ashes and bone dust, might reasonably be expected, under the circumstances they were made. The bone dust and ashes were applied to the potato crop grown on the land that had borne the same kind of crop the previous year. Potash being a large mineral constituent of the potato, a comparatively small percentage of phosphoric acid composing its ash, unleached ashes containing a large amount of potash, were rightly applied to a soil that had been largely deprived of its available potash by the previous potato crop. Hence this experiment does not prove (as the writer would seem to infer) the *invariable* superiority of ashes over the bone phosphate as a mineral fertilizer. The important fact should not be lost sight of in the cultivation of soil, that our crops are composed of various organic and inorganic constituents, the percentage of which greatly varies in different crops; hence, under certain conditions of soil, a fertilizer that would greatly benefit one kind of crop would be comparatively inert when applied to some other crop. Phosphoric acid is a large mineral element of most of the cereals, composing about 50 per cent. of the ashes of wheat, and is almost invariably the smallest inorganic element of even our best wheat soils. Lands, consequently, that had for years been largely devoted to the growing of wheat and other cereals, would necessarily first be deprived of the phosphates; under such circumstances, bone dust, containing about fifty per cent. of phosphoric acid, would prove far more efficacious in restoring this special exhaustion than ashes, in which there is a very small percentage of the phosphates. The potash in ashes being readily soluble, unleached ashes can always be more profitably applied than bone dust direct to *summer crops* that require either of those fertilizers, the latter needing more time to become soluble by the combined action of moisture and the acids in the soil. The beneficial effects of bone dust are, for this reason, more marked the second or third year on soil deficient of phosphates than at an earlier period. A super-phosphate is decidedly preferable to bone dust for a summer crop, a part of the phosphoric acid in the bones having become soluble by the action of the phosphoric acid.

A mixture of equal parts of bone dust and ashes, adding one part of plaster to two of bone dust, with water sufficient to merely moisten the mass, I have repeatedly used with most satisfactory results. It has proved with me to be an admirable fertilizer in cultivating the grape. This mixture should not be used until the fermentation has ceased, which is usually the case after eight or ten days. The high price of bone dust has heretofore prevented its being much used as a special fertilizer for the wheat crop in places remote from the seaboard towns. Should all the neglected bones be carefully collected, and rightly prepared for agricultural uses, the present high price of the article might be considerably reduced. On soils capable of growing good crops of wheat, no great expense need be incurred in keeping up the needed supply of phosphates. An intelligent and very successful farmer in Western New York, was for years in the habit of applying to his wheat crop about 100 pounds of bone dust per acre; the governing principle, as he remarked, in its application, was to supply an amount equal to at least two years' consumption of any plants needing such nutriment. This small amount of bone dust, doubtless, was amply sufficient to supply the wants of this well-cultivated farm. It is well always to bear in mind, in the cultivation of our lands, that it is far more expensive to improve the condition of an impoverished farm than to keep up its early productiveness by proper and timely appliances. I have no desire to under-rate the value of ashes, as mineral fertilizers, having used them with most satisfactory results in cultivating our sandy loams.

On the farm I lately owned, large quantities of leached ashes, obtained from an ashery in Marshall, were annually used, different fields on this farm receiving a dressing of 100 bushels per acre at intervals of five and six years. When thus applied, each acre received over 1,500 pounds of lime,

nearly 400 of the phosphates, also an appreciable quantity of potash, magnesia and gypsum, as the analysis shows. The beneficial effects of leached ashes were so marked in the increased crops of wheat and clover, that the present owner of this farm still continues their annual use. This ashery being about one mile from the farm, the ashes never costing more than ten cents per load, a valuable mineral fertilizer was obtained at a comparatively small expense.

Although the percentage of the phosphates in leached ashes is small in comparison with bone-dust (exceeding, however, that in unleached), still, when applied in large quantities, as these can safely and profitably be applied, when near at hand, they afford a fair supply of phosphates to the soil at a cheaper rate than in the purchase of bone dust at present prices. Ashes having been deprived of most of their soluble parts in leaching, a summer crop would be but slightly benefited by their immediate application. Their action is less energetic than bone dust, which is sooner decomposed in the soil. For a summer crop requiring an active fertilizer, the bone and ash mixture would be decidedly preferable.

W. R. SCHUYLER, Marshal.

Sheep as Enrichers.

I wish through your columns to state to you my experience in fertilizing grass-land with sheep. I stated my treatment of a piece of "worn out" grass-land, as we term it, in a convention of the Board of Agriculture in Lewiston, in the year 1869, which was noticed by many of the papers throughout the country; and having received a great many letters for farther information concerning the same, I will give you the history of the treatment and condition of the field up to the present date.

In 1865 I had a field of ten acres that had been mowed ten years in succession without a particle of dressing put upon it; the grass had completely died out, and nothing was to be seen but white-weed and yellow-weed, or butter-cup and ox-eyed daisy. The soil was a clayey loam canting a little to the south and west, was in the smoothest possible condition, without stump or stone, and bordering upon a stream of water. In the spring of the same year I put upon this field of ten acres forty one-year-old sheep without lambs. These sheep kept everything down as smooth as a barn-floor. The next year I put on the same number and kept them on until time to come to the barn. They were not taken from the field at any time during the season, neither did they have any grain of any kind, but were in splendid condition. They were grade Merinoes.

In the spring of 1867, I noticed that the field looked green the last of April and the first of May, so much so that in consulting with my neighbors I was induced to keep the sheep off from it and let it come up to grass for the scythe. The field in the meantime had been sowed over with a light dressing of plaster, about one bushel to the acre, and a small quantity of grass-seed, timothy and red-top. Nothing else has been done to the field in any shape up to the present time.

Now for the result. The first year after taking the sheep off I had the greatest yield of grass that I ever had from any of my fields under other treatment, and of the best quality, a mixture of timothy, red-top, white clover and some grass that I cannot name. Hardly a head of white-weed or yellow-weed was seen on the field.

But what is most remarkable to me and my neighbors is, that the field has continued to produce bountifully up to the present time, which is eight years since the sheep were taken off; and to-day (August 2) the field is tented thick with bunches of the very best hay, averaging over one ton to the acre. I have since sold the field to one of my friends, and I asked him yesterday if he expected to get another crop from the field without dressing it again. His reply was, "Yes, I expect to get several more yet."

Now, Mr. Editor, what I wish to impress upon the minds of the farmers is this, that instead of running wild about raising fast horses and getting up cheese factories, it is better for them to give more attention to sheep husbandry; for if we put upon our impoverished lands in fact costs nothing to keep them through the summer season, as they more than pay for their cost in reclaiming these lands.

Let each farmer decide for himself what breed is best for him to keep. It depends upon our nearest market. The grade Merino will do better on short pastures than any breed that I am acquainted with.

The hay crop with us is mostly secured in good condition and is of good quality. Apples are almost a total failure. Other crops are looking well.—H.G.A., in *Germantown Telegraph*.

The Clawson and Diehl Wheats Compared.

"A. H. B.," a correspondent of the *Owosso Press*, publishes the following comparison of the Clawson and Diehl wheats, made by him:—

I have been requested to make out and hand to you for publication the following statement of the comparative merits of two varieties of winter wheats, the Diehl and the Clawson. The amount tested, though small, is sufficiently large to form a basis for more extensive computation. The samples were taken from a field on the farm of Mr. J. V. D. Wyckoff, of Woodhull, and consisted of 25 heads of each variety, grown upon soil as nearly identical as could be found.

The Diehl yielded 847 kernels, weighing exactly one ounce. Of the total number 60 were shrunken and worthless.

The yield of the Clawson was 857 kernels, the exact weight of which was one ounce and two and a half drams. The kernels of the Clawson were all plump except nine.

The comparative yield by weight is thus shown to be exactly 21 per cent. in favor of the latter variety. The result by measurement in a glass graduate was about the same. The heads were not selected, but were plucked by Mr. Wyckoff with a view to representing the average yield of each sort as nearly as possible.

The seed of the Clawson variety was presented to Mr. Wyckoff by Carso Crane, of Phelps, N. Y. The amount sown was about three bushels. It is a white wheat of a shade similar to the Diehl. The straw is said to be about six inches longer than that of the Diehl at maturity, but is not quite so firm. It is also free from rust, while the Diehl, immediately adjoining, is not.

[We have had ample opportunity of comparing the productiveness of the Diehl and Seneca varieties of wheat, and it is our opinion that a like result to that of the crop at Woodhull would be obtained throughout the country wherever a similar experiment was made.—Ed. F. A.]

Value of Covered Manure.

When rough sheds have been built to cover the manure heap, the crops fertilized by this pile have been increased in productiveness sufficient to pay for the shed-covering the first year. We have never seen any exact figures of the proportionate value of covered and uncovered manures, that we remember, until the following, which we find by Lord Kincaid, a Scotch land-owner and farmer. They present the best statement possible, we think, of the advantages of the plan:—

Four acres of good soil were measured; two of them were manured with ordinary barn-yard manure, and two with an equal quantity of manure from the covered shed. The whole was planted with potatoes. The products of each acre were as follows:—

Potatoes treated with barnyard manure—
One acre produced 272 bushels.
One acre produced 292 bushels.
Potatoes manured from the covered sheds—
One acre produced 442 bushels.
One acre produced 471 bushels.
The next year the land was sown with wheat, when the crop was as follows:—
Wheat on land treated with barnyard manure—
One acre produced 48 bushels, 18 pounds (of 61 pounds per bushel.)
One acre produced 42 bushels, 38 pounds (of 61 pounds per bushel.)
Wheat on land manured from covered sheds—
One acre produced 55 bushels, 5 pounds (of 61 pounds per bushel.)
One acre produced 53 bushels, 47 pounds (of 61 pounds per bushel.)

The straw also yielded one-third more upon the land fertilized with the manure from the covered stalls, than upon that to which the ordinary manure was applied.—*Ed.*

Wheat Culture.

It is very clear to the most superficial observer that, to make a paying business of wheat raising, a large yield is indispensable, for in any event you have the rent of the land, the cost of tillage, the price of seed, the labor of harvesting, and the expense of threshing to meet, before you can count anything for profit. Consequently, if your crop only equals this expense, you have gained nothing; if it falls below it, you are so much poorer. Therefore, a large yield must be obtained in order to make the business a profitable one.

Some soils are naturally adapted to the production of wheat; others are not, owing to the lack of certain constituents which are essential to the production and perfection of a wheat crop. On soils well adapted to the growth of wheat, the main thing to be kept in view by the cultivator is to so feed the land with such fertilizing materials as will not only keep it in its natural condition, but also enrich it with the elements which enter into the growth of the wheat plant, to such a degree as greatly to increase the product each succeeding year. On those soils which are deficient in food for this plant, a much larger cost is demanded in order to bring it up to a state of fertility, so as to make it profitable to sow wheat upon it. Some soils may be so ameliorated and improved as to do this—others cannot be.

In many localities the land is so wet, owing to a very retentive subsoil, that wheat will not be productive upon it until it is underdrained. It is often the case that such soils, after underdraining and thorough tillage, become highly productive of this cereal when sown upon it. With other soils, thorough surface plowing, and a subsoil plow run from eight to ten inches deep in the bottom of the furrow, will so far drain and aerate the land as greatly to improve a crop of wheat, or any other crop. We know this by experience, having practiced it for years. Such soils as abound in sand may be made less porous by the application of a moderate amount of clay drawn upon it, with the use of a large amount of the manure of horned cattle, while clay soils will be rendered more productive by the application of sand, horse and sheep manure, and other substances which make it warmer and more porous. Wheat is naturally a lime plant, and where there is a deficiency of this constituent in the soil, the application of lime will be of great utility, where it is sufficiently convenient so as not to increase the cost very much. Where lime is absent and gypsum abounds, this may be made a very good substitute, as gypsum is composed of lime, sulphuric acid and water. In addition to the lime, the sulphuric acid is valuable, as it will change the carbonate of ammonia, which is volatile, into sulphate of ammonia, which is fixed; and carbonate of ammonia is constantly being disengaged in the soil, by the decomposition of all organic substances therein. Decomposed manures of all kinds bring into the soil, when applied for wheat, a great variety of the constituents that are essential to the perfect growth of this plant. Indeed, nearly all manuring substances are beneficial.

A judicious "rotation of crops," where the plowing has been deep and thorough in the commencement, and a large supply of organic and mineral fertilizers have been added to the soil during the "rotation," with a fine "clover lay" to be plowed under for the wheat, is one of the best modes of insuring success in this cultivation; and when a wise and thorough course is pursued, failure is almost impossible. Summer following on land which is barren of clover and infested with weeds, tends greatly to the production of an ample crop of this essential article for breadstuff. Frequent plowings have the effect to equalize the various substances in the soil over the whole ground; while the exposure to atmospheric action causes directly the decomposition of these mineral substances and brings them into a soluble condition so that they may become food for plants.

A careful selection of the most approved varieties as seed, and a certainty that it is free from smut and foul seeds, is very important in the effort to grow a good wheat crop. If seed is old, or has been heated in the mow or bin, the germ may be injured or destroyed, and in that case will fail to produce a full and vigorous growth of plants. We had a very sad experience from this source a few years since, on twenty acres of new ground, where not more than half of the seed germinated at all. It is a very general notion in this country that wheat will not do well on old ground; but in England, from the best information we can obtain, it is a common thing to have a yield of from thirty

to forty bushels to the acre on land that has been in cultivation for hundreds of years. This may be done in this country as well as there, if the proper means are used.—J. V. M., in Ohio Farmer.

Providing Grass Seed.

Every farmer uses more or less seeds of the different grasses and forage plants. Most of these seeds are purchased from dealers or growers, few farmers being so situated as to grow all the grass seeds needed for stocking down pastures and meadows in the spring. The season is coming on when these seeds must be sown, if ever. It is time to look around and see where these can be procured to the best advantage, or at the cheapest rate. Both these requirements are, or must be, kept in view; it will not do to buy seeds with either object in view alone. Seed bought at the best advantage are always cheap. They may cost a little more money at the outset, yet may be the cheapest. As an instance, the experience of a man in Western New York may be adduced. Wishing to sow a little Alsike clover seed, he consulted the catalogues and advertisements of all the regular and transient dealers. Prices ranged from seventy five cents to one dollar and twenty-five cents per pound—the difference, fifty cents per pound, was considerable—so he concluded to send to the parties offering the seed at the lowest prices. The seed grew well, but the next year several stools of the white or ox-eye daisy blossomed out finely. They were dug out, of course, but new ones have appeared every year since, from seed which have hitherto remained dormant in the ground. That seed was not cheap at any price. The same person wished to sow some more last season. he was at the trouble and expense of taking a journey of sixty miles in order to personally examine, at a large seed store, the samples of Alsike seed. The seed purchased was previously examined with a magnifying glass and no ox-eye seed could be detected. This Alsike seed cost more than advertised prices, but the purchaser will probably find it cheap.

It is wise to sow the best seed and to sow plenty of it. It is wise also to buy only of seedsmen who have an established reputation for accuracy, carefulness and responsibility. The reputation of such is worth more than the profits on a whole season's sales, and of course their goods can be relied upon. They also have a direct interest in selling only the best seed, since usually the result of such sales are "a standing local advertisement" in every section where sown.

It is necessary to sow plenty of seed. Ten cents saved in seed results usually in a dollar lost in the harvest. No one has ever reported that he had sowed seed too much. All errors have invariably been made the other way, as far as known. If the "penny wise but pound foolish" course—that of sowing as few pounds of seed as possible is followed—the hay crop will be quickly gathered, and in winter soon be gone. Just as much seed must be sown as will stock every square inch of the ground with at least one growing plant. This will take more seed than just the number of square inches of surface in field. Four or more times this amount should be provided, for much is inevitably lost. The seed should be scattered lavishly enough to secure a good stand, if it takes a good half bushel of seed to each acre to be seeded down.—Country Gentleman.

Tillage and Heavy Manuring.

Two very important helps to earliness are not sufficiently understood—heavy manuring and high tillage. Heavy manuring is usually given with a view to big crops, and no gardener for a moment would think of dispensing with it. But it serves a further purpose—that of inducing a quick growth. When plant food is ready at hand in abundance, of course the growing crop consumes more of it; and this very food develops more feeding organs, which in turn help to build up the plant and to send the roots deeper. Altogether a thrifty, quick and tender growth is induced at a time when, in poorer soil and unfavorable weather, the plant would but barely live and hold its own. The most marked effect of heavy manuring for earliness, is especially noticeable on cabbage, lettuce, beets, asparagus and rhubarb. Upon these crops it pays to apply at least 100 tons of manure per acre. Frequent and almost constant tillage pays not only for the increase of the crop but also for quickening it. This effect I have noticed as very marked upon what we may call

the hot weather crops—tomatoes, cucumbers, melons, squashes, beans and corn. So much is gained by frequent tillage, that I think if two crops of melons be raised, one on sod in the hot bed and set out in the garden and given the usual tillage, and the other planted at the time of setting out the first, but giving three times the usual tillage—say that it be worked twice a week—the latter crop will be as early, if not indeed earlier than the former. Cabbage, too, seems especially susceptible to this forwarding by tillage, and if to this be added the heavy manuring before recommended, the capabilities of the crop will certainly astonish the inexperienced. I have noticed such remarkable results from constant, thorough tillage, not only in promotion of earliness but in increase of yield, that I have thought upon this class of crops manure might be dispensed with, and yields both large and early be secured, if the tillage only be sufficient.—J. B. R., in Fruit Recorder.

Correspondence.

British Columbia.

SIR,—In reference to Mr. E. Topping's enquiry for information respecting British Columbia, and in reference to the agricultural lands in this province, I would say that this is not generally a prairie country, but, on the contrary, it is a timber country, with a limited amount of prairie scattered through it very sparsely. The quality of the soil is generally good where it is not mountainous. The most of the prairie lands are already taken up, and the timber lands are the only lands available for settlement. During this summer there has been a great deal of land taken up in various parts of the country. I may say that quite a number of land seekers have gone away unsatisfied. The land law is very liberal; every British subject is entitled to 160 acres free by becoming an actual settler on the same. Any person can purchase all that he wants at the Government price, \$1 per acre. In the free grant system, you get your deed in two years after making improvements, to the amount of \$2.50 per acre.

Timber land is generally very heavily timbered with fir, cedar and other small woods, such as vine-maple, alder and birch.

All kinds of grain and root crops grow to good perfection, excepting Indian corn, which is not suited to the climate. The climate here on the east of the Cascade range is comparatively the same as the climate of England.

The price of all kinds of grain is about two cents per pound, which is not enough, compared with the price of labor, which is from thirty to sixty dollars per month. This is a good chance for young men, and in the event of the C. P. R. commencing soon, this will become a large field for labor.

The Local Government is expending a great deal of money in opening up roads in the different settlements, which will be a great advantage to new settlers. School houses are built in all the settlements as soon as there are fifteen children of school age, and all the direct tax that the settler has to pay is four cents per acre of road tax. The Government pays the teachers' salary, say from fifty to seventy dollars per month.

Good common horses are worth from \$150 to \$200, and are scarce; cows from \$30 to \$50, according to quality. Lumber for building purposes is worth from \$15 to \$25 per 1000. Travelling is very expensive. Board is \$1.50 to \$2 per day.

Parties coming to this province will do well to start early in the spring. There are two steamers per month from San Francisco to Victoria, and two per week from Victoria to New Westminster.

ADAM INNES.

Langley P. O., B. C., Aug. 14th, 1875.

[Mr. Innes will accept thanks from us and from our enquirers for the information given. As Mr. Innes formerly farmed in this country, and is a real practical Canadian farmer, we consider information can be obtained from him such as intending immigrants require better than from any other source we know of. Should any of you write to him, we would suggest that you should enclose something more substantial than a stamp for reply, as we know many write and ask queries for private purposes, and do not consider that time, brains or stationery cost anything.—Ed.]

Wild Oats.

SIR,—Having seen in September number of the Advocate, an inquiry as to the best method of destroying wild oats, and having passed several years of my life in a part of the country much infested with this, one of the greatest pests with which the farmers of Canada have to contend, I venture to make a few remarks about them, hoping that though many may know as much or more, and a few may still be benefited. To begin then, in the first place, with the pulling of wild oats, it is, I might say, labor lost, as they never all come up at once, but keep continually heading out and dropping their seed till harvest is over, consequently, you might be pulling until harvest, and then you find apparently as many as ever. In places having been late starting, they have not grown as high as the surrounding grain, but have shot and ripened unseen, and when fields are cleared in many places, it is nicely sown with them, and the farmer has the mortification of seeing his labor in pulling thrown away. I do not agree with the plan of a naked fallow to destroy them, as I consider, if done merely to destroy the oats, it involves the loss of a crop without any necessity for it, for in my experience they will not grow in a naked fallow to any extent, only in a very wet season. A good deal can be done in the way of destroying them by putting in roots, but the plan I most approve of—judging from my own experience in the matter—is this: As soon as the crop is off and the field clear, take a gang plow or cultivator, and stir the land as lightly as possible; for if buried too deep, they will not grow until again brought to the surface; even a good heavy sharp pair of harrows will answer the purpose very well. The grain in the surface being thus covered, will commence to grow as soon as the weather becomes a little damp, so as to moisten the land. Let it stand as long as convenient without plowing, in order that every grain may sprout, then turn under and let lie until spring, this is crop number one gone. In the spring cultivate and harrow again, as early as possible, in order to start the seed brought too near the surface by the fall plowing, and which had lain buried from the previous year. Having done this, let the oats grow till the 20th or 24th of May, then plow under and sow at once with barley or buckwheat. This is two crops destroyed, and a good chance to catch some more, should any be left. By the rapid growth of the grain sown, if the land is not in proper order for barley or buckwheat, peas and oats sown together, and cut green for feed, are a very good substitute. In this way no crop is lost, and if followed up it cannot fail to be successful. Care should also be taken with the manure, to turn after, and have it well heated before taken off the field, otherwise, many wild oats, to say nothing of other grains and seeds of noxious plants, will in this way be spread over the land. I hope these remarks may be of service to some of our farmers, and remain

A SUBSCRIBER.

Colpo's Bay, Sep. 1875.

[We give insertion to the above communication, though the subject has already occupied no little space in our columns. Our friend of Colpo's Bay has had no doubt much experience with the "wild oat" nuisance, and deals in a practical manner with the question. We have touched on it incidentally in "fallowing". Will "A subscriber" favor us with contributions, as time may permit.—Ed.]

Protection Societies.

SIR,—I noticed a suggestion in your paper in regard to organizing a horse-thief detecting company. I may state that we have a Protection Society organized in this neighborhood, which has been in operation for three years, and which has had the effect of diminishing crime in that direction. I herewith send you a copy of the constitution and by-laws of the Society. I am satisfied if societies of a similar kind were organized in every neighborhood, they would be the means of doing a great deal of good, and in case of a theft being committed upon a member of the society, the whole burden of expenses incurred upon the arrest and conviction of the thief would not be borne by the person losing the animal or article. Every Grange could be a Protection Society within itself.

Crops are above an average here.

JAMES ROGERS.

Eversley P. O., King Tp., Aug. 20th, 1875.

[We are pleased that in parts of the country the farmers are uniting to protect themselves and their property from the vagrants, who, being too lazy to earn their livelihood honestly, prey on the honest and industrious. The union of law-observing men desirous to have the laws of the land efficiently enforced and evil-doers brought to justice, is commendable. We have no fear of the farmers of Canada ever degenerating so far as to resort to Lynch Law. We know too well the value of a state of society constituted as every part of the Empire is, to permit for a day any other. With regard to the letter from Mr. Rogers, published above, we thank him for sending the constitution of their Protection Society, and reserve it for further use, if necessary. Should the farmers of any other district think well to form a similar society, Mr. Rogers would, we dare say, let them have copies.—Ed.]

Feeding Stock, &c.

SIR,—Would you please to give what information you think most proper on the best method of cultivating and harvesting common white beans as a field crop in your columns; also, if you have what you consider a correct analysis of the Canada thistle in regard to its nutritive qualities as feed for stock. I have seen it proved that hay, when cut about an inch long with the straw cutter, and tea made from it for calves, and when there was about one-fourth of it thistles, they thrived better and would be much obliged to you for it.

FEEDING COWS WHICH HAD CALVED EARLY ON DRY HAY.

I had eight cows which calved about the middle of March, 1873, and from what little experience I had in feeding milk cows, I was always under the opinion that they gave more milk when their hay was steeped in water, and this year I thought I would prove it if I could. I had a well of hard water close by the stable, and took a few good sound planks and made a box that would hold sufficient feed for four cows; the building had a passage along in front of the cows, and I kept the box in front of the cows, where it was used, for the hay was handy by and the well was on higher ground than the stable. I could bring the water into the box by letting it run in a pipe. To four of the cows I fed hay well soaked; to the other four I fed dry hay, with plenty of water in a tub beside it, and the cows which were fed on the soaked hay averaged two hundred pounds more than the others, while the year previous, when they were in good pasture, they averaged ten pounds more than the others.

The box is ten feet long and two feet wide; I have a plank for pressing the hay tight into the box, which I had linged at one end inside of the box. When I filled the box with hay I had the plank raised on end; I then let the plank down, and by stepping on the outer end of it, I press it down, where it is held by a spring hook; then it is ready for letting in the water. I have coarse tubs beside the cows for feeding it in. The tea which it makes I give them in pails, or put it into the tubs when there is no danger of it freezing.

As you like the results of experiments, I send you the following:—

As I was passing the house of an old acquaintance, he came out to the lane with a bushel basket full of potatoes, and emptied them on the ground. I asked him what he was going to do with them; he said he was calculating to call the hogs to eat them. They were not very large, the most of them being about an inch in diameter and an inch and a half long. I said to him that I thought potatoes were rather dear to feed pigs with; they were at this time selling at a dollar a bushel. "Well," says he, "they are but small and they have long sprouts on them; they would not grow over half a crop, and, besides, I have plenty without them." "Well," I said, "I have some, but I have not got plenty, and you had better let me gather up the best of them to take home and plant; I will give you back as many more perhaps of a better quality when my crop grows and ripens." "All right," says he, "you may do so, if you don't know any better."

But, nevertheless, I went and done so. I picked half a bushel of the best of them; they were Early Rose potatoes. I took a knife and cut out all the eyes except one at the seed end of each potato, and

planted them whole. The land was rich and in good order. I put them in rows a foot apart and eight inches apart in the row, and after they commenced to grow above the ground, I covered them with rotten straw and chaff two inches deep; and when they were four or five inches high, I went through them and just left one sprout at each potato. It was land that held the moisture well.

The result of the experiment was an extremely large yield of extra large potatoes. A great many of the stalks had three potatoes larger than a turkey's egg and two or three the size of marbles.

J. ELDER.

Oneida, Haldimand, Aug., 1875.

[We have not heard of the Canada thistle having been analyzed, the great aim of all conversant with it being to extirpate it from the soil as soon and as thoroughly as possible. We think it likely, however, that it is possessed of nutritive properties of no mean order, and might be used for some beneficial purpose. By means of its long roots it draws its food from a greater depth and wider extent of soil than clover or almost any other plant, and this food is from the stores of mineral manures. Some animals prefer it for food to the finest grasses. For damping hay, your trial and its success are confirmatory of our old experience, and we dare say that of many others. Late in the season we had the hay always damped for our horses, though not by such an ingenious contrivance as that described. If hay has been slightly salted when saved and damped before using, stock will relish it much more and eat it with greater avidity. The details of such experiments as "J. E." gives with hay and potato planting, will always find place in our columns, and we will thank him to let us hear from him occasionally.—Ed.]

Blindness in Sheep.

In reply to an inquiry from a subscriber for the most effectual remedy for blindness in sheep, Mr. Evans has sent us the following recipe, the result of long experience in England:

SIR,—Your correspondent wishes to know a cure for blindness in sheep. Perhaps he has been keeping them in a cold, bleak place, which will be apt to bring on blindness. If it is the same complaint I have seen, it will be likely to go through the flock. It also makes them very poor, and they will require good attendance and plenty of good, nourishing food. I have never known the following fail to cure them:

Sal ammoniac, lump sugar and Lapis calaminaris—of each two drachms, in fine powder. It accelerates the cure by opening the angular vein of the eye, holding the head in an inverted position, so that a few drops of blood may fall into the eye, as they generally are inflamed. The powder must be mixed well, and kept in a closely corked bottle for use. Take a small quantity of the powder on a ten-cent piece, one to hold the eye open while the other puts the powder in; or mix with honey of roses, and put in the eye with a feather. Hold the sheep a little while after, to prevent it shaking its head.

Perhaps your correspondent will be kind enough to let us know how it has succeeded, through the FARMER'S ADVOCATE.

T. EVANS.

London Township.

Poultry Disease.

SIR,—I have a Brahma cock which has the following symptoms:—Gapes with his mouth, vomits; crop swollen; wings and tail drooping; comb and gills turned to a dark purple color; eats nothing. Would you or some of the subscribers to your valuable paper inform me what the disease is, and the best mode of treatment.

MICHAEL NEVILLE.

Forest, June 16th, 1875.

[Will any of our subscribers who know something of fowls, their diseases and the remedies, be kind enough to write to us in reply to Mr. Neville. In the September number of the ADVOCATE, page 173, there is a short article on gapes in fowls.—Ed.]

SIR,—I to "the you reply of Orchar Grass) m suggest to not ident Poa serot Agrostes Western Grass is land—the the past grow in a and will grow, viz for winter will grow and bus summer, gathering affords a The b ture is Red Top glomerat

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Grass for Pasture.

SIR,—In your last issue the question is asked as to "the best grass to sow for pasture," to which you reply by suggesting "to sow a small portion of Orchard Grass (Cocksfoot), and Red Top (Blue Grass) mixed with other grass." Allow me to suggest to you that Red Top and Blue Grass are not identical. The Red Top of the West is the *Poa serotina*, and the Red Top of the East is the *Agrostes vulgaris* of botanists. We think the Western Red Top the best for pasture. Blue Grass is the smooth-stalked meadow grass of England—the *Poa pratensis* of botanists, and perhaps the pasture grass of the world. Red Top will grow in any dry soil, but it delights in wet ground, and will grow where no other pasture grass will grow, viz., in swamps. Orchard Grass is desirable for winter forage for stock in the open field. It will grow in woodlands in the midst of underbrush and bushes, and where allowed to grow through summer, the stock will feed upon it in the winter, gathering from the brush when grown, and then it affords an early spring pasture.

The best mixture of grasses for a permanent pasture is Kentucky Blue Grass (*Poa pratensis*), Red Top (*Poa serotina*), Orchard Grass (*Dactylis glomerata*), in equal parts.

J. M. McCULLAGH.

Norwood, Ohio, Sept. 7th, 1875.

[In the September number of the *ADVOCATE*, the phrase—"were you to sow a small portion of Orchard Grass (Cocksfoot) and Red Top (Blue Grass) mixed with other grass," should have been "were you to sow a small portion of Orchard Grass (Cocksfoot), Red Top and Blue Grass mixed with other grass seeds." For a permanent pasture, the grasses we have named form the best mixture, but or one year's hay, succeeded by pasture for some years, they would not be found sufficient. Orchard Grass, valuable as it is for mowing and pasture, does not yield its heaviest produce till after the first year. The great value of Blue Grass throughout America is for pasture; it is little worth for hay, though in England in all the old meadows it forms a principal part of the hay. To sow for pasture and to mow the first year we would recommend, as already said, Orchard Grass, Blue Grass and Red Top, with a few pounds of Timothy Grass, and Red Clover 4 lbs., and White Clover 2 lbs. per acre. The Timothy Grass and Red Clover will add much to the produce of the year's hay, and as they disappear from the pasture their places will be occupied by the other grasses and the White Clover. Of all the grasses properly so called, we consider none better for pasture in many respects than the Blue Grass. It is "the smooth-stalked meadow grass" of Britain, and retains its rich verdure throughout the year. Orchard Grass withstands the effects of the drought of our continent better than the Blue, and in this it has the advantages; it also makes an earlier growth and produces a greater quantity of food.—Ed.]

Oil Meal.

SIR,—Be kind enough to let me know, 1st—If oil meal would be good for feeding lambs when first weaned; 2nd—Whether a little would be good for colts one and two years old; and lastly, where and for what price may it be obtained? I saw a short account of it in the *ADVOCATE*, but did not learn these few particulars. By informing me you will very greatly oblige.

ALEX. CONNOR.

Springfield, Aug. 17th, 1875.

[Oil meal is a good food for all young stock, but should be used in moderation. It is very nutritive and salutary when so used. It is sometimes used, and with very good effect, as a remedy for constipation and costiveness. Have been enquiring, and find that oil cake, ground, can be purchased here at 2c. to 3c. per pound. Oil meal (that is, the seed impressed and ground) is not to be had here. The value of oil meal and oil cake is not sufficiently appreciated in this new country. It is prepared for use by pouring boiling water on it in a tub or pail, and covering it up for a short time with a cloth, that the steam from it may be retained.—Ed.]

From Sarawak.

August 26, 1875.

SIR,—I wrote you on the 13th inst., on the subject of "Lightning Rods," and also some remarks respecting the effects of sheltered situations as regards frost. Another illustration of these observations has lately occurred:—On the night of Sunday, the 22nd inst., a sharp frost occurred in the rear concessions, but there was not the slightest appearance of frost on my farm, or on those adjacent fronting on the bay. We escaped the hoar frost also. At sunset, on the 22nd, the thermometer on the north side of my house stood at 55°, one degree higher than when the hoar frost occurred.

The destruction of insectivorous birds is to be regretted. It is forbidden by law, then why is it not prevented? I can only suppose because it is everybody's business to enforce the law, and nobody attends to it. As for those persons who have a license from the Government to shoot birds for so-called scientific purposes, I can only say that as their licenses to shoot can give them no right to trespass on a farmer's ground, so if I found any person shooting small birds on my farm, I should warn him off as a trespasser, and if he refused to go, I should bring him before the nearest magistrate on a charge of trespass. As for farmers' boys shooting small birds, the fault is not their's so much as their parents', who neglect to train them up properly; and if they will allow their sons to grow up worthless vagabonds, they must take the consequences.

As the season for green apples has come round again, and the irrepressible small boy who would seem to have been born with a natural propensity to steal apples is on hand again, I offer the result of my own experience in this matter, and advise those who wish to prevent their choice fruit from being stolen and their trees broken down by nocturnal biped depredators, to follow my example, and give them some. The first year my apple trees came into bearing, I desired a neighbor to notify any youngsters in his vicinity who might want some apples to come and ask for them, as I did not wish them to think that they could get no apples from me unless they stole them. They never did come to ask for any, but whenever any of them called at the house on other business, I gave them some, and occasionally sent them some, as opportunity offered. Just as I expected, although my trees have been repeatedly loaded with fruit, apples, pears and grapes, yet none have been stolen; and certainly I have not had to give away one quarter as many as I should have had stolen, had I acted differently, whilst others, who have acted on a different principle, have had their fruit stolen and trees broken down, and if they did not keep good watch dogs, would have but a small quantity of fruit for their winter use. I would not be annoyed as they were for all the fruit in the neighborhood twice told. If you doubt the efficiency of my method of saving my fruit, just try it once.

Harvest is progressing slowly, but the crops generally promise well. I have heard that some farmers who procured the Scott Wheat from me last year, are not well pleased with it. One farmer who sowed both Treadwell and Scott Wheat, plowed up the Scott Wheat in the Spring, whilst the Treadwell has given a fine crop, besides they say it shells out too much, as indeed it does. Myself and one of my neighbours procured our Scott Wheat from the same person two years ago, and tried that and the Treadwell in adjacent fields with the same results. On both our farms the Treadwell Wheat was more severely winter killed and more affected by the rust than the Scott Wheat. We have no rust, and not much mildew in our wheat this year. I think the nights have been too cool for them, and if the wheat yields well in the threshing, we shall have plenty to be thankful for, but not much to complain of, especially with the present prospect of better prices than we had last year. As for our barley, the trade in that is in so few hands, that a combination amongst the buyers may reduce the price at any time, and here I may ask the question, if the American Government were to admit our grain duty free, should we be any the better for it? Nine-tenths of the Fall Wheat raised in Ontario is sold in the State of New York, principally in the rich cities which line the banks of the Erie Canal—not more than one tenth is marketed in Montreal. We have to sell our Fall Wheat and Barley to the Americans, because we can sell these grains nowhere else, and they buy from us, and pay their own import duties also, because they

cannot get them of equally good quality anywhere else. They buy as much as they want now, and if the import duties were taken off, they would buy no more than they do, and is it at all likely they will ever pay more than they can help? If they do, they must be greater simpletons than I take them for—catch brother Jonathan a weasel asleep if you can. The high prices obtained for barley last winter, may have induced our farmers to sow a greater breadth of land than usual with barley this year, and I should not be surprised if the dealers in that article take their revenge for the high prices of last winter, and break down the market now. If it suits their purposes they certainly will, but that is no reason why we should raise less barley in future. As a feed for horses it is more nutritious than oats. "Buy the big horse, barley will make him swift," say the Arabs, who feed their horses principally on barley. As a feed for pigs, it makes better pork than pease, and I may say the same as regards feeding cattle also. As for the advertised cattle feeds, I have no faith in them; I procured a dollar tin of Cattle Feed two years ago, as I was feeding a cow for family use, it was mixed with chopped feed, (pease and oats,) strictly according to the printed directions. For a week or two the animal ate the chopped feed very well, and then refused it altogether; we discontinued the cattle feed for a time, and then tried it again, with the same result, and I have the greater part of that cattle feed on hand now. A Michigan girl is said to have tried mixing some condition powder in a drink of cider one evening, for her beau, who was rather cool in his wooing, to make him lively, as she expressed it, but with the same result as giving the feed to my cow, it did not answer at all.—C. JULYAN.

Buckthorn.

SIR,—Can you inform me of the best way of raising Buckthorn from the seed, and whether it is to be sown in the fall or spring? I also want the same information with regard to White Thorn. By giving the above information in your next paper you will much oblige.

ARCHIBALD STEWART.

Bristol, Aug. 28th, 1875.

[Of Hawthorn, or Whitethorn, as it is also called, the Haws are gathered as soon as they are ripe and stored in a pit, covered pretty deep with earth, where they remain till spring. By this means they ferment, so as to make it possible for the kernel to germinate and the tender germ to make its way to the free air and light, and without this process it would remain imprisoned in its shell. Suffering the haws to dry would destroy the vital principle. Buckthorn berries, we presume, are treated in the same manner, though we have not had the same experience with them as with the haws.—Ed.]

Butter Making.

SIR,—I saw an article in a number of your paper headed "Making Butter in Winter." The process thus laid down is attended with considerable trouble and expense, in keeping the room to a proper temperature and removing the pans to a room to go through the heating process upon the stove. The object of butter making is to get the best and most butter from a given quantity of milk with the least trouble and expense. I have had considerable experience in winter butter making, and I am satisfied I can make more butter from milk strained into pans and put where it will freeze solid. When it is time to remove the cream, I bring the pans into a warm room; when the cream has softened a little so it can be conveniently removed, I take it off from the milk, and there is not a particle left on the milk that butter can be made from. By this method I am satisfied I can make more butter from the same quantity of milk than by any other, and of better flavor, for it is removed entirely from the odors of the kitchen, or anything that it could partake of to change its flavor. C. W.

Stanbridge, P. Q.

[Our fair correspondent will, we hope, excuse our holding back her contribution till now, when the time for making butter being nigh, the lesson taught from her experience is more reasonable than if published earlier. We hope to have other contributions in good time from "C. W."—Ed.]

Garden, Orchard and Forest.

Making Wine from Native Grapes.

The following receipt for making domestic wine from Catawba or Isabella grapes, used by G. A. Nicolls, at Reading, Penn., is commended by a gentleman who has tried it successfully:—

- 1. Select perfectly ripe bunches, and then carefully pick off the stems and remove all grapes which are not quite ripe.
2. Squeeze the juice out, either by hand or press; strain through a hair sieve, and pour it at once in a clean, sweet barrel or keg, adding to the vessel two gallons of water for every gallon of juice made.
3. At the same time put in four pounds of sifted sugar per gallon of juice.
4. In adding the two gallons of water stated in section 2, let it strain through the pulp, skins, &c., of the residuum of the grapes after being squeezed.
5. Fill the vessel full, up to the bung-hole, which cover with a sand-bag, to allow the fermentation to escape.
6. Watch the barrel daily, and clear or scrape away the scum, which will be thrown out in large quantities.
7. As the wine falls below the bung, fill up daily (after clearing away the scum) with sugar water, made with two pounds of sugar to the gallon of water.
8. The fermentation will continue from three to six weeks, according to the weather. When it has ceased, I poured into the bung-hole about one gill of brandy to the gallon of juice, to flow over the surface and prevent its souring; but the brandy may not be indispensable. Then bung the vessel up tight.
9. During the cold weather in, say, the following February, when the wine is perfectly still and clear, draw it off into any other clean vessel, then quickly clean, scald and rinse thoroughly the barrel in which the wine was made, and return the wine to it, bung it up, and draw it off as required for use.
10. If you wish to make a very palatable champagne, have the champagne bottles ready when you rack off the wine, as stated in section 9; put a tablespoonful of common syrup in each quart bottle; then fill with the wine, leaving about one and a half inches clear below the bottom of the cork, which fasten very securely with strong twine, as the pressure of the fixed air to escape is very great.
11. The wine will improve by age, after the operation described in section 9.
12. An old brandy or whiskey barrel is the best (see section 2.) Never use a new barrel, as the wine will taste of the wood.
13. About fifteen pounds of grapes will give one gallon of juice. The riper the grapes the better the yield of the juice. One gallon of grapes in bunch weighs about four and a half pounds.
14. Keep the wine in the cellar, where it will not be exposed to extremes of temperature.
15. An approximate estimate of the quantities required for a thirty gallon barrel will be as follows:—

TO MAKE THIRTY GALLONS OF WINE.

One hundred and fifty pounds grapes, yielding 10 gallons juice; 20 gallons water, strained through the pulp residuum (see section 4), 40 pounds of sifted sugar, 2 1/2 pints of common brandy. (See section 8.)

If carefully made, the wine will be wholesome and palatable, with a flavor like grape-juice Madeira. It was preferred to all others at the Washington hospitals during the war of 1861-5, and was reported to have been the means of saving the lives of some of the soldiers.

About Apple Growing.

Calvin Fisher, Esq., of Belfast, Me., is an enthusiast in apple growing. His farm of fifty acres, with the exception of about ten acres in pasturage, is covered with apple trees of various sizes and ages, though a majority is not to use animal manure around or near his trees, but to depend wholly on vegetable manure in the form of mulching. He defends his position upon the ground that the one is the natural method and the other artificial, the latter tending to decay and the former to health.

He kept over 1,200 bushels of apples, mostly Baldwins, through the past winter and spring in his cellar, and has only just sold the last of them, the prices ranging from \$1 to \$2 per bushel. He says by his mode apples may be kept the year round, without losing their juiciness or crispness; and this method should be understood by every orchardist.

His theory is that early rotting and decay of apples is due to a great extent to a vegetable miasma in the air, which is communicated to it by vegetable evaporation under certain conditions. The effect of miasma is first seen in a minute speck; sometimes as many as a dozen may be counted on the same apple.

His remedy is a daily airing of the cellar or place where the apples are stored, arranging so as to have a brisk circulation until all the stagnant air is expelled and its place occupied by pure, healthy air.

His success has certainly demonstrated the feasibility of his plan. He is one of the most successful growers in this section, and his views are worthy of consideration.—Country Gentleman.

Layering Shrubs.

It is often to us a subject of surprise to find so few persons, especially those residing in the country a distance from nurseries, who attempt to increase their stock of shrubbery by layering the branches. Almost every variety of shrub can be thus multiplied. Even among those who do this, it is not often that the queen of flowers—the rose—is thus treated. It is usually propagated by sticking cuttings from the new wood in August and nursing carefully through the winter. By layering the growing branches, however, it is by the succeeding season a bloomer; and this, too, can be done easily, that is, without the use of a sash or hot-bed, usually resorted to with the cutting. In laying down, take a sharp knife and slit the part of the branch that enters the ground from one joint to another; then cover with two inches of soil, and fasten down with a forked stick. Not only roses, almost every kind of shrub can be thus propagated. And the person who does not know how to do this should go without them all the days of his life.—Etc.

Valuable Birds.

The value of our native birds to the farmers and the good they do in destroying injurious insects are well illustrated by a recent statement in Forest and Stream, from which we learn that the birds common in the Western States, the western lark, mountain plover, burrowing owl, chestnut-collared bunting, western ground robin, field plover, blue-bird, yellow-billed cuckoo, red-eyed vireo, scarlet tanager, Baltimore oriole, orchard oriole, night hawk, eared grebe, Hudsonian godwit, rail, Wilson's tern, Esquimaux curlew, consume insects only; the lark bunting, yellow-headed blackbird, crow blackbird, white-crowned sparrow, cardinal and Wilson's phalarope consume both insects and seeds; the pinnated grouse eats insects and green plants; the yellow-shafted flicker lives on insects and ants' eggs; indigo birds live on seeds and the tanager on buds; the sparrowhawk also devour many insects. These facts have been learned by examination of the contents of the crops of these birds.—New York Tribune.

Culture of the Chestnut.

The planting of timber on our Western prairies should be the first thought of the settler; but what variety of trees and how to start them are questions requiring some consideration. Willow and other soft woods, although of very rapid growth, should never take precedence of more useful species, as the chestnut and locust. The latter grows rapidly enough, is invaluable for fencing material, and in addition the chestnut pays well in the sale of its nuts.

The American species should be set out in groves for timber; the rows eight feet apart, each way, with corn planted between. Young seedlings will thus receive a protecting shade, as well as cultivation, until they are of sufficient age to do without either. They should never be trimmed, as the lower branches afford ample protection to the bushes, and in after years nature will perform this duty in due form and in proper manner. If in the way of the cultivator an occasional limb may be shortened in, but never cut close to the body. Trees grow much better, and are always healthier, when the lower limbs are allowed to shelter the main trunks all the way to the ground.

My success in grafting has been varied. The first attempt was undertaken in the belief that the scions must be kept dormant until the stocks had grown and were developing their young buds. In consequence, I was obliged to wrap the scions and lay them in contact with ice until the proper time arrived to use them. Subsequent experience, however, convinces me that I was in error, and that I can be more successful by performing the operation just previous to the moving of the sap. My present practice is to cut the scions very early in the spring, and keep them fresh and cool (by covering them with soil, on the north side of a building where the sun never shines) until needed. Latterly I have cut them about the middle of March, and grafted about the 1st of April; difference of latitude must, of course, influence other cultivators in the West.

Chestnuts are not so readily grafted as apples and pears; they are variable, and we can never feel assured that success will be a certain fact; taking one year with another, 50 per cent. will be a fair average. As an illustration, a few years since I inserted about 40 grafts in the head of a large tree, and but 5 failed. One week later I placed 25 grafts on another tree, and but 5 out of the number grew. Still one week later than the last, I inserted 25 grafts in another tree, and but 3 survived. Budding is still less satisfactory, and I have now relinquished it altogether.

Where one has a particular variety of uncommon size and quality, grafting must be resorted to, else in a few generations it will return to its normal condition—that of a small and comparatively worthless fruit; still I firmly believe that in the far West, where no inferior varieties are grown, chestnuts may be raised pure from seed, year after year. The nuts may be planted at once in hills similar to corn, or they may be transplanted from nursery rows at one or two years of age. The French variety, so called, will produce better than the Spanish, and the trees are more compact in habit, resembling in the latter respect a round-headed apple tree. These foreign varieties are, however, inferior in quality to our native species, when eaten in a raw state; but after roasting or boiling, there is no apparent distinction excepting in size.

Planting chestnuts in orchard, say 30 feet distant each way, has many recommendations. The ground can be cropped several years, and the grass and weeds kept free from the bodies, thus proving a sure protection against mice, which commit sad havoc on the bark. An orchard of this character would come into bearing so early and produce so abundantly that remuneration would prove a sure fact.—T. B. D., Penn.

Soap Wash for Fruit Trees.

The beneficial influence of a weak alkali wash upon the bark of fruit trees is of long-standing acknowledgment. Its action is in expansion of the pores, while at the same time it is destructive of all animal life, sporadic or otherwise. Writers or theorists differ as to the best time to apply it, but we have always found that if good common sense be used in preparing it, the time of application is always good. Now for the preparation:—If you use purchased potash, reduce it so that you can bear your finger in it half a minute or more without a tingling or sore sensation. If you can obtain a good soft soap from the refuse grease and lye of ashes saved up dry, then take it and reduce it (the soap) down, not to a suds, but so that it will not beropy when used by a whitewash brush. Use it freely; it matters not materially just when, but say now, and any time most convenient until July 1st, but after that time it is perhaps better to wait till the next year.—American Farm Journal.

Lime and Apples.

A Mr. Millar refers to the effects of lime on his orchard, and says:—

I have found nothing better than lime in producing good apples; we have lime and gravel soil. Newton Pippins planted in 1833; in twelve or fifteen years the apples got scabbed, and I threw lime under some trees, and the apples growing on those trees are to-day as fine as any apples I have ever seen. I scatter a bushel of lime under a tree in the spring; some other varieties do not require so much. The apples are as good as twenty years ago when I used lime. My trees have deteriorated and I used lime, and they are as good to-day as ever. I always keep plenty of hogs in my orchard; they pick up the insects. Barnyard manure tends to introduce insects and make them breed more rapidly, and hence should not be used.

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Directions About Lawns.

If the surface is rough, there are two ways of making it smooth and even. The first is by breaking up the whole ground, working and reworking till fine and mellow, and then reseeding or returning. If the ground is recessed, sow at the rate of at least two bushels of grass seed per acre, and roll or brush it in. Red-top, white clover and Kentucky blue grass will give a good green carpet. If re-turfed, make the bare surface perfectly even and level; cut the turf from an old, even pasture, with straight edges, by means of a stretched line, and then invert the pieces or blocks on a broad board, and scrape the earth side perfectly even by means of a sharp hoe. They will thus form an even surface when laid, and rolling will make the whole as smooth as a floor.

The second method of making an even surface, is to apply sand or fine sandy loam to the surface, and rake it level, by which it will fill up all the hollows or depressions, and the grass will grow through the sand. This is well adapted to lawns which have but slight inequalities of surface.

If the defect consists in the grass being too thin or sparse on the lawn, the whole surface may be loosened with a sharp steel rake, or a fine sharp harrow on a larger scale, and grass seed sown as already directed; and its germination will be greatly assisted if the whole surface is dressed with fine compost before sowing and raking. In some instances a better seeding will be effected by breaking up, as already described.

If the lawn is defective from the growth of coarse grass or weeds, there are two modes of treatment. One is to pull up all the weeds immediately after a long rain, when the ground is soft, or to cut them out with a spud; and the other is to summer fallow the whole ground for one season, keeping the surface stirred and clean all the time, which will kill nearly all the weeds. This is to be resorted to only in case the lawn is full of weeds, and in a rather desperate condition to warrant it.

To keep a lawn in good condition, apply a top-dressing of some fertilizer late in autumn, spreading it perfectly even. Coarse manure is objectionable for two reasons, namely:—Its repulsive character all winter when the ground is bare of snow, and the liability to scatter foul seed in this way. But, if nothing better can be had, be careful to spread it perfectly even and not leave it in lumps, as well as to rake off all the fibrous material left on the ground early in spring. Finely pulverized compost answers well, or a compost made of guano or of hen manure. The latter may be undiluted, provided it is in fine powder, or it may be made into a fine compost with road dust. On some soils, superphosphate answers well; on others it has no effect. The manure or composts may be applied in autumn; the more concentrated fertilizers early in spring.

The surface having been already made perfectly even, will require no more rolling than is given to it by the lawn-mowers.

Fall Planting of Raspberries.

It is seldom that any one expects to obtain fruit from raspberries the first year they are set out, and those who do are usually disappointed. It is therefore worse than useless to leave long canes upon the roots when planted out, for these only draw to themselves strength, which is needed to produce new ones for giving fruit the following year. The canes of all are commonly cultivated species and varieties are biennial, that is—they grow one season, produce fruit the next, then die. This being the natural habit of the raspberries, very little need be expected from the canes on the roots when transplanted, for if they put forth leaves and lateral shoots all will die before the end of the first season, no matter how careful one may be in trying to preserve them at the start. The better way, and the one usually practised, is to cut away the canes, or the greater portion, at the time of setting out, allowing all the strength of the roots to be thrown into the new canes, which must spring from them if the plants live and thrive. But as the roots of raspberries, like the currant and gooseberry, commence growing very early in the spring, or within two or three days after the frost leaves the ground, they cannot be transplanted too early if to be done at this season. The ground is seldom in a condition to work with ease sufficiently early to admit of moving these plants before growth commences, hence the advantages to be gained by planting in the fall. As we have said, it is only the roots that we care about pre-

serving the first season, and if canes are left on at the time of planting in fall, and they are killed during the winter, it is no loss, for the young shoots will be all the more vigorous the next spring. The roots are well protected in the earth, and in a position where they can grow when the season arrives without being disturbed. We would never defer the planting of raspberries until spring if it could be done in the fall, and we may add that currants, gooseberries and blackberries will succeed better if planted at this time than in spring.—*Rural New Yorker.*

Pruning the Grape.

The treatment of the vine the first year is to not let but one shoot grow, and pinch one off about the last of August so the wood will ripen up to stand our winter better. About the last of November or the first of December, I take the vine from the trellis, trim it, and bend it down and cover it from four to six inches deep in the earth, and leave them in this condition until the first or middle of April. Then I uncover the vines and wash them off clean with soapsuds, or use a force pump which answers a very good purpose to wash the dirt off and to moisten the buds so they will develop more evenly. This should be done frequently until they are well leaved out. The second year I let two shoots grow and treat them in the same manner as the first year. After the third year, you have encouraged the growth of the vine to its fullest capacity in length, say eight or ten feet, which should never be allowed to extend farther than this, on any condition whatever, for fear of letting it overbear. I have always adopted the spur mode of pruning the vine as it appears to me the most reasonable, and that is to cut off in the fall the present season's growth of the wood, to the third eye of each spur. This is the manner that I have always practiced since I commenced the cultivation of the vine, and I have been very successful in getting good fruit. If I think the vitality of the vine requires more wood, I let the end branches extend a little farther at the time of pruning, but often make mistakes in getting too much bearing wood than otherwise.

Onions Sown in Fall.

Last year we published an article by Peter Henderson, in which he gave the experience of a Long Island market gardener who sowed his onions in Autumn. We gave the plan a trial in our own garden last Fall, but the sowing was not made until the very end of September, and the young plants did not make sufficient growth to stand the very severe winter, even though they were well covered. Still the success, though only partial, was sufficient to show that this method is worthy of consideration, and from the amount that came to maturity on our bed this summer, have no doubt that it will answer whatever sets are used; but where onions can be raised directly from the seed, there will be no advantage from fall sowing except for such as are to be marketed green or very early. The idea is to sow the seed in fall at such a time as will allow the plants to form a bulb large enough to stand the winter, and yet not so large as to run up to flower the next season; in fact, to raise onion sets, which instead of being harvested, are to be left in the ground where they will be ready to grow as soon as the spring opens. On Long Island the middle of September is found to be the best time to sow; further south it should be later, and north of that earlier. Success will largely depend upon the time of sowing, and this for any particular locality can be ascertained from experiment. The covering should not be put on until cold weather has stopped the growth of the bulbs, and may be of leaves, straw, marsh hay, or other litter. Leaves applied while it is snowing will not blow about.—*American Agriculturist.*

Superphosphate on Asparagus.

Peter Henderson says he has found superphosphate of lime very useful as an application to asparagus beds, at the rate of 500 pounds per acre (which would be a little over three pounds to the square rod), sown on the beds and hoed in. When tried on alternate rows the crop was nearly double when cut the following spring. This experiment is easily performed by those who have superphosphate on hand, but the same degree of success is not to be expected on all soils. We have known other crops to be equally benefited by the application of this fertilizer in one place, while the effect was imperceptible in another neighborhood not six miles distant, with no visible difference in the character of the soil.—*Country Gentleman.*

Horticulture.

A. PONTEY EDITOR.

Gardening Operations for October.

The busy season for all interested in gardening pursuits has again come round. Unlike its counterpart in the spring, when the season's prospects are all in the future, we can now look back over the spring and summer's work, and see wherein we might have done differently to what we have; and doubtless, to an inquiring mind, many little incidents connected with the garden's work have transpired which have suggested a new line of action for another year. It would be well while anything of this sort is fresh in the memory to dot it down in a memorandum-book, which might also contain useful hints on many other subjects, to be opened and looked over whenever the time for putting any of them into practice comes along.

Usually in this month there is a large lot of planting done, especially among fruit trees, and it would be well for farmers to consider, before committing their trees to the ground in the fall, whether the piece of land upon which they intend to plant them is of such a nature and in such a condition of cultivation as to warrant their being put in or laid away carefully in a trench to await the coming of spring before setting out.

Controversies are continually seen in horticultural works upon the merits of spring and fall planting, and the opinion seems to hold that upon lands naturally dry trees can be planted in the fall equally as successfully as in spring. But upon low lands, where the condition of the soil is such as to retain water near the surface, it is conceded on all sides that it is best not to plant except in the spring.

We are of opinion that fall planting should be confined to the south and westerly portions of Ontario, and that for the north and more easterly portions of the Province, as also for the whole of Quebec, any trees received in the fall should be buried almost completely in a dry bank, and allowed to remain so for the winter.

Immediately that a tree shows by the ripening of the buds and drying up of the leaves that it is in a fit condition to dig, then is the time to plant, as the earlier they are put in when fit to be removed, the better, giving the young rootlets an opportunity to form and the tree an opportunity to prepare itself in a measure for the winter.

Especially should all fall planted trees be securely fastened to two stakes, one on each side of the tree, and driven down firmly so as not to allow of the possibility of shaking. A cone of soil thrown up about each tree to the height of 18 inches will be a safe guard against mice, and will also protect the roots in a great measure from the severe frosts.

Evergreens should not be planted later than the middle of September, and then, if the weather should be dry, it is risky.

A piece of ground in the kitchen garden, upon which potatoes or some early crop has been grown, can be well manured now, trenched deep and planted with strawberries. All they will require is a slight covering of corn stalks or long litter to prevent heaving out by the frost in spring. Sow a good large bed of prickly or winter spinach; it will furnish the house with a delicious vegetable early in the spring, while other things are growing. Cut off the tops as soon as dry from the asparagus beds, and throw the soil from the alleys up on to the bed; it will help protect the crowns of the plants during winter, but must be raked off again in spring.

In the flower garden, Dutch bulbous roots should be planted, and for manure to prepare the bed with, nothing can equal clean cow manure mixed with fine sand. Flower seeds should be watched, and as they ripen, gathered and put away properly labelled, so as to save confusion when wanted again.

A few words on gathering apples may not be out of place at this season. Apples should be picked (not shaken down) and handled as carefully as though they would break as readily as an egg; a blow which would break an egg will bruise an apple, and spoil it effectually for long keeping. Put right into barrels from off the tree, and either let the barrels stand unheated under a dry, cool shed until the first sweet passes off the fruit, or use perforated barrels. A cold cellar—one in which water will just freeze in severe weather—is better for keeping apples than a warmer one. It is good policy, where it can be done, to leave the barrels out in an open shed until fears of their being frozen are entertained.

Uncle Tom's Department.

HISTORY PUZZLE.

89.—If you take the first letter of each of the following men's names, in the order in which they occur, they will give you the date of the year in which the first parliament was held in Ireland: (The writer of "Festus" and the "Jews of Malta," who lived from 1562 to 1593); (the man who introduced printing into England—lived 1410-1491); (the first great English poet—1328-1400); (a great historian, B. C., who led the Greeks in a retreat after Cyrus was killed); (a great sculptor who cut the monument of the Two Sisters in Litchfield Cathedral—1782-1848); (a great painter who painted the portrait of the only English king that was ever beheaded.

HIDDEN RIVERS OF ENGLAND. 90.—You remember we are to collect rent on these and other houses, against our wishes. The foregoing sentence contains six rivers.

DOUBLE ACROSTIC. 91.—The initials name a country and the finals its capital: A small bundle; languor; amendment; beyond. CANADIAN CUFF.

HIDDEN CITIES. 92.—My pa risked his life to save a man.

93.—He went into a salon done up with curtains.

94.—He asked is that box for dinner.

95.—The debris told him to help himself.

96.—He went singing rub-a-dub, lingering to one side.

97.—What shall I do? Verily, I do not know. TOM RUSTON.

SQUARE WORDS. 98.—One of the points of the mariner's compass; a word used by fishermen; something used for washing; something used by printers. A. J. TAYLOR.

99.—A flower; above; half; a country near England. J. H. HOUSER.

DIAMOND PUZZLE. 100.—A consonant; a piece of meat; a female's name; displeasure; a consonant. E. HART.

101.—Fore ATT LeTor UBTHE IRTA llsAg A In St. MAGGIE GEORGE.

CHARADES. 102.—My first is an abbreviation of my whole; my second gives the sound of an expression of sadness; my third is an exclamation; my whole is a young king noted for his goodness in Bible history. ELIZA ANN WILSON.

103.—My first and second are the same, Reversed, a little rodent name; Catch not my whole, for it is said, You'll sometimes get one when your wed. REBECCA STEVENSON.

RIDDLES. 104.—There is a great goose, she is of a great size, Those who go in her hath need to be wise; She has legs in her body, but walks upon none; She goes far for her living, and is seldom at home. C. W. RUTLEDGE.

105.—Along the road in years gone by, It toiled so long and wearily, What is it then? add but a single letter, pray, Then see it travel on its way With speed untired, I ween. J. H. CROSS.

Answers to September Puzzles.

76.—N TEN UPPER NEPTUNE ROUND END E 77.—F ELI FLORA IRE A 80.—IDA PEN ANT

78.—CarP; HadjI; AconstiC; RansacK; LoW; EnnuI; SataniC; DebarK; ImP; CabalA; KeeP; EclipsE; NectarR; Sadness—the initials are, Charles Dickens, and the finals, Pickwick Papers. 79.—As we were going through the Woods we saw a Bear which had a cub. The hunter blew a big Horn, and frightened a Turkey, which had lain an Egg by the side of a Big Stone. We caught the cub, took it home, and gave it some Milk. As the hunter, who called himself Portland Bill, was going

The Stove-pipe Season.

John Smith, on rising from his "downy couch" last Friday morning, discovered a sudden change in the atmosphere, and thought it would improve matters to have the stove put in position. Having a little spare time on hand he guessed he would turn to and do it himself. Now Mr. Smith is a mechanical genius. He says he inherited it from his father, who was very fond of tinkering around. Though his sisters had no particular development of mechanical ingenuity, the boys all had, and he the "lion share." He likes to do odd chores around the house, and jobbing is no trouble to him, it comes so natural. It was eight o'clock, and having an hour to spare, he would put up the stove at once, and as it would only take half an hour, he had ample time to do it, besides Mrs. Smith would be so uncomfortable this chilly day without a fire. After skirmishing around for a while, the stove-pipe

requisites are captured, and operations commenced, as in scene 1. How he succeeded with his tinkering, words are unnecessary, as our picture fully shows. The finale (scene 4) occurs at three o'clock in the afternoon. The remarks Mr. Smith gives utterance to here on putting up stove-pipes, we do not consider worthy of publication. He expects in the course of a week that his hands will have recovered from the cuts and bruises received, and he will be fitted to attend to his office duties. When Mrs. Smith desires to raise a row in that house now, she has only to say "stove-pipes." She uttered it once but will not do it again until she gets her life insured. If any of my nieces are on the lookout for a husband (which of course they are), and have any doubt of his temper, just try him on putting up stove-pipes. They are a sure test. If his patience does not give out during this ordeal, you marry him immediately.

Lady Dilke's ashes weighed only 6 pounds; but we can depend on a Guelph girl's foot to do better than that.

A conscientious farmer in Lewiston, Me., wiped the mud from his cart-wheels before permitting his load of hay to go on to the scales to be weighed.

Graham bread is said to be an excellent food for the children, on account of its superior bone giving qualities. You can feed a child on that bread until he is all bones.

The man who won't take a paper because he can borrow one, has invented a machine with which he can cook his dinner by the smoke of his neighbor's chimney.

"Cut that meat for you?" "of course I will," said a Kansas waiter as he strapped a case knife on his boot-leg. The guest was one of your particular men, from Boston, and he got up and left.

A colored preacher remarked: "When God made de fust man he sot him up against de fence to dry," "Who made de fence?" interrupted an eager listener. "Put that man out!" exclaimed the colored preacher, "such questions as dat 'stroy all de th'ology in de world?"

Danbury has the champion patient boy. He comes from a chronically borrowing family. The other day, he went to a neighbor's for a cup of sour milk. "I haven't anything but sweet milk," said the woman pettishly. "I'll wait till it sours," said the obliging youth, sinking into a chair.

A Scotch peddler completely cowed an irascible Welshman, who insisted on fighting him in an inn kitchen, by going down on his knees and imploring pardon for having killed "two men already and being about to kill another."



along, he trod on a snake, when he muttered, "You are anything but a Darling, and having dispatched it, he put it in a Jug and sent it to a naturalist. We then returned home, as the day was very rainy, and a Wetter lot of people you never saw. 81.—William Pitt. 82.—Rattlesnake. 83.—Welcome. 84.—Misfortune. 85.—A pair of boots. 86.—A clergyman. 87.—A bank. 88.—Love.

ANSWERS TO SEPT. PUZZLES.—Wm. Pitt, London; Arch'd J. Taylor, Glencoe; J. H. Cross, Caledonia; Maggie George, Shakespeare; Almira Bradford, Riviere Rouge, P. Q.; Thos. Caldwell, Cumberland; Miss F. A. Caldwell, Cumberland; Jenny Gerry, Hibbert; Libbie Poole, Aldboro; Charles Fuller, Hibbert; E. Hart, Reaboro; E. Waugh, Lima, Ohio; John Smith, Montreal; M. Shea, Ottawa; E. Springer, Memphis, U. S.

ANSWERS TO AUG. PUZZLES.—J. H. Howard, Canboro; Mary A. Baird, Fitzroy; C. L. Foran, Eardley; Tom Ruston, Sebringville; Jas. Bright, San Francisco; C. W. Rutledge, Markdale.

HUMOROUS.

Why Johnson's Ram Failed to get a Premium.

Our county fair is just over; but Johnson's Cotswold ram did not take the prize that was offered for the best animal of that kind. Judge Klump was chairman of the committee on rams, and he manifested the deepest interest in Johnson's ram; indicating clearly that if any sheep ought to take a prize that one ought to. Johnson's ram was by itself in the pen with a high board fence, and before adjudicating the prizes the Judge thought he had better go in and make a close examination of the animal for the purpose of ascertaining the firmness of its wool. As soon as the Judge reached the interior he walked toward the ram, whereupon the ram began to lower his head and to shake it ominously. Just as the Judge was about to feel the fleece, the ram leaped forward and planted his head in the Judge's stomach, rolling him over on the ground. Before the Judge had time to realize what had happened, the ram came at him again and began a series of promiscuous butts, each given with the precision and force of a pile-driver. It butted the Judge on the back, on the ribs, on the arms, on the shoulder-blades, on the bald place on his head, on his shins; it butted his nose, it butted his watch into a mass of loose cog-wheels, it butted his spectacles off, it butted his high hat into black silk chaos; it butted him over into the corner and up against the fence, then it butted four boards off the pen, and escaped into the fair ground; and skeddaddled, and would not wait to have the First Prize Ticket pinned to his ear. Judge Klump did not go after it. No, no! Four men came in and carried him home. The Doctor anticipates he will recover by the next fair.

Magruder's Goat.

Mrs. Magruder's baby is carried out by the nurse now, since the accident to its carriage. Magruder thought it would be a good idea to have a tame goat to pull at the coach, and he bought one for that purpose; but one day the goat met another goat that differed from him in politics or religion, and each undertook to convince the other by jamming him in the skull. Every time Magruder's goat would rear up preparatory to making a lunge forward, Magruder's baby would turch over backward, and when Magruder's goat struck the other goat, the concussion would shake the milk in the baby's stomach into butter. And sometimes the other goat would aim at Magruder's goat, which would dodge, and then the other goat would plunge headforemost into the coach and smash the baby up in the most frightful manner. And in the midst of the contest a couple of dogs joined in, and Magruder's goat backed off and tilted the coach into the gutter, and the dogs, biting around kind of generally, would snap at the goat and cause it to whirl around just in time for the bite, until at last the goat got disheartened and sprang through the fence, leaving the coach on the other side, and it struggled frantically to escape while the other goat crowded up against the baby in order to avoid the dogs, and finally knocked the baby out, and butted the coach to splinters. They say the way Mrs. Magruder eyed Magruder that afternoon, when they brought the baby home mutilated and disheveled, was simply awful to behold; but she didn't speak to him for a week, and he had to soften her down by buying her an ostrich feather for her winter hat. The goat is still at large. Anybody who wants him can have him free of charge. Magruder doesn't recognize the animal when he meets him upon the street. *Max Adler.*

FEMALE DRESS.—This is how a lady authoress says it feels:—"Take a man and pin three or four large tablecloths about him, fastened back with elastic and looped up with ribbons; drag all his own hair to the middle of his head and tie it tight, and hairpin on about five pounds of other hair and a big bow of ribbon. Keep the front locks on pins all night and let them tickle his eyes all day; pinch his waist into a corset; give him gloves a size too small, shoes ditto, and a hat that will not stay on without a torturing elastic, and a frill to tickle his chin, and a little lace veil to blind his eyes when he goes out to walk, and he will know what a woman's dress is." My?

A Springfield man recently took a bath in the dark. He managed well enough, only he got hold of a piece of stove-blackening instead of soap, with marked results.

Minnie May's Department.

Now that the long winter evenings are coming on, I take the liberty of suggesting a few practical hints to my readers to pass the winter pleasantly. There is nothing that so thoroughly binds a family together as a beautiful home. It does not require everything around us to be of the most elegant or costly description, but that it should be neat, tidy and cosy, and every facility is made the most of, and where the mother and daughters vie with each other and exercise their ingenuity during their leisure moments in planning little devices which will go towards improving some room, or engaging themselves upon something that will give pleasure to husband, father or brother.

Let us, if we have not done it heretofore, commence at once to make our homes cheerful with pictures and flowers during the chilling blasts of winter. Let each member consider it a duty to take a share in making this a pleasant season in their homes, and we venture to affirm that there will be a less desire on the part of the younger members of the family to seek other scenes. I give below some excellent "Devices of Autumn Leaves," which will afford very pleasant employment to those who have the time to spare.

MINNIE MAY.

Devices of Autumn Leaves.

An exquisite transparency may be made by arranging pressed ferns, grasses and autumn leaves on a pane of window-glass, laying another pane of the same size over it and binding the edge with ribbon, leaving the group imprisoned between. Use gum tragacanth in putting on the binding. It is well to secure a narrow strip of paper under the ribbon. The binding should be gummed all around the edge of the first pane, and dried before the leaves, ferns, etc., are arranged; then it can be neatly folded over the second pane without difficulty.

To form the loop for hanging the transparency, paste a binding of galloon along the edge, leaving a two inch loop free in the centre, afterward to be pulled through a little slip in the final binding. These transparencies may either be hung before a window, or, if preferred, secured against a pane in the sash.

In halls, a beautiful effect is produced in placing them against the side-lights of the hall door. Where the side-lights are each of only a single pane, it is well worth while to place a single transparency against each, filling up the entire space, thus affording ample scope for a free arrangement of ferns, grasses and leaves, while the effect of the light passing through the rich autumnal colors is very fine. Leaves so arranged will preserve their beauty the entire winter.

An exceedingly pretty standing for a lamp can be formed of eight oblong transparencies (made of glass and autumn leaves, as described) tacked together with strong sewing silk so as to form an eight-sided, hollow column. To hide the lamp candlestick, the screen should be lined throughout with oiled tissue-paper, either white or of a delicate rose-color.

A better plan still is to get the effect of ground glass by rubbing each strip of glass on a flat paving stone, plentifully covered with white sand. This grinding process, of course, must be performed before the leaves are inserted, and then only upon the inner sides of the glasses.

DEAR MINNIE MAY,—In accordance with "Home Girl's" request in the last number of the Advocate, I send the following recipe for making

LEMON PIE.

Take the yolks of three eggs, one and a half cups sugar, one cup water, one tablespoonful flour, the juice and rind of one lemon; chop the rind and stir the whole together. Bake as custard. Beat the whites of the eggs to a froth, and add four tablespoonfuls white sugar. Put this on the top evenly, when the pie is nearly done, and bake to a light brown.

SHERKSTON, SEPT. 4th, 1875.

DEAR MINNIE MAY,—I see one of your lady correspondents asks for some recipes; I think I can supply her with some of them.

For lemon pies—puddings, we call them in England—I use the following:

Two large, ripe lemons; cut, and strain the juice into a saucer, but do not let the seeds in, or it will be bitter; grate off the thin yellow rind. Take half a pound of white sugar and the juice and grated rind of the lemons, half a pound of fresh butter, and beat all together in an earthen vessel till it is like cream; then beat six eggs very smooth in another vessel, and add gradually to the mixture, beating all the time, or it will curdle. Have ready a light puff paste, and line the sides of broad-rimmed ware plates or dishes, but do not put any paste under the mixture. Bake directly in a moderately warm oven half an hour; send to table cold. If made rightly, it will cut smooth and shining, like a custard, but far superior. If I happen to be short of lemons, I use one lemon and as much essence of lemon as will bring it to the same flavor.

TAPIOCA PUDDING.

Take four large tablespoonfuls of tapioca; wash it in cold water, then drain it, and put it in a quart bowl with as much cold water as will cover it; let it soak all night, and in the morning put it on to boil, adding as much new milk to boil it with as will make it like sago. Be sure to keep it stirred, or it will burn. When done, put it into an earthen dish; when nearly cold, add six eggs, a little more milk, a small piece of butter, white sugar to sweeten it, and either lemon or nutmeg to flavor. Bake till brown.

COCONUT CAKE.

Cut and peel some pieces of ripe coconut; lay for a little time in cold water. Then take out and grate with a carrot grater as much as will weigh half a pound. Beat eight eggs till light and smooth. Have ready half a pound of crushed loaf sugar, and stir into the beaten eggs alternately with the coconut. Add a large handful of flour, one nutmeg grated fine, a glass of sherry wine, and stir the whole very hard. Butter a long tin pan; bake in a quick oven, and bake it well. When cold, cut it in squares and ice. Flavor the icing with rose water.

CHOCOLATE PUFFS.

Beat stiff the whites of three eggs, half a pound of loaf sugar, and three ounces of chocolate scraped down fine. Dredge it with flour to prevent its oiling; mix the flour well amongst it. Then add the chocolate gradually to the egg and sugar; stir the whole hard. Cover the bottom of a square tin pan with white paper; place upon it spots of powdered sugar about the size of half a dollar. Pile a portion of the mixture on each spot, smoothing with the back of a broad knife dipped in water. Sift white sugar over the top of each. Set the pan in a brisk oven; bake a few minutes. When cold, take them from the paper with a broad knife.

MRS. C. BAKER.

Westminster, Sept., 1875.

Cabbage.

TO BOIL CABBAGE.—Wash very thoroughly in cold water; look between the leaves, where insects and worms are very often secreted; then put into boiling water—some say without salt; we prefer to add salt when half done; boil quickly till tender; then take it out with a skimmer into a colander or sieve, and drain free from all water; season with a little butter and pepper.

TO BOIL CABBAGE WITH MEAT.—Select small, white, firm heads; cut in quarters; examine carefully; then lay the quarters an hour in cold salted water, to drive out any insects that may have escaped your observation. Skim all the fat from the pot in which the pork or beef is boiling, and put in another kettle and boil the cabbage in that, as it gives a disagreeable taste to meat when cold.

HOT SLAW.—Cut a firm, white head of cabbage into thin shreds; put it into boiling water; cook till tender; only just cover with water, so that when done there may be hardly any remaining. Just before dishing, add to one good-sized head half a tea-spoonful of good cider vinegar, and a piece of butter half the size of an egg, with salt and pepper to suit your taste.

The Stratford Exhibition takes place on the 6th and 7th of October, and the St. Mary's Exhibition on the 5th and 6th of October.

Infecti

SIR,—Two years ago I had a Durham bull. I had trouble with the three and four t with calf. I attr grain. This sea cows going four exception of the season, all of the He has had no g can assign any r your paper, and

Seymour, Sept.

[The infectio from over-feedi season we woul other cause of i door life and ex instead of pastu effect on him. sue with breedin air, plenty of e sufficiency of g unfruitfulness feeding—forcing

One of Man Our Agric

SIR,—I have Australian cat and eleven thir part of an acre, owing to their

Monkton, Se

Im

Mr. Richard the highest pri world's late sal State—\$5,600. year old "Mis year old cow v Edmonton, p \$3,000, and "

We have rec try Journal," ing, managing and every v man, the far Brooklyn, Ont tors and pro every success

Adv

We advise choice to Eng in Canada at pay best.

In England of whe t has lat admitted by all and quality favorable, and than was at one vary greatly are lighter tha not more than heavy, and in abundant crop abroad than sh to import 12.5 America and F is said to be. cases there ar hand. From crops continue latest crop re injury caused ma great mea Further north discoloration

Infecundity of Animals

SIR.—Two years ago I bought a thoroughbred Durham bull. The first year I had a good deal of trouble with the cows getting with calf...

A SUBSCRIBER.

Seymour, Sept. 2nd, 1875.

[The infecundity of animals generally proceeds from over-feeding, and the means you adopted last season we would also have recommended. Another cause of infecundity is insufficiency of outdoor life and exercise.]

One of Many Reports of the Yield of Our Agricultural Emporium Seed.

SIR.—I have just threshed from 1 lb. of your Australian oats, sown 5th May last, two bushels and eleven thirty-fourths. Size of land sown, 40th part of an acre, and did not thresh them very clean owing to their being so damp.

E. GREENSIDES.

Monkton, Sept. 6th, 1875.

Imported Shorthorns.

Mr. Richard Gibson, of London Township, paid the highest price for a Shorthorn at A. W. Griswold's late sale at New York Mills, New York State—\$5,600. He also secured the valuable two-year old "Miss Gwynne," for \$3,000, and an eight-year old cow with calf for \$1,900.

Notice.

We have received a copy of the "Canada Poultry Journal," which is to be devoted to the breeding, managing, and marketing of poultry, pigeons and every variety of pet stock for the poultryman, the farmer and fancier; H. M. Thomas, Brooklin, Ont., and E. R. Grant, Port Hope, editors and proprietors.

Advice to Cheese Makers.

We advise our dairy friends not to ship their cheese to England on commission. Let them sell in Canada at what prices they can get; this will pay best.

Commercial.

Crops and Markets.

In England it is an established fact that the average yield of wheat has largely decreased from that of last year; and it is admitted by all that the yield has been poor both in quantity and quality. The harvest weather has however, been favorable, and the crops have been better conditioned than was at one time feared.

never previously to have been so heavy. Many farmers only trouble has been want of barn room, and threshing of early crops has had to take place, in order to make room for later ones.

FRANCE. PARIS, Sept. 1.—Our provincial advices continue to report drooping prices, principally for wheat and rye. Oats remain unchanged, but barley exhibits more firmness under the influence of a fairly active demand.

GERMANY. HAMBURG.—Fine new wheat in fair demand, but only small parcels are as yet coming forward.

HOLLAND. ROTTERDAM.—Harvest operations have made rapid advances. The wheat, rye and barley crops have now been entirely secured, and the results are rather various, but, on the whole, the produce will reach an average yield, but the quality—especially of wheat and barley—will prove very variable.

RUSSIA. The latest Russian official crop reports are, on the whole, a little more cheerful. The harvests for 1875 will be of a medium character; there will be a strong export of wheat via Odessa and the Black Sea ports, and only a moderate export of rye and barley.

THE CHEESE TRADE. Ingersoll, Sept. 16.—Market very dull Tuesday. Twenty-eight factories offered 9,048 boxes. Buyers apparently do not wish to handle any unless gilt edge at 9c, although one factory sold to-day at 10c for August and balance of the season.

Stratford, Sept. 15.—The offerings to-day were 5,805 boxes August make, and 1,355 boxes July make. Sales, 2,450 boxes August at 8c; 505 boxes July at 8c; 340 boxes July at 8c, and 640 on p. t. Nineteen factories represented.

LONDON, ONT., Sept. 20.—Wheat, Diehl and Treadwell, old, \$1.80 to \$2.05 per cwtal—new, \$1.60 to \$1.80; Red wheat, \$1.50 to \$1.80; Barley, \$1.10 to \$1.17; Peas, \$1.10 to \$1.15; Oats, \$1.10 to \$1.15.

Montreal, Sept. 17.—Flour—receipts, 6,000 bbls; sales, 1,500 bbls; dull, with declining tendency; quotations 5c to 10c per bbl lower; sales, 50 bbls superior extra at \$6; 200 bbls extra at \$5.50; 200 bbls extra at \$5.65; 300 bbls choice strong bakers' at \$5.65; 300 bbls Canada spring extra at \$5.25; 100 bbls superfine at \$4.90; 300 bbls fine at \$1.40; 200 city bags at \$2.62.

New York, Sept. 17.—Flour—dull, and 5c to 10c lower; at \$4.80 to 5.50 for super State and Western; \$5.65 to \$6.40 for common to good extra State; \$5.65 to \$6.30 for common to choice extra State and Western.

Chicago, Sept. 17.—Flour—dull and 5c to 10c lower; at \$1.13 for spot; \$1.10 for October; \$1.09 for all year; No. 3 do at 81; rejected at 89c. Corn—in fair demand and higher; No. 2 mixed at 61c for spot; 59c bid for October; 53 1/2 to 54c for November; 51c for all year. Oats—active and higher; No. 2 at 38c for spot; 37c for September. Barley and Rye—steady and firm. Pork—strong and higher, at \$21.90.

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