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## The Field.

### Seed Saving.

It is good policy, in various aspects of it, for the farmer, when he can, to raise his own seed, both for the farm and the garden. There is, or ought to be, a garden on every farm, and successful culture in both largely depends on having not only seed that will grow, but seed that is first-class as to quality. Valuable time is often lost through want of vitality in seed that was good enough when it was fresh, but it has been on hand too long. Seed bought "promiscuously" can never be depended on. It is always best to obtain it from a responsible seedsman. But the thing has been neglected, the season presses, it is some distance to the town or city where the regular seedsman carries on business, and so what is wanted is got from the country store near by. It may have been on hand a long time, or it may have been old and dead when it was peddled round wholesale, and sold cheap to the country store-keeper. At any rate it fails to grow, and either the season is lost altogether, or so much of it that there is no chance of getting a full crop.

Even when seed is fresh and germinates readily, there is liability to disappointment. It may be inferior in quality. The turnip seed may have been grown from turnips too small to feed or the cabbage seed from cabbages that would not head; and so on through the entire list of field and garden seeds. "Liko produces like" in the vegetable as well as in the animal world, and first-class seed can only come of first-class parentage. The true principle is to save seed only from the choicest and best plants. It is by carefully doing this year after year, that not a few of the most valuable kinds of seed have been produced. We hear much of degeneracy. A variety of wheat "runs out," as the saying is. It is not so good as at first. There are of course various causes for this, but one of the most common is, neglect in regard to saving the best. For two or three seasons perhaps the plant comes pretty well up to the mark, but gradually there is a decline, until inferiority becomes a settled character. Periodical change of seed is no doubt beneficial. Facts, like human beings, are often improved by change of air and place. But making due allowance for this, there is also a process of acclimation, especially in the case of seeds from foreign countries. When this is fairly accomplished, the plant and its seed may be considered to be at their best, if care be taken in the cultivation of the plant, and the saving of the seed.

Every cultivator of the soil can raise a small quantity of choice seed for his own use, better than a dealer can raise a large quantity to keep up his stock in trade. There are few seedsman who are in a position to grow their own seed. Most of them

buy from wholesale dealers, and these again from all sources. Notwithstanding all the care exercised by seedsman who feel their responsibility and desire to use their customers well, it is inevitable that disappointments will be experienced. Occasionally inferior samples will find their way to the store-house, which when sown will mock the husbandman's hopes. Due allowance must be made for this in dealing with the most careful seed merchants. The sure way to avoid all uncertainty and disappointments is for the cultivator to grow his own. "When he can," we wrote at the outset. We freely grant that it cannot always be done. But is it not practicable to a much larger extent than is now practised? Seed wheat, peas, oats and barley even, are largely bought when, with a little thought, they might be home-produced.

Of course, it involves time and trouble. So do all the operations of husbandry. The farm and garden will not run alone. They cannot be left to chance and leisure. An old-time observer makes this note. "I went by the field of the slothful, and by the vineyard of the man void of understanding, and lo! it was all grown over with thorns, nettles had covered the face thereof, and the stone wall thereof was broken down." Weeds grow, self-sown, in rank luxuriance. But the precious fruits of the earth must be grown with assiduous care.

The suggestion has often been made, that to keep grain up to a high and even improving standard, the best ears should be culled out just before cutting the main crop, and preserved for next year's seeding. It is not so long or so troublesome a job as might be supposed to do this. And will it not pay in extra yield, to say nothing of the pride and pleasure attendant on getting produce of the best quality? Those who aim at obtaining premium corn crops in the United States, where that cereal is extensively grown, are accustomed at husking time to pick out the best ears and save them for seed. This illustrates the principle and practice we are pleading for. What is to hinder a farmer picking out the smoothest, finest, biggest carrots, mangolds and turnips, and reserving them for seed-growing, or a gardener selecting the best cabbages, melons, lettuce, &c. for the same purpose? If this were constantly and carefully done, our farm and garden products might easily be kept up to a high standard of excellence.

There are minor considerations well worthy of being taken into account. How convenient it is to have seed on hand ready for use when wanted. Often when a day is very precious, it cannot be improved for want of all things being in readiness. All else may be at command, but the seed, the essential thing, is wanting. The matter of expense is no trifle. Little by little seed-buying runs away with a great deal of money. A farmer should stop all leaks as far as possible. Small leakages often do considerable damage. Economy is one of the cardinal virtues in a farmer, not that pinching

economy which refuses wise and necessary outlays, but the economy which scrupulously avoids all needless expense. To be self-contained and independent, having resources within reach and under control, is as fine a thing on the farm as it is anywhere else. Then it must not be forgotten that by saving a liberal stock of seed, a source of profit may be secured in a quarter where usually it is all outlay, for a man known to be careful in saving the best of seed will always find ready market for any surplus he may have at any time.

The method of saving seeds is too large a topic to be discussed at the close of this article, but it may be remarked, in brief, that the conditions for safe preservation are a low temperature, dry storage, and exclusion of air. Fruit seeds are an exception to the rules just given, since they need to be kept moist, and are usually buried in soil. But they belong to the special department of the nurseryman, and the present discussion relates mainly to the work of the ordinary farmer and gardener. A seed room or closet is a great convenience to such as would give thorough attention to this matter. Secure packages and careful labels are also points of no little importance.

### Forty Bushels to the Acre.

A writer in the *Practical Farmer* tells how he gets big crops of wheat:

For the past five years I have averaged forty bushels per acre of wheat of the finest quality, always being over weight. I think I am still gaining every year, and attribute this to the system pursued, and especially to keeping sheep. My rotation is corn, barley, with clover; third year, clover; and fourth year, clover ploughed down for wheat.

I have never missed a crop of clover by seeding it with barley. It gives the grass seeds a chance which oats do not. I raise full crops of barley which do not at all interfere with the grass, but I think barley rather helps by the slight shading. After the barley is cut the clover makes astonishing growth, giving me superior late pasture. Owing to danger from mice, I pasture it down pretty close.

My soil is clay loam. I plough down the rank clover about nine inches deep, give it one harrowing, then haul out my manure and spread. This I plough down shallow, as I consider it important to have the fertilizer near the surface for the roots of the wheat plant. I use the drill, putting in one bushel and one peck to the acre.

I have never had a wheat crop hurt by freezing and thawing, which I see you sometimes suffer in eastern Pennsylvania. One season, and one only, when we had a very fine fall of growing weather, the wheat grew so rank that I pastured it some during the winter. I have never had any attacks of insect enemies on the wheat crop, and feel as certain of a crop of about forty bushels per acre under my system as that spring will succeed winter. It is ten years since I moved on this farm, and believe nothing more recuperates a worn-out farm than keeping sheep. They spread their manure evenly over the field, and I have found the truth of what some one said, that "the tread of the sheep is golden."

## A Bean Farm in Minnesota.

Shearman, the farm king of Martin county, who has from 1,500 to 2,000 acres of beans under cultivation, has by untiring energy and perseverance succeeded in his little scheme of raising beans from the sod, much to the astonishment of Minnesota farmers. A little history of his proceedings would perhaps be of interest.

Mr. Shearman, says a correspondent of the *St. Paul Press*, is a resident of Liverpool, England. His first visit to Minnesota was in the year 1872, at which time he contracted for the land he now occupies, with the intention of forming an English colony. In the spring of 1873 he brought with him a few families, and after putting up some temporary houses on the plantation, they commenced operations, and early in June they had broken up and planted between 1,000 and 1,200 acres of beans, planting them on the sod with corn planters. They promised well until the grasshopper raid, when they were totally destroyed.

At a great expense he replanted them, and flattering prospects again crowned their efforts; but foreign influences were against him, and the early frosts cleaned them out entirely, and for about ten thousand dollars invested he had but little to show. Still with a light heart and firm resolve did he adhere to the old adage, and try, try again.

He returned to Liverpool, making arrangements to pay an early visit to the old plantation, and if possible recover what he had lost. It was rumored and generally believed that these intentions on his part would never be carried into execution; but promptly, as is characteristic of the man, he set foot on Minnesota soil in the spring of 1874, and taking up the bean plantation where he had left off, proceeded, and at last he is meeting his reward.

The perseverance of Mr. Shearman would be a good motto for many who emigrate to our western states to adopt; and Martin county may well feel proud of the farmer king who has done so much toward the advancement and settlement of the county.

## To Preserve Wheat and Corn from Weevils and Rats.

A correspondent of the *Farmers' Vindicator*, who claims to have "housed corn for forty years" without injury from the above named pests, gives his practice and its results in the following communication.

Several weeks before the new crop of corn is gathered, I remove all the old corn from the crib, some distance to a pen or out house; the floor is taken up, swept clean, and the sides of the crib, so that not any dust, shucks or silk is left; this sweeping and cleaning is done several times. The crib door is left open for the chickens, turkeys or birds to go in and scratch at their pleasure.

I never gather corn in wet weather. Every year there are more or less weevils in the corn in the field. When the shuck is dry and broken off, many weevils will beshaken off on the ground; the corn is then thrown in the wagon, this knocks off many more; when the corn is thrown in the crib, the remaining weevils, if any, will soon leave. We are told, in Egypt it never rains; it is a warm dry country, no humidity in the atmosphere, hence corn could be kept sound for a number of years, but in this climate it is different—dampness in the atmosphere is the cause of the weevil injuring corn, wheat and other cereals, for they must have water as well as every living thing, animate or inanimate. If there is a leak in the top of the crib, or the rain does not beat in from the sides, I guarantee no weevils in that crib of corn. Why is it that farmers are so particular to put up wheat, peas or other cereals dry? Is it not to keep out the weevils? Why not use the same precaution with corn?

Would he put up his fodder stack and hay rick wet, and expect it to keep good? Most farmers gather their corn in wet weather, to save time; and many prefer it; some open the roof, and let it rain on the corn; bad, bad policy. Such will always have weevils in the corn, and at the close of the year, the corn is greatly damaged. Where there is moisture, there's weevils.

To build a rat-proof crib. Let the blocks at the upper end be shaped sugar-loaf fashion—put on each block a tin pan inverted, then the sills on the pans. If there are no stables or sheds attached to the house for the rats to climb up, that crib is rat proof

## Best Time to Sow Winter Grain.

A "Mass. farmer" ventilates his notions and practical conclusions as to sowing winter grain in the *Vermont Farmer* as follows:—

Those who favor sowing early claim that the plants obtain a firmer hold, tiller out more, and that the grain will be a heavier and larger berry. They claim that less seed is required, because much that is sown very late does not germinate at all or else only sends up a single stalk, while that which is got into the ground early is surer to grow and more likely to throw up many stalks from a single root. Some who favor sowing in August or the first September say that winter grain will ripen at a certain time whether it is sown early or late, and consequently the earlier it is sown the more time it will have to grow, and the larger and nicer the crop will be.

Those who favor late sowing say that grain is not so liable to be smothered with snow late as it is if it is got in early; that in lots where cattle are allowed to feed that which is sown early is more likely to be injured by being pulled up, trod in, and eaten off, and that the berry will be as plump, and the yield as good on fields that are sown late as on any other.

So much for the theories. I think in practice early sowing is to be preferred, although I have sometimes sown late with good results. The theory that grain will ripen at a certain time without regard to when it is sown is certainly incorrect. I sowed a piece to winter rye last fall near other fields which were got in early. Except the time of sowing, the conditions were equally favorable for all the fields, but mine was several days later than the others. On an adjoining lot the owner had a field of corn. As soon as it was ripe enough he cut it, ploughed narrow strips on which to stock it, and sowed these strips to rye. The remainder of the piece was sown considerably later. The result was that the early sown strips ripened a week or ten days before the rest of the piece, and they also produced a heavier crop of grain. But while the quantity was in favor of the early sowing, there was no appreciable difference in the quality.

While I prefer early sowing I should not hesitate to sow late if for any reason I could not do it early. The quality of the seed and soil, and the way the latter is prepared, has more to do with making up the results than the time when the sowing is done. At least such is the lesson I have learned both from experience and observation.

## Straw Stacks.

As the building of straw stacks is now in order, a few remarks may be of value especially to new beginners. A very erroneous opinion prevails with many who profess to know all that is necessary about stack-building, namely, that it is not necessary to keep the stack more than level until you would commence the top. This is a great mistake, one which will partially or entirely destroy hundreds of stacks yearly.

My method of building is this, for a stack that will hold two or three days' threshing. After laying the first course for bottom and outside of the stack, fill and tramp the middle to the height of five feet, and so continue with every additional course from bottom to top of the walls. When topping keep the centre two-thirds as steep as the top of the stack will be when finished. A stack thus built will resist every and all rains we usually have. The rains in this vicinity last fall were very trying to straw stacks, and great loss was sustained. Several of my neighbors having stacks of four and five days' threshing were almost entirely destroyed, which had they been sound would have sold at from eight to twelve dollars per ton. Those stacks were built by men who were supposed to be reliable stackers.—*Cor. Germantown Telegraph.*

POTATO DISEASE.—The *North British Agriculturist* says. Notwithstanding the favorable character of the weather lately for the spread of disease in the potato fields, we are happy to say that in Scotland generally the scourge has as yet assumed no alarming proportions. In gardens diseased tubers are not uncommon; and it is reported to have appeared in the fields in the Vale of Clyde and in Caithness-shire. It is not spreading, however, to a serious extent, and there is now good reason to expect comparative exemption from disease in the great potato-growing districts this year. But the rains have sent up a second growth in the southern counties, which is likely to do more damage than disease.

## Grasses and Forage Plants.

## Variety of Grasses for Pastures.

The great variety of grasses, both perennial and annual, which abound throughout the northern states upon soils which are adapted to their growth, makes it almost needless to recommend to farmers to sow a variety of seed. But there are not a few localities, often tracts of vast extent, as in parts of New Jersey and Long Island, and increasing as we go southward, where but few grasses grow naturally and all the better kinds need encouragement. Besides, as soon as land begins to wear, that is, to grow poor in certain conditions of fertility, some natural grasses are sure to disappear. The remarks of the editor of the *Rural Sun*, published at Nashville, may well therefore be read and heeded by farmers all over the country. He writes:

Of the importance of grass in every wise system of farming we have spoken often, and shall do so again as occasion offers or the spirit moves us. Taking this point as established, we wish to call attention to the importance of the use of a variety of grasses in all lands to be laid down to permanent pasture. We are satisfied that this is a weak point in the practice of our very best grass farmers. They rely too exclusively on two or three grasses, in most cases on one alone. This practice is contrary to the dictates of reason and the teachings of experience. There are over two hundred known species of grass in the United States, and it is very strange indeed, if out of this great number only two, three or a half dozen should include all that are valuable for pasture or meadows. It may be quite true that in all this number there are no other two that are equal to blue grass and orchard grass, but we cannot believe that there are not others that are less valuable than these. In this opinion we are supported by all the best writers on grasses and grass culture, and, which is of more value in our estimation, by the uniform testimony of the most experienced grass farmers of this and other lands.

While it is the business of art to improve on nature, this improvement can only be secured by following the teachings of nature. And in no point is nature more positive than in teaching that a variety of grasses is essential to a close heavy sod. Where the land is barren and thin, it may be that only three or four species may be found, but wherever the soil is fit for a farmer's use, there nature is sure to sow a great variety of grasses. As a general rule, the richer the soil the greater the number of species.

But the teachings of experience are still more emphatic in favor of a mixture of grasses. It has been demonstrated by frequent experiments that, in pasture land, a mixture of several varieties will produce a larger amount of fresh and fat-forming food than the same land will yield when sown with only one or two varieties. Especially is this difference marked in the case where land is to be kept in pasture for a series of years. The main cause of this difference lies in the fact that if we sow but one kind of grass, it matters not how thickly we sow, there are sure to be vacant places, spots of greater or less breadth, on which, from some cause or other, no plants have grown. On the other hand, when several varieties are used the entire surface is occupied, and a better as well as a larger result is obtained.

Another important advantage in using a variety of grasses arises from the fact that different varieties ripen at different periods, possess different habits of growth, and yield nutriment of different qualities and kinds. These facts should be attended to in selecting the varieties to be sown. A succession is essential to permanence, while a variety adds much to the feeding value of pasture.—*Rural New Yorker.*

## Pasturing Meadows.

No mistake is more commonly made than that most injurious one of pasturing meadows in the fall. Not that meadows may not be pastured, but that so few are capable of withstanding this serious draft upon their vitality. Not only, as a rule, are our meadows weak in themselves, but our climate is such that there is no power of recuperation in the fall to enable the grass or clover to withstand even an otherwise legitimate draft upon it.

The drouth of our late summer and early fall in general keeps the meadows bare enough for safety without further impoverishment by pasturing. There are very few grass or clover fields which bear such an aftermath as to smother and kill the roots in winter. On the contrary, there are very few meadows that have sufficient natural covering to enable them to

resist the evil effects of alternate freezing and thawing during the winter months. Both grass and clover are hardly enough to resist safely any low temperature that is possible to occur, if that temperature is steadily maintained. But a very moderate degree of cold alternated with warm spells is ruinous to meadows. The alternate contraction and expansion breaks off the roots of the grass, and draws the tap roots of clover entirely out of the ground. Many acres of sod are thus so loosened in a few alternate days of sunshine and nights of frost as to be readily rolled up like a carpet, and whole fields of clover eaten bare before winter present a surface covered with roots lying loosely upon the surface. This is the consequence of the fatal mistake of pasturing in the fall. A farmer had better have given away half his stock or borrowed the means of buying extra feed than have made this mistake.

Just at the present time it will amply repay the farmer to consider the condition of his meadows. The young clover from which the protection of the foister crop has just been removed is weak and helpless. To turn stock upon it is sure destruction. Even pigs, calves or lambs will destroy where they bite. But sheep or horses will destroy everything, for they will leave no part of a field untouched. It will be far better to give the young clover a liberal dressing of plaster to aid its growth. Not, as is wrongly asserted by some agricultural writers, that the plaster will attract moisture—that it cannot do any more than the soil itself may. For gypsum as used upon our fields has already all the water chemically combined with it that it can appropriate. It is the calcined plaster that is anhydrous and combines with water. And as it is doubtful in what way plaster acts upon the clover, and as it must enter into solution before it can act in any way, and then only by the roots, the theory that it helps the clover by absorbing water is not to be relied upon. But that it helps the young clover is undoubted, and aerefore it may be profitably applied.

But the negative, but not therefore inefficient, help of carefully preserving it from injury by pasturing, will be found of the greatest service, even if the positive aid of a fertilizer be not forthcoming. Where well established meadows bear a heavy aftermath, moderate pasturing may be permitted. But great watchfulness must be exercised that it be not overdone. The droppings to the stock should also be spread and not allowed to smother the grass which it covers. At any rate ample covering should be left upon the surface to prevent the ground from thawing during a few warm sunny days in the winter, as it is then that the damage is done. If the fall should continue dry, there will be little growth and caution may be profitably exercised from this time forth.—*A Penn. Farmer, in N. Y. Tribune.*

### A Frost-Proof Corn in England.

It would be strange indeed if we should be indebted to England for a variety of corn hardy enough to resist severe frosts. A statement is, however, published in the English papers that "Cobbett's thousand-fold acclimated Indian corn" has been successfully adapted to the cool and variable climate of England, in which heretofore our corn could not be grown or ripened.

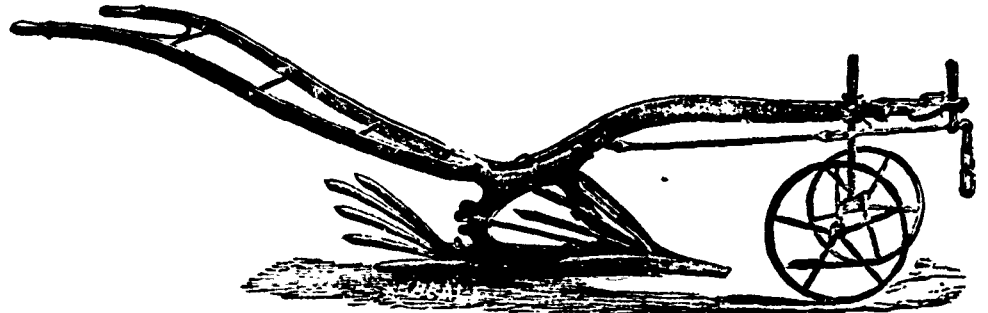
William Cobbett will be remembered as the English liberal agitator who for some time had his residence upon Long Island. His son, William Cobbett, has long been endeavoring to introduce the growth of corn into England, and now it seems that he claims to have succeeded. We learn that upwards of three acres of this acclimated corn is now growing at Houndslow, near London, and that it has successfully withstood some severe frosts with great hardihood, and is now very promising. If our neighbors in the East have really produced a frost-proof corn so prolific as is made to appear by the sounding title given to it, and which we have quoted, it will go to shake our faith in our permanent dependence upon Europe as a market for our surplus crop of this cereal, and, on the contrary, cause us to look thither for a supply of seed of so valuable a plant. But we are somewhat doubtful as to the truth of this statement.—*New York Weekly Tribune.*

How MUCH TIMOTHY-SEED—A correspondent of the *Rural World* writes:—"I sow on good land one peck, on poor land one and a-half to two pecks, for the reason that on good land the seed will stool more, and if the seed is good and the land in good condition, a good stand will be secured from one peck, and the first crop will not have to be allowed to become dead ripe, that the seed may scatter to help out the stand that ought to be had from the seeding. Many farmers practise this plan, but it is poor economy. The liberal sower will reap liberally."

## Agricultural Implements.

### A Potato Digger.

Something new in the shape of a potato plough has recently come into general use in many parts of England, and has been found to save much time and money. The implement resembles in many respects an ordinary plough, but the mould-board, instead of being a solid plate, is made up of several iron strips converging from a common point of intersection. As the ground is raised over them it crumbles and falls in between them, thus throwing the potatoes out on the surface. Again, should any escape the fore-prong, another set is arranged something like a spray behind the mould-board by which the soil is again sifted. The following cut illustrates the digger:



With a pair of horses, three to four acres of potatoes can be raised in a day; it leaves fewer in the ground than when dug by hand, and raises the roots without bruising or scratching the skins. For earthing up potatoes, it will be found a better implement than the ordinary ridging plough, as it throws the earth lightly on to the plants, and the draught is easier. It may readily be converted into a ridging plough by adding a pair of breasts.

### Treble-Action Turnip Cutter.

At the recent Provincial as well as the Central and many of the local Fairs this year, amongst the various agricultural implements exhibited was one by Mr. John Watson of the Ayr Agricultural Works which, from the very general attraction it caused, deserves, we think, something more than a mere passing notice. The machine in question was a treble-action turnip cutter for the purpose of preparing that article of food for sheep, and it derives its name from the fact that by a very simple change in the box-bottoms and a reversal of the crank-action, turnips may be cut in three different ways, from the simple slicing to fine pulping. The machine itself is made wholly of iron, except its supports, which are of strong hard-wood. It is small enough to be handy for removal from place to place. Its knife-cylinders, or, in plainer terms, the iron wheels in which the cutters are fastened, are two in number, one at each end of the crank-shaft, and of course both revolving inside the box. The peculiarity of the box is its bottoms, of which there are also two, both hinged below, and adjusted so as to lean as it were with their tops against the sides of the box. In this way either of them can be folded over so as to rest against the side opposite, and thus change the direction of the "feed." As an ordinary slicer, turnips are fed in the usual way; the knife or crank, set in motion, and the work is accomplished. By simply reversing this motion the roots, instead of being sliced, are cut into about half-inch strips, just suitable for sheep. The next change is made by emptying the box, folding over the bottoms and thus altering the feeding direction, so that the turnips fall towards the opposite side of the box, and thus come under the influence of the third set of knives, which are fastened, and resemble the points of a series of 3 chisels, in the

opposite cylinder. The effect now on the turnip is to thoroughly pulp it. These movable bottoms are cast-iron plates, and the only objection we heard offered in connection with any portion of the machine even by rival manufacturers, was that they were possibly too weak—a defect which could be remedied at once by casting them a shade or two thicker. The treble action cutter is an English machine, just imported by Mr. Watson, who is also, we understand, having two other English implements of different classes brought across the Atlantic. Energy like this cannot be too highly commended, and it is to be hoped that Mr. W. will meet with the encouragement he deserves at the hands of the Canadian farmer. In the case of the machine just described we feel assured his success is secured.

### A Combined Grain Harvester and Thresher.

The *Brandon (Wis.) Times* gives the following interesting account, which illustrates how time and money are often spent in perfecting an ingenious invention, but one which can never come into general use:—

When we first settled in Wisconsin twenty-three years ago we remember of hearing among other wonders of this great "out west" that there was a machine out on Green Lake prairie, that cut and threshed the wheat at one operation and delivered it in the bag ready for the market. This machine was in operation on the farm of Hiram Moore, in the town of Green Lake, the past week, and naturally attracted a large number of visitors, from fifty to one hundred going there each day while it was running. Mr. Moore has been at work on this machine upwards of forty years, and now considers it perfected. He has spent at least \$40,000 in his experiments on this machine, and forty of the best years of his life. His zeal in perfecting his great idea of a model harvesting machine led him to neglect to take out patents on separate parts thereof as they were perfected, which has resulted in pecuniary loss to him and in enriching others. There is no doubt but Hiram Moore was the inventor of the scalloped sickle, that made a fortune of twenty-five million dollars for Cyrus McCormick. Mr. Moore was the inventor, but McCormick got the patent and made the money. A number of our citizens visited Mr. Moore's farm a few days since, and from them we get the following description of this mammoth harvester:—

The machine weighs about five tons, but can be drawn by one span of horses when out of gear. It is drawn by 16 horses; when in operation cuts a swath 12 feet wide. It has cut forty acres per day, and cuts and threshes about 100 bushels per hour. It only takes eight men to manage the machine and put the grain in the granary ready for market. Those who have witnessed the operation of the machine say that it does its work perfectly in every respect, cutting and threshing the grain as well as it can be done in any other way. The machine is perfectly manageable, and can be raised and lowered to cut the grain at any desired height from the ground. The sickle differs from those in common use on reapers, in that it is in a semicircular form. From the sickle the grain is carried by an apron to the threshing cylinder, whence it is discharged into a large circular wire screen some five or six feet in circumference, where the wheat is separated from the straw and chaff. Another apron under this catches the grain and takes it to the fanning apparatus; it is raised by a short elevator and delivered into the bags. The machine can be built for about \$1,000, and the cost will probably operate against its being extensively used. There

are but one or two best like one on Mr. Moore's farm now in existence, one of them in California.

Mr. Moore's whole life, and he is now nearly four score, has been devoted to the invention of farm machinery, on which he has received a number of valuable patents that ought to have been a source of great revenue to him. Among these is a patent on the "force feed" on grain drills and seeders which has been infringed by nine out of ten drill and seeder manufacturers in the country. In this way he has spent probably a hundred thousand dollars in experimenting, with scarcely a dollar's return; but being a man of ample means, he has been actuated more by desire to make inventions than to make money; and in having been the means of saving many a hard day's toil to his fellow men, he has what is to him an enduring reward.

#### A New Binding Reaper.

The "Harvest Queen" is the name given to a self-binding reaping machine invented by C. Chapman, which has attracted considerable attention in Olmsted Co., Minn., where the trial machine had cut 160 acres of grain this harvest, up to the latest report. There are some peculiarities in the machine, especially the reel, but the principal point of interest is the binding attachment, which is thus described:—

The grain is slid by the rake from the apron, where it falls to a platform in its rear, and, as soon as it has reached this, the rake hits away from it, and a dividing board raises and separates it from that which continues to fall on the apron, thus preventing tangling and the formation of "slobbering" bundles. As the sliding board raises, a buncher traverses the platform, driving the grain before it, and against the wire band at the opposite end, where are also a couple of steel prongs against which the grain is pressed. A compressor now comes down up in the bunch of grain, which is thus held tightly until the wire band is drawn close about it, twisted and cut off. The buncher then retreats to its former position on the far end of the platform, the compressor raises up out of the way, and the steel prongs turn a somersault, dropping the bundle, and resuming a position of readiness for the next.

The *Reister Record and Union* says the machinery is easily understood and managed, and no more liable to get out of order or break than that of any other reaper. Three horses are used. It is expected to have a large number of the machines on the market for next year.

#### Steel Ploughs Best.

A. B. Allen of New York, says:—"I would sooner pay double the price for steel ploughs than accept as a gift the best set of cast-iron ploughs to be found in the United States. Though ever so hard chilled or smoothly polished, cast-iron will foul more or less on the mould-board, in every kind of soil, from a sandy or gravelly up to a heavy clay loam. The dirt thus gathered on the mould-board adds greatly to its draft and prevents good work. Another objection to cast-iron is, in order to get equal strength the weight must be considerably greater than with steel, and this is a hard drag all day, and requires a much stronger team. Of this any one may quickly convince himself without resort to dynamometers or any other means or testing the draft. He has only to hitch a light team to a steel plough, and a stronger one to the cast-iron, and work them side by side. In this way I have found that a pair of fourteen-hand ponies would do about the same work, and with as much ease to themselves, as a pair of sixteen-hand horses. The same observations about material will also apply to cultivators. In this can only advising my brother farmers in regard to the superior merit of steel ploughs, I am speaking directly against my own individual interest, for I have been a manufacturer and dealer in cast-iron ploughs, for upwards of thirty years past."

**MACHINE WANTED.**—A correspondent of the *N. Y. Tribune* says: "Farmers generally require a machine, I think, such as I have never seen or heard of, but of which I have especially felt the need, as it will save labor and utilize force. It is this: Say a machine that will pulverize, or crush, or grind, with once handling, our corn crop; that will reduce the entire growth, cob, shuck and stalk, as fine as ordinary meal. After the corn is cut and put in stooks (twelve hills square is the habit generally prevailing in the west), then as soon as the stooks are dry enough, feed them entire into the machine, which might be similar to a grain thresher, and propelled by steam or horse power. My object is to place the corn stalks as well as the corn in combination for the cattle to properly masticate, digest and assimilate.

## Horticulture.

EDITOR—D. W. BEADLE, CORRESPONDING MEMBER OF THE  
ROYAL HORTICULTURAL SOCIETY, ENGLAND.

### THE ORCHARD.

#### Seasonable Notes.

**NURSERY TREES.**—Any trimming that may be necessary should be done now. Cut back where required, and see that everything is snug for the winter. Examine the tyings on budded trees, and loosen if too tight.

**FALL PLANTING.**—If not done already, this should be attended to at once, in order that the trees may be firmly rooted before winter sets in. In the event of early frosts or other indications of approaching severe weather, better delay planting until spring, and in the meantime plough and otherwise prepare the land for the purpose.

**GATHERING AND PACKING FRUIT.**—All fruit intended for the cellar or for the market should be carefully hand picked. The practice of shaking or knocking fruit off the tree cannot be too severely condemned, as there is little doubt that a large proportion of the loss sustained in the attempt to "carry over" the crop is the direct result of harsh treatment in the harvesting. With the aid of a light, strong ladder, furnished with a semicircular hook attachment to fasten on the limbs, or a "fruit gatherer," such as that described in a former issue of the *CANADA FARMER*, the quantity of fruit that can be handled in a single day is somewhat astonishing. Previous to packing, the fruit should be properly assorted. It is not sufficient that the several varieties be kept separate, but the different sizes of even the same varieties should, as far as possible, form distinct lots. The enhanced market value of fruit thus assorted will amply repay the extra labor incurred. A very good arrangement for packing in barrels was described and illustrated in a former number of the *CANADA FARMER*.

#### The Blight in Fruit Trees.

This disease is most frequently observed in the pear tree, but within the last season it has appeared in apple trees also. From the way in which it affects the pear tree, it presents at first sight a somewhat mysterious aspect. The tree may appear quite flourishing, when in fact it is as good as dead; for if it is carefully examined, the bark all round the stem may be found to be quite dried up and partly decayed, so that the tree is as sure to die as if it were girdled. The affection is frequently confined to some of the branches, while the rest of the tree is all sound. In some instances the whole tree is affected at once; the edges of all the leaves turn black, and the tree generally presents a withered aspect.

After closely observing many trees affected during the last four seasons, we have become satisfied that the affection in every form is caused by a deficiency of sap, arising from drought. When this deficiency exists there is blight, and the extent and severity of the affection is proportionate to those of the drought. There can be nothing wrong with the sap or the tree generally, for it will be found that if the latter is abundantly furnished with moisture as soon as the drought appears and during its continuance, it will never suffer from blight; and even after the disease has appeared, every part may thus be saved except where the bark all round is already dead.

Certain well-known facts in vegetable physiology explain all the phenomena, mysterious as some of them at first appear; and they also clearly point out both the remedy and the means of preventing the affection altogether. The sap is the life-blood of the tree, and therefore if it be deprived of that, it can no

more flourish than an animal suffering from deficiency of blood. The parts also are all nourished, not by the crude sap which ascends from the roots, but by that which has been digested and elaborated in the leaves. These perform to the plant the same functions which both stomach and lungs do to the animal. Consequently if the sap be deficient, the plant at once suffers. The bark is nourished by the digested sap which descends from the leaves above or which ascends from those immediately below, as its general course is downward and not upward. Hence if it be scanty, the bark below may receive none, and then it dries up and rots as if the part were wholly cut off from the tree. The parts above may still flourish for some time, being supplied with the moisture still ascending through the sap wood, just as a girdled tree may flourish for a time. But it must ultimately perish, because the decay which has begun without necessarily spreads inward till it affects the sap-wood also. If the main stem is surrounded with decayed bark, the whole tree must inevitably perish, since the roots can receive no further nutriment.

Blight is particularly apt to occur where the drought has been preceded by heavy rain, because this produces a luxuriant growth, which causes a rapid evaporation of moisture from the great mass of foliage.

Pear trees suffer more than apple trees for two reasons: they have fewer roots, and their leaves evaporate the moisture more rapidly. The fruit is constructed like the leaves, and we all know how much more readily a pear will wilt and dry up than an apple. Plums and cherries rarely show any trace of this disease, on account of their more abundant and spreading roots. One tree may show blight when another of the same kind near it continues sound, either because the latter may have more roots in proportion to its branches, or because the spot may be more moist.

The preventives of blight are, keeping the trees well pruned and freed from all superfluous branches avoiding over-manuring, having the ground well dug to a considerable depth before they are set out, so that they may become well rooted, and keeping them abundantly watered during continued dry weather, till they have acquired large and widely extended roots.

A clayey soil is less liable to blight than a sandy one, because it retains moisture much better; but it labors under the disadvantage of preventing the free growth of roots, unless it is well worked to a considerable depth. It has been said that a dry, sandy soil prevents blight, and Long Island has been referred to in proof, but we have no doubt the exemption there is owing not to the soil, but to the humid air and more frequent rains.

In setting out trees, it would be well to avoid those kinds which are particularly subject to blight. Among these we have found Osband's Summer, Swan's Orange and the Vicar of Winkfield. The Rostrezer, Brandywine, Seckel and Beurre d'Anjou are remarkably free from blight. The Bartlett's and Flemish Beauties are both subject to it, but not excessively. The Sheldons and Easter Beurrés are more so, though not as much as the three first mentioned.

A wet soil is favorable to blight, because, while it favors a luxuriant foliage, it prevents the growth of good healthy roots, which is the best preventive of the disease. Hence proper drainage is desirable for this as well as for other purposes.

**PROFITS FROM PEACHES.**—For days past the prices of peaches in the state of Delaware have ruled well on \$2.50 per basket on the average, while \$3 and even \$4 per basket has been realized. The freight and cartage to New York costs the growers twenty-four cents, and ten per cent. commission, which will leave them a balance of about \$2 per basket.

## Cider Making.

The *Western Rural* says many would make cider each year if they understood the best plan for saving it. It gives the following:—

After grinding and pressing, the cider should be placed in clean, sweet casks. After the first fermentation is over, it should be filtered. To do this, saw off a barrel, say an empty whiskey barrel, just above the second tier of hoops from the top. In the bottom, place a false bottom three inches above the true bottom, with plenty of small holes to allow the liquid to pass freely. Cover this with several folds of coarse, porous cloth. Over this place six or eight inches of thoroughly washed bon-black of the size of hazel nuts; over this put about four inches of clean-washed, coarse sand; and above all another cloth, closely pressed about the sides. Below the bottom have a saucer, or other suitable way for draining off the liquid, and the filter is ready for work. Keep a good supply of cider on top, allowing it to pass away often enough, so that the top cloth may be rinsed when it gets foul. Before the filter is set to work, clean water must be passed through it for at least fifteen minutes, or until it comes through perfectly clear. Then as fast as the cider filters let it be passed into clean barrels, adding from one-half to three-quarters of a pound of pure white sugar to each gallon of cider. It will now undergo a second and final fermentation, and if possible this should be accomplished—and may be if the barrels are strong—without contact with air.

If the gas prove very strong, the bung may be bored and a tube inserted, the other end of which may be pressed into a pail of water standing near. As soon as possible it should be bunged tight, and by the succeeding spring the cider will be found to be sound and fine. It will improve with age, at least for two or three years, if kept where the temperature is equable, summer and winter. If bottled, corked and tied, and the necks of the bottles be placed in sand, with the bottom of the bottles upwards, it may be kept for years, and is as good a tonic remedy for dyspepsia as we know.

If the cider is liked without much fermentation, or, as it is called, sweet, then, when the fermentation is active, dissolve a half pound of sugar to each gallon to be so treated, and add to the casks, roll them about to thoroughly mix, and when the fermentation has proceeded to that point where it suits the taste, mix, in one or two quarts of cider, sulphate—not sulphate—of lime, in proportion of an eighth to a quarter of an ounce to each gallon of cider; pour into the barrel, thoroughly rolling to mix all intimately. Bung tight, and after a few days it may either be bottled or used directly from the casks.

Hard cider is that which, from age, has converted the saccharine into alcohol. It at the same time acquires a distinct acid taste, and this increases with age. It is the true vinous fermentation, and is distinct from that which makes vinegar. The more strictly cider is kept from air, the more perfect will be the process. It cannot, however, be accomplished properly unless there be body enough of alcohol, from five to ten per cent of the mass. If alcohol is not present, the cider will be flat or turn quickly to vinegar. Hence the necessity of adding sugar in proportion to the weakness of the juice.

## Ornamental Apple Trees.

During our recent visit to the grounds of Mr. N. B. White, of Norwood, our attention was called to a couple of apple trees of the Red Astracan variety standing in his lawn, which, for picturesqueness of effect, exceeded anything of the kind we ever saw in the shape of apple trees. While the trees were in their first year's growth from the graft or bud, the central shoot was pinched back to about a foot. This caused the buds from each leaf to push out side shoots which were allowed to grow almost close down to the root. These shoots have made strong limbs, standing out from the centre of the tree at angles varying from forty to forty-five degrees, and at the time of our visit they were well loaded with handsome fruit. Mr. White is so well pleased with this style of growing the apple that he would, if setting a new orchard, have all the trees treated as above described. They stand very firmly in the soil, are much less exposed to damage from winds or ice, are easily kept in proper form, and the fruit is mostly within reach by hand-picking from the ground or from a short step ladder.—*New England Farmer*.

SIXTY THOUSAND DOLLARS reward is offered by the French Minister of Agriculture "for the discovery of an efficacious and economical means of destroying the phylloxera or of preventing its ravages." This is the insect that is devastating the French vineyards.

## THE FRUIT GARDEN.

## Seasonable Notes:

**STRAWBERRIES.**—In the event of an exceptionally mild, open season, plants from rooted runners set out now may be found to have done very well, but the chances weigh so heavily in the opposite direction, that it is wiser to avoid all risk by postponing the work until spring. Give the old beds a mulching of straw, leaves or whatever light material of the sort happens to come handiest.

**CURRENTS AND GOOSEBERRIES.**—Prune freely as soon as the leaves have fallen, removing as much of the old wood as is necessary to the formation of a well-formed, open bush. Cuttings may be planted at distances of six or eight inches, in rows twenty to twenty-four inches apart. They may be sheltered from high winds until frozen in or rooted, but if firmly planted, this is unnecessary.

**RASPBERRIES.**—Assuming that the fruiting canes have been cut out as directed last month, all that is now required is to keep the new wood properly fastened to the trellises. The same remark will apply to blackberries. Cuttings of either should, when planted, be cut back to within about four inches of the ground and may be set, the former about five feet and the latter seven or eight feet apart in the plot or row.

**GRAPES**, whether for wine or dessert, should not be gathered until thoroughly ripe, otherwise they lose much of their flavor.

## Recipe for Making Wine.

The following is furnished the *American Farmer* by a lady. It is the recipe of a gentleman of Baltimore county, whose wine has attained no little celebrity in this vicinity:

Gather the grapes on a dry day, when free from rain or dew.

Pick the berries from the stems, rejecting all that are green or decayed.

Mash them and place them in a vat, tank or other vessel to ferment, closing the top of the vat as tightly as possible with a blanket or wet cloth to exclude the air.

Let them remain in the vat from twenty-four hours to three or four days. If light wine is desired, for most grapes twenty-four hours is long enough. If deeply colored and astringent wine is desired, three or four days will not be too long.

Press the must and put the juice into kegs or barrels, first adding sugar, or sugar and water, as may be desired. It is very difficult to give directions for this, so much depends upon the character and ripeness of the grape and the dryness of the season. Sometimes I add no water, sometimes only one pound of sugar to the gallon, and sometimes two pounds. This year I shall make (of Concordis) some with pure juice with one pound of sugar, and some by adding, as recommended by Husmann, one gallon of water, in which have been dissolved two pounds of white sugar to each two gallons of juice. The Clintons I will probably make by adding one pound of sugar to each gallon of pure juice.

The kegs or barrels in which the wine is put should have bungs fitted with small tin tubes like an ox yoke, one end passing through the bung and the other descending into a vessel of water. This will permit the carbonic acid still to escape from the wine, and prevent the atmospheric air from getting into it. As soon as all the carbonic acid has escaped, as will be known by the air bubbles ceasing to rise in the water, fill the kegs as full as they will hold, and bung up tight.

About the last of December or early in January the wine should be transferred into clean barrels.

It must be remembered that my aim is to put into the grape juice only so much sugar as will be converted into alcohol, and to have no surplus in solution. Others who are fond of sweet wines should therefore add more sugar.

Let the grapes hang until perfectly ripe before picking. The riper the grape, the richer and sweeter the wine.

In filling up the casks use wine from another which has been fermented, &c., in the same manner and kept for the purpose.

I use 5 and 10 gallon kegs on account of the facility of handling.

## Low Espalier Fruit Trees.

I have lately seen in a garden in the Isle of Wight some apple and pear trees trained as espaliers, in height scarcely exceeding 3 feet, most if not all of them having four tiers of branches. The low height at which they were trained did not appear to operate unfavorably upon their produce. A Marie Louise and a Bon Chretien (Williams's) each carried quite as much fruit as any tree ought to be allowed to mature in one season, nor did any of the apple trees trained in the same manner equal either of these two pear trees in production. On the Marie Louise I noticed several pears on the lowest tier actually touching the ground. From their appearance I infer that they were planted about twenty-five or thirty years ago, and they exhibited evident traces of neglect or bad management in past years. The top branches, for the most part, instead of being the least, are the largest in circumference, and in some instances are covered with a hedge of spurs upwards of a foot in length, and it is only of late years that they have been taken in hand by an experienced gardener. I measured the trees carefully and cannot be mistaken as to their height. We often see in small kitchen gardens 5 and even 4 feet espaliers, where a greater height would be detrimental to the vegetable crops, by unnecessarily intercepting the sun's rays, and intercepting also the free circulation of air. My own experience leads me to think, and my view is supported by what I saw in the Isle of Wight, that height is not essential to the successful training even of the pear, if the following particulars are carefully attended to. During the first few years each lower branch should be kept well in advance of the one next above it, and when the tree has reached the limit of the distance allowed, it should be made to take a form that would admit of each lower branch remaining longer than the branch next above it, an example of which may be seen in the form called the *Palmette*. Another important matter to be attended to, especially in the case of tree growths on the pear stock, is the regulation of the parts whence the bearing shoots proceed. The distance from bud to bud along a last year's shoot varies from about 1 to 2 inches. In the following year most of these buds will be developed into either fruit-bearing or ordinary leaf shoots. If all of the latter were allowed to remain the tree would soon be overcrowded, therefore the thinning of these shoots from time to time becomes necessary. In the course of years, as the tree advances, bare spaces of 6 inches in length will not be too much to leave clear of shoots, and the sooner the branches are cleared to that distance the better. Then the branches that form the highest tier will, in about the third year of their growth, begin to give trouble unless they are repeatedly thinned and carefully attended to during the summer. For want of due attention in this direction many an espalier has been hopelessly deformed with what is called a *tête de saule*, interesting specimens of which may still be met with in old kitchen gardens. I say all means, therefore, begin with your top tier in good time, and if, as is often the case with twiggy sorts, like the Marie Louise, there is likely to be an overcrowding of shoots, cut several of them clean out with a penknife when they are about half grown. With regard to summer pruning with a view to fruit bearing follow whatever system appears to you to be best adapted to each particular sort, but at the winter pruning take care that your main branches are regulated in such a way as to leave each lower branch 5 or 10 inches longer than the branch immediately above it. Cut away, if necessary, from any one of them the whole of last year's growth, and even more than that if the form of your tree requires it. If, however, any one branch is deprived by an accident of a portion of its length, it may be made to overtake the others by allowing the shoot that springs from the ruptured part to take a gentle curve upwards, training it across the other branches till it reaches the top; in this position it may continue its growth vertically till it regains its proper length, when it may be straightened and laid in its proper position. For apple and pear trees in kitchen gardens, the espalier form is so very convenient that it is encouraging to find that even the pear can be grown with advantage at a height from the ground well within the reach of the operator's hand. In such a form, and at such a limited height, some sorts may not thrive as well as others; but the bare fact that two trees, neither of them so much as 4 feet high, should produce more than average crops, goes far to prove that height, however beneficial, is not essential to the successful cultivation of the pear.—*S. B. in The Garden*.

### Preserving Grapes.

The preservation of fruit in its natural condition ranks next in importance to its production. When its season is prolonged four or five months, the table may be furnished with a delicious luxury, and the vineyardist will receive rich gain, as the earliest and the latest fruits command the highest prices. Of course, every variety will not keep, but most of the popular sorts may be preserved with ordinary care. The process of preserving grapes is very simple, but more of common sense than science is necessary to success.

1. Gather when fully ripe. Most sorts change color half a month before they are ripe, and a mistake is often made in picking them. As this fruit only ripens upon the vine, it must be left till the stem shrinks and turns brown. Overripe grapes keep better than unripe ones. The green bunches may be left for a second gathering. Thin out all imperfect berries when picking.

2. Always gather them in fair weather, in the morning after the dew has dried.

3. Handle very carefully, not to rub off the bloom, and do not bruise or break; cut with sharp scissors.

4. When gathered, bring into a cool place, spread out on shed for a few days, till the surplus moisture has passed off.

5. Then pack in tight boxes, able to hold 20 to 30 lbs. Spread a thin sheet of paper on bottom, then a layer of grapes close together, then a sheet of paper, and so on till full. If sawdust is used in packing, the fruit will taste woody; chaff of rye, oats, wheat or rice is good, but paper is best as it does not stick to the clusters. Have four or five layers in the box. Keep in temperature of 35° to 40°. They may be examined occasionally and imperfect berries removed; but if the fruit is sound and ripe, and the place cool, they will keep four or five months without further care.—*Cor. Fruit Recorder.*

### When to Cut Cions.

It is usually understood that cions may be cut after cold weather sets in any time up to spring; but there is certainly some philosophy in the following letter to the *Prairie Farmer*—

For many years I have practised cutting off cions for grafting in the spring of the year and inserting them the same day, and thought it was the safest method to insure success in grafting. Usually about three-fourths of the cions amputated and inserted in the spring lived and thrived well. But I find the old adage that we are "never too old to learn" is true. Last fall I received a request from Mr. P. M. Gideon, a horticulturist in Minnesota, to send him a few cions of the best apples originated in Maine, and to cut them off as soon as the trees had shed their leaves—which request I complied with, at the same time informing him that the spring was the best season of the year for cutting grafts to insure success. In a few days I received in return a package of cions of the Wealthy apple, a favorite in that section. These cions were covered with damp sand in my cellar during the winter and grafted on to native trees early in May. Of forty-two cions inserted thirty-seven lived and are growing finely—and I now think the season named by Mr. G. the best for cutting cions. Probably many grafts amputated in the spring are winter-killed or their vitality injured by extreme cold the previous winter, and are nearly dead when inserted. When inserting grafts I usually examine the pith, and if found of a brown color, they are rejected as dead, but if the pith is of a light color they were not injured by frost the previous winter.

"You call yourself a Granger, sworn to uphold honesty,—look at the taper in that peach-basket,—but I remarked a greener Thursday last to a farmer. Then he went inside, and in his just indignation put twice as much sand as usual into the muscovado sugar barrel.

IN ALL OUR EXPERIENCE we do not remember outdoor grapes to be so perfect and large, both in bunch and berry, as the present season. The Telegraph is extremely true, so is the Salem, Rogers No. 32 and 4. Even the Delaware lifts up its diminished head, while the Maxatawney, Crevling, Concord, &c., are all very true. The Martha did not give us a single bunch, and the bunches last year gave berries little larger than the Delaware. As we write there is before us a bunch of No. 32, which is as large as those of a majority of the Black Hamburg and the berry equally so, while the quality is really excellent. No insect or disease of any kind visited our outdoor grapes this year.—*Germanstown Telegraph.*

**SECOND CROP OF FRUIT.**—Mr. Jacob Pennypacker, North Coventry, Chester county, Pa., says the *Pottstown Ledger*, of September 16th, in passing through his fields a few days ago, found a raspberry bush well loaded with green berries. He cut off a number of branches, brought them home, and inserted them in a vessel containing earth. The raspberries flourished and are now ripening as well as if left upon the bushes. We never before heard of so many varieties of fruit and berries bearing second crops as we have this season. There are at least three cherry trees within a radius of three miles from this borough now loaded with cherries.

**PEACH MARMALADE.**—Take small and imperfect clings. They will not admit of being removed from the stone in pieces of uniform size and shape, but you can pare them, and after cutting from the stone, place them in a porcelain kettle with one pint of water to two quarts of fruit, boil them until soft; take off, and put through a sieve with a wooden potato masher. Then return to the kettle, adding one pint of sugar to every quart of prepared fruit, bring to a boil and seal while hot. It can be sealed without the addition of the sugar, and when eaten let it be sweetened with white sugar to the taste. It then greatly resembles Irish peaches.

A MEMBER of the Michigan Pomological Society stated at the late Allman meeting that he was very successful in keeping winter apples, and had secured sound, fresh fruit in May by the following treatment: He picks the fruit in October, and places it in heaps in the or hard, covering them with hay. These heaps remain untouched till December, the slight moisture of the earth and the few inches of hay preventing any injury to the apples, even during very sharp frost. They are then assorted and packed in barrels which, after heading up, are placed in a cold cellar which is kept at a temperature of about 32 degrees, and if it should happen to be a few degrees lower for a short time, the protection of the barrels will prevent any injury. They come out sound in the spring.

A NOVEL CURE FOR DISEASED VINES.—The Abbe Rolland has communicated to the *Cultivator de la Region Lyonnaise* an "infallible remedy" against the Phylloxera, which, after two years trial, he recommends "with confidence" to vine growers. It consists in inoculating the vine with the pure essence of Eucalyptus globulus, which has lately attracted so much attention in medical circles. A broad incision is made through the bark at the neck of the vine, in which a few drops of the essence are deposited by means of a small camel-hair brush. The result is, that in about three days the Phylloxera entirely disappears, while the vine is not in the least injured by the operation. The incision may be made through any other part of the bark with equal success; but the result is more speedily attained the nearer it is made to the roots.

**PRESERVE THE TREES.**—In his annual address recently delivered at Toronto, the president of the Agricultural Association pointed out that the summer droughts so frequent of late years are largely the result of a too sweeping destruction of our forests. It is the absence of trees that makes the desert, and in desert places where trees have been planted verdure is beginning to appear. Moreover, we need trees, he remarked, as shelter for buildings, animals and crops, and the forests of the country are becoming so reduced that it is high time we began to think of our future timber supply. This object, he thought, might be promoted by the offer of premiums for the largest area planted each year with trees and for the most thrifty looking plantations. It might also be advisable for the Provincial Association to offer a premium for the best essay on tree planting—its importance and the best methods of doing it. These suggestions are well worthy of earnest consideration.

**STAKING TREES.**—It is common to advise the planter to stake and tie his trees in an upright position. Just now I have been reading in an English journal, as well as several paragraphs in American journals, advising the staking of trees and how to do it when planting. The claim is that this assists in the support of the tree against winds, etc., but is really a claim only in support of ignorance and want of care and careful labor upon the part of the operator in planting. Thirty years of practice planting trees from six inches to thirty feet high, and at all seasons of the year when the ground was not frozen, has satisfied me that a stake is never needed when the work of planting and pruning of the tree at the time is judiciously and carefully done. I have planted trees of deciduous and evergreen varieties twenty and thirty feet or more in height, in every month from April to October, never staked a tree, and rarely had one die from removal.—*Cor. Rural New Yorker.*

### THE VEGETABLE GARDEN.

#### Seasonable Notes.

**CABBAGES AND CAULIFLOWERS.**—Young plants should now be set out in cold-frames. These frames should be the width of an ordinary sash—six feet; about twelve inches in height at the back, and sloping to a front height of about eight or nine inches. Set the plants deep, about four inches apart each way, and cover in frosty weather.

**RHUBARB.**—Dress heavily with fine stable manure, and if new beds are wanted, divide and set out now. Manure the new beds as liberally as the old.

**LETTUCE.**—For early spring use set out in the cold frame, and treat the same as cabbage.

**ONIONS.**—The crop will now have been gathered. Keep dry, and stored in a cool airy place.

**SQUASHES.**—These cannot endure frost, and should be removed from the vines early. Handle carefully, as the slightest bruise will lead to certain decay. Dry in the sun for a few days, and store in a dry and frost-proof cellar or outhouse.

**PITTING.**—Pits for the reception of roots in large quantities may be of any desired length; depth thirty to forty inches; with three feet or thereabouts. Fill, slightly heaped, with roots; cover with straw or dry litter of any sort, and on the approach of winter cover with the excavated earth, giving sufficient slant to carry off all water.

### Using Concentrated Fertilizers in Gardening.

By Peter Henderson.

Whatever kind of concentrated fertilizer may be used, I find it well repays the labor to prepare it in the following manner: to every bushel of fertilizer add three bushels of either leaf mould (from the woods), well pulverized manure, sweepings from a paved street, or—in the absence of either of the above—common garden soil. In every case the material employed must be as dry as it is possible to procure it. When guano is used, be careful to have it thoroughly pulverized and broken up before mixing with the other ingredients. The fertilizer must be well mixed with the soil or mould used by turning it at least twice. This mixing should be done in winter, or early spring, and the material be packed away in barrels in a dry place for at least a month before using it. The main object of this operation is for the better separation and division of the fertilizer, so that when applied it can be more regularly distributed over the land; besides this, no doubt the fertilizing qualities of the leaf-mould or other substance are developed by this treatment. Experiment has shown that this method of using concentrated fertilizers of nearly all kinds materially increases their value. One of the most successful market gardeners in our neighborhood has adopted this method for years, and in extensive experiments with different kinds of fertilizers, with and without being mixed, finds a saving of one-third in quantity in thus treating them. He finds that 1,200 lbs. of guano, mixed with two tons of garden soil, and sown over the surface after ploughing, and then harrowed in, is equal to 2,000 lbs. of guano used without mixing.

We have ourselves experimented with guano, blood and bone, and bone flour, with nearly like results, and as a top-dressing for grass, we think the advantage of mixing is even more marked. When fertilizers are applied to corn, potatoes, tomatoes, etc., in hills or drills, it is not only more economical to mix in this manner, but much safer in inexperienced hands; or when any strong fertilizer is used pure, injury is often done to the roots by their coming in contact with it in too great quantity in the raw state, owing to imperfect mixing in the hill or drill, while, if composted as advised above, the danger is much less. We are often asked as to the quantity to be applied to different garden crops. Taking guano as a basis, we would recommend for all vegetable crops, if earliness and good quality are desired, the use of not less than 1,500 lbs. per acre, mixed with two tons of either of the materials recommended. This quantity is used broadcast by sowing on the ground after ploughing, and deeply and thoroughly harrowing in. When applied in hills or drills, from 100 to 300 lbs. should be used to the acre according to the distance of these apart, mixing with soil, etc., as already directed.

In regard to which of the fertilizers is most desirable, we find but little difference, provided each is pure. Guano at \$50 per ton is relatively as cheap as

blood and bone fertilizer at \$65, bone flour at \$50, or superphosphate at \$49; for in the lower priced articles we find we are obliged to increase the quantity to obtain the same results, so that the cost is nearly alike which ever be used. The all-important point is the purity of the article, a matter that few working farmers or gardeners ever attempt to decide except by the results in culture; hence we advise each one who has been using a fertilizer that has proved satisfactory, to experiment but lightly with another until the new article has proved its merits. The competition in the manufacture of articles so much in use as fertilizers, has in many instances forced down prices below the point at which they can be produced in a pure state; hence the widespread adulteration with "salt cake," "plaster," and other articles utterly worthless but to make weight. Next in meanness to the quack that extracts money from a poor consumptive for his vile nostrums, is the man who compels the poor farmer or gardener, may be a thousand miles away struggling for an existence, to pay freight on the sand mixed with his guano, or the plaster in his bone dust. In this relation I am reminded of a retribution that fell on the "Sands of Life man," who figured so conspicuously a few years ago in New York. The advertisement of this philanthropic gent eman, it will be remembered, was that, "A retired clergyman whose Sands of Life had nearly run out," would for a consideration tell how the "running out" could be stopped in others. A kind-hearted fellow in Illinois, deeply sympathizing with the old gentleman on account of his loss of "sand," sent him by express—but forgot to prepay—a thousand pounds of the article! It is reported that the "retired clergyman," on opening the box, expressed himself in a manner not only ungrateful but utterly unchristian. We counsel no vengeance, but if some of these sand-mixing guano men could have the sand sifted out by their victims, with compound interest added, and returned to them under the fostering care of an express company, it would be but even-handed justice.—*American Agriculturist.*

#### Ants Enemies to Caterpillars.

The *Belgian Official Journal*, referring to the ignorant conduct of those who destroy all kinds of birds and insects indiscriminately, insists on the necessity of children in primary schools being taught to distinguish between useful and noxious insects, and thus to exercise their destructive faculties against the latter only. The writer proceeds to say that the ant, which is very disagreeable and inconvenient in many respects, does excellent service in chasing and destroying caterpillars with relentless energy. A farmer, who had noticed this fact, and had had his cabbages literally devoured by caterpillars, at last hit upon the expedient of having an ant-hill, or rather nest, such as abound in pine forests, brought to his cabbage plot. A sackful of the pine points, abounding in ants, was obtained, and its contents strewn around the infested cabbage plants. The ants lost no time, but immediately set to work; they seized the caterpillars by their heads. The next day heaps of dead caterpillars were found, but not one alive, nor did they return to the cabbages. The value of the ant is well known in Germany, and although their eggs are in great request as food for young partridges, pheasants, and nightingales, there is a fine against taking them from the forests. The ant is indefatigable in hunting its prey; it climbs to the very tops of trees, and destroys an immense quantity of noxious insects.

#### Protection of Crops from Birds.

As my garden is frequented by a large number of birds, I have had much difficulty in protecting vegetable seeds, especially peas, from their depredations. I however succeeded last spring in doing this most effectually, and as I have never seen the plan adopted before, I communicate it for the benefit of your readers, should you deem it worthy of insertion. I take strips of deal about 4½ inches wide and ½ inch thick, and place them on each side of the row inclined to each other. They are supported in their position by short sticks about ½ an inch thick, placed about 4 feet apart in the centre of the row. These keep the top edge of the battens sufficiently apart to admit air and light to the peas, while the birds are prevented from getting at them. I find, also, that this is an excellent protection for them against frost, while slugs are attracted by its shelter, and by turning the battens back they may be easily destroyed, for they generally cling to its under side. The expense of this is very trifling, about 1d. per foot run for both sides, and the battens, if stored away in the tool-shed, will last many years.—*Aptenium.*

THE SOONER new potatoes are cooked after boiling the more palatable they are. Clean off all the loose skin with a coarse towel and cold water when rubbed clean, put into scalding water, and boil from twenty to thirty minutes, according to size. New potatoes are usually cooked too long. Turn off all the water; sprinkle a little salt on them, and shake the kettle with both hands over the handle. This makes them look very flowy. Serve with butter and salt.

THE "NEW" ASPARAGUS.—As some may be incredulous on the subject of making a new variety out of the old and common sort, and at the same time make the people, or a large portion of them, believe it, we have only to call to mind the so-called "Conover's Colossal" asparagus, which was brought out as new, at a high price; and, according to an able correspondent of *Moore's Rural*, no uninterested party has ever been able to discover wherein it differed from the old and common sort. But the party is credited in bringing out this pseudo new variety as deserving of much credit in recommending that the roots be planted at a far greater distance apart than the old sort, for it was said that the same requires room corresponding with its size; and herein lies one of the secrets of its success, as well as many of the endorsements regarding its distinctive and superior merits. The recommendation of allowing more room in which to grow is also the secret of the continued success; and, at the same time, it is a great innovation upon the old time system of crowding the roots as recommended in all of our earlier standard works on vegetable gardening.—*The Gardener.*

#### THE FLOWER GARDEN.

##### Seasonable Notes.

HOUSE PLANTS.—Remove to the house at once such plants as it is desirable to save for another season. Cut back both root and branch, and keep in the shade for a few days, until well established. Make cuttings of all such as it is desirable to propagate.

PERENNIALS.—Where they have been left for three or four years in the same bed, they should be taken up, divided, and reset; they produce enough better flowers to pay for this extra trouble.

PULBS.—All hardy bulbs, such as tulips, hyacinths, jonquils, crocuses, etc., ought to be put into the ground by the middle of the month if possible. Tender bulbs, like gladioluses, tiger-flowers, etc., should be taken up after frost, dried off, and stored in a cool, dry place, where they will not freeze.

DAHLIAS.—After the frost has killed the foliage, dig the roots on a warm sunny day, taking care not to break them. As soon as dry, label, and store in a dry cellar.

PROTECTION.—Collect all materials needed for covering half-hardy shrubs and plants. Red cedar, or other evergreen boughs, marsh hay, and leaves, are all useful. Do not cover too early, as the plants may start if protected too soon. Not only are tender plants, but hardy sorts, benefited by covering.—*American Agriculturist.*

#### Propagating Verbenas.

There are various methods adopted for propagating them. Some prefer to strike their principal supply in the spring; and at that period the smallest cuttings of young wood you can procure will root quickly in silver sand, the pots being plunged in a brisk, but sweet bottom-heat. And, that they may obtain strong plants for affording them shoots, they pot a few of each sort of the spring-struck plant spotting them singly; and by pinching the top of the side-shoots, so as to induce a bushy growth, and re-potting them when required during the summer months, they have by the autumn some strong plants to stand over the winter either in the houses or pits. And then, if subject to a nice moist but warm atmosphere early in the spring, single plants so managed will supply a large quantity of cuttings.

The plan is very good, where room is an object; but it is best, in my opinion, to propagate as many plants as you can early in autumn; and bottom-heat is not needed for that season, if you commence at once. First prepare some sandy loam, adding about a fourth of good decayed leaf-mould or rotten dung. Examine it well to see that there are no worms.

Having mixed it, then procure some 5 inch or 4½ size pots; let them be filled to about a fourth of their depth with drainage; then fill them with the soil, leaving on the surface about one inch of silver sand. In selecting the cuttings the wood should neither be too hard nor too soft, but of a medium texture. Before you insert them, cleanse them of any insects that may infest them. It is not advisable to put them in so thick now as in the spring, because, if successful in rooting your cuttings, you will allow them to remain in the stone pots through the winter months. Having inserted them, gently sprinkle them with a fine rose of a watering-pot; then place them under hand-lenses; or in a close frame, where they must be shaded from the sun's rays. They will not require the admission of any air till they show signs of having begun to root. Occasionally examine them, and remove any that are decayed. When struck, they should be gradually inured to the weather, so that the shoots may become firm.—*W. T.*

A NEW FLOWER has recently been discovered in California of gigantic size, to which botanists have given the name of the "Aaron Cop." It measures two feet eight inches from base to tip, and is described as very beautiful.

SOME OF THE PAPERS allude to what they term a new kind of table decoration, and describe a recent instance of it in the house of a Russian lady in London. The table was entirely covered with moss—the fern-like moss which is plentiful in Covent Garden. There was the usual white cloth, but the only evidence of it was seen in that portion which hangs at the sides of the table. Flowers were profusely introduced, and the effect was altogether unique. This is said to be one of the most ordinary kinds of table decoration in the aristocratic houses of Russia.

TO TRAIN FUCHSIAS.—When a slip has grown six or eight inches high, nip out the top down to the last set of leaves; it will then throw out branches on each side. Let these grow eight or ten inches, then nip them out as before; the tops of each branch, when grown the same height as the others, nip out again; then procure a stick the size of your finger, eighteen inches in length; take hoop-skirt wire, twine back and forth alternately, through holes made in the stick equal distances apart; place this firmly in the pot back of the plant, tie the branches to it, and you will have, when in flower, a beautiful and very graceful plant. Having one trained in that way last season, it was the admiration of all who saw it.

BARRELIER'S BELL-FLOWER (CAMPANULA BARRELIERI) AS A WINDOW PLANT.—I consider this to be one of the finest of all dwarf growing bell-flowers for window culture, and after trying many other kinds, including *C. pulchra*, *C. turbinata*, *C. fragilis*, and others, I have given this the preference. Grown in a pot of rich sandy earth, it forms a bushy little plant in the spring, while a month or two later its branches elongate until they hang gracefully over the pot sides covered with pale purplish-blue saucer-shaped flowers. One of my plants looks splendidly just now, being a perfect mass of flowers. A good potful of this plant makes a capital substitute for a hanging-basket, and the flowers show to better advantage when the plant is suspended in the window or on the balcony outside. It is also a capital bracket plant, or it looks well on the window-sill, where the shoots can hang down freely. The two best Campanulas for the window gardener are undoubtedly this and *C. pyramidalis*, which are very distinct from each other in habit of growth, and both perfect in their way.—*B. in The Garden.*

CORN HUSK FRAMES.—An agricultural exchange has the following:—Corn husk frames may be made very prettily and simply by taking pasteboard or thick paper to sew the husks on. Then select your husks; take fine white ones, but not the finest. Take a husk and cut into strips three-quarters of an inch wide and three inches long. Then double it together in a bow as in tape trimming. Put two rows of these around the inside of the frame. Next, cut a piece the length of the bows and the width of the husks, and bend the two ends together. Now, take your needle and slit it very fine through the centre, and then sew the two ends that you hold in your hand on the frame overlapping the row of bows; then take some more pieces of slit work, and turn and go lengthwise of the frame—not crosswise as before. That forms the outer edge of the frame. Take a thin piece of board and make a frame. Place your glass between your paper frame and your board frame, and tack or paste your paper frame down smoothly. You will thus have a nice rustic frame. Beautiful little card baskets and lamp mats may be made in nearly the same manner.



## Poultry Yard.

### Poultry Notes.—No. 23.

#### Moulting—Treatment and Effect.

Moulting is the natural or annual occurrence of casting the feathers, and it rarely passes without more or less disorder, and no infrequently proves fatal, so that at this critical period fowls require to be carefully attended to. Early chickens do not suffer so much from moulting as do the later ones. One year during the warm months the feathers drop out, and without any apparent sickness to the chickens. So late are they noticed that we have not unfrequently heard it said that chickens do not moult the first year. Later chickens are more affected and generally suffer from moulting in the cold autumn nights, and during wet weather. The advantage of having early hatched chickens, which cast their feathers a few at a time during the warm days of July and August, is very obvious. After the first year, now's moult later in the season each succeeding year; but the time of doing so is not greatly different until after the third year, a period beyond which no bird should be kept if more profit be the consideration; it is of course different if the birds are merely kept for stock purposes. A dozen eggs may then well repay the feed and care of a whole year. We have often seen old fowls moult late. The feathers fall off so quickly as to render them almost naked, and thus exposed to very severe weather, they rarely if ever recover the effects. It is remarked by a naturalist, with respect to wild birds, that their moulting time always happens when their food is most abundant; and as the loss of feathers is always accompanied by the loss of flesh, nature points out that they ought to have an additional supply of food till all danger is over. Warmth and nourishing food at this season ought to be both abundant and of a nourishing kind. Late broods of chickens when showing signs of first moult, usually fall off in their appetite, appear mooping and inactive, their feathers staring and falling off all several parts of their body appear naked. While in this state, they must be protected from cold by not being allowed out too early in the morning or too late in the afternoon. Moulting is generally treated as a disease, and certain specifics given to fowls while undergoing this process. At this time, as well as in cold and wet weather, it is well to add some iron to the drinking water. Sulphate of iron alone becomes rusty and disliked by the fowls, but a drop or two of sulphuric acid added will prevent this. A lump of sulphate of iron the size of a filbert, and three drops of acid, will be enough for each gallon of water, or a teaspoonful of tincture of iron will answer as well. This mixture in their drinking water has a wonderful effect in helping them through the critical period of moulting. The particular kind of food given the fowls must now be specially seen to. A little hemp seed given two or three times a week will be very beneficial, and even ale may sometimes be given to delicate fowls, although it should always be used sparingly, as it usually causes purging, and some breeds do not require it at all. A little extra meat should now be given; besides being beneficial at this season, it has the effect of making them commence laying earlier. Moulting must not be confounded with loss of feathers, this latter being a special disease to which fowls are subject. In moulting the old feathers fall out by reason of new ones shooting out from the skin, but in loss of feathers no new ones appear, and if they do, seldom push far above the surface of the skin, remaining as mere stumps arranged in their growth. The loss of feather is evidently caused by a constitutional weakness, while moulting is an annual process of renewing the plumage, and is a wise provision of nature, giving a new dress and cleanly appearance to fowls each year.

Many remarkable changes take place in the color of fowls at moulting season. The colors of young chickens, after being hatched, undergo a remarkable change from the time they first cast their down to the annual moult of the full grown birds. By this change, whether regarded as a disease or a regular process of nature, fowls usually after the second or third moult continue their colors the same during after life, although there are remarkable exceptions to this. It will frequently be remarked by breeders of light Brahmas that chickens of this variety often show a considerable amount of black in parts where not wanted, especially in the shape of spots on the backs of the pullets, a fluff of the cockerels, which moult out at from six to seven months old. Also in the dark varieties, pullets with almost white breasts will after the annual moult develop them perfectly pencilled. Again, cockerels of the same breed will often have brown on the wings, which often moult out by the age of six months. In Spanish fowls great varieties sometimes occur during the moulting season. It has been remarked that the best chickens of this breed are often the longest in showing their good points, and as a general rule those which show very white faces at an early age rarely turn out first-rate specimens; so too those which present a dark dirty blue appearance when young, slowly but steadily change to white as they grow older. Spanish fowls, as they become old, not unfrequently moult, with many of all of their feathers tipped with white, presenting a curious "magpie" appearance; but this is no evidence whatever of impurity of blood, and is somewhat analogous to the advent of grey or white hairs in the human species, such birds producing chickens quite as perfect as those which remain quite black; sometimes, too, they moult entirely white instead of pied, and even young white birds are sometimes produced. Pink eyes are frequently produced, and these are what are termed by physiologists, "albinos;" others again merely show the change from white to black and white, which all the feathered tribes often present, and it is by breeding these carefully the variety of white Spanish is produced. Another important matter connected with moulting is that nearly all breeds of black fowls will show when young red or reddish golden feathers, more particularly in the cock's hackles. Black Spanish will occasionally show these feathers, but on account of their being so long and carefully bred, are to a great extent free from them, yet they occur among some of the best yards, but at the annual moult will disappear. Black Cochins, not being as yet so firmly established as the Spanish, show considerable of the red, moulted it out by degrees. Black Hamburgs are especially liable to moult red in the hackles and saddles, and the chickens of this variety when hatched are white from the throat downwards to the centre part of the body, the rest black. As a rule they do not become thoroughly black till they get into their second plumage. The chickens of silver-pencilled Hamburgs when hatched are a pale buff, and not until after their moult do they show in perfection the markings of their variety. First-rate specimen cocks will sometimes, as they get old, moult a chestnut patch on the wing, and we have it on record that a cock bird, the winner of thirty-seven prizes, moulted out chestnut patches upon the wings. The chickens of golden-pencilled Hamburgs are also of a buff color, but darker than that of the silver, and have black spots about the head, which after the first moult disappear; indeed it may be said in both the last named varieties that it is not until after a second moult the full beauty of plumage makes its appearance. Polish fowls undergo considerable changes in moulting. In the crest of a silver-spangled Polish pullet of her first year, the feathers are usually black at the base, and up the middle of the feathers edged with white, but after the first year's moult this rule is precisely reversed, the bottom and centre of the

feathers becoming white with a black edge or lacing; and subsequent moults show many white feathers. Golden-spangled Polish chickens when hatched are in color a smudgy black and brown mixture, and in silvers a smudgy grey. In the first feather the marking is very indistinct and patchy, and not until after the first moult can the quality of the plumage be ascertained. The white-crested black of this variety have often their black crest feathers removed violently when only half grown, with a view to their growing white, yet, strange as it may appear, such feathers are invariably reproduced black as they were originally, while if the same course is pursued in body feathers, the renewed plumage will frequently be white.

#### The Rouen Duck

The name of this breed of ducks is no indication of the locality from whence it originated. They did not come from Rouen in France, as would appear from the result of inquiry specially made; the application of the term has therefore to be looked for on other grounds, and it is assumed that it is merely a corruption of the word roan or "grey duck." As to the origin of the breed, there can be little doubt that it has been bred from the wild Mallard, which it almost exactly resembles in its plumage, but much enlarged and improved by careful breeding. But by domestication, however, it has lost the light and graceful shape of its ancestor, in exchange for a thicker and heavier build and greater aptitude to fatten. The Rouen is not less hardy than the Aylesbury, but does not come to maturity quite so early. Their flesh is very delicate, and they can be made to fatten to quite as great a weight as the Aylesburys, although for a long time they were quite inferior to the latter in weight at the Birmingham Show. In general appearance they should resemble as closely as possible the common Mallard or wild duck; but the breast of the drake is now required to be of a deeper claret brown color. The bill of the drake should be a clear yellow, with a slight greenish tinge, a bright yellow being objectionable, while, on the other hand, a leaden color is a fatal defect. The shape of the bill is peculiar, being alike in the Aylesbury and Rouen, and should come straight down from the skull, and be both long and broad. The head a rich green color glossed with purple, which extends down the neck, round which is a white collar or ring, which must not, however, quite encircle the neck, nor quite meet at the back, but it must be very clear and distinct as far as it goes. The breast should be of a deep rich claret brown color, extending well down below the water line, and as free as possible from rings, or what is called by some "chain armor." From this it passes into the delicate French grey of the under parts, which should extend to under the tail, any pure white under the tail being a great objection. The color of the back should be a rich greenish black, and the curls in the tail a dark green; the wings a greyish brown, with a ribbon mark across them, which must be a very bright and distinct blue, edged on both sides with white. The flight feathers of the wings should be grey and brown, white in a slight feather being highly objectionable. The legs are a rich orange. The whole appearance of the drake should be rich and commanding, and nothing could exceed the beauty of a moderately perfect bird. In the duck, the bill is of an orange color and not quite so long as in the drake, with a splash of dark color, nearly black, upon it, about two-thirds down from the head, but not reaching the tip or sides; this color, however, changes during the laying season to a dirty brown, and sometimes they almost become black all over. The head is brown with two distinct shaded lines on each side, running from the eye down to the darker part of the neck—this is very essential to perfection. The breast is brown, pencilled over with dark brown; the back pencilled with very dark brown, almost black, upon

a brown ground. This penning must be very distinct. In England, among some of the best judges, there is a difference of opinion as to the shade of brown which should form the ground work, some preferring a light clay brown; but the most fashionable tint is a dark brown, almost chocolate, provided the markings are distinct. The wing has a ribbon mark as in the drake, and the legs are, like his, orange, but generally of a duller tinge. Like the Aylesburys the eggs of the Rouen show the same diversity of color, but as a rule they are not quite so large.

Referring to the breeding of Rouen ducks for exhibition, Mr. J. K. Fowler, quoted by Mr. Wright in his Poultry Book, to whom we are partially indebted for the above description, says: "In the selection of Rouen ducks for breeding purposes, that is, for exhibition, the breeder should look more to perfection of markings and shape than to mere weight, provided that the birds are of average size. The most important point, as in other stock, is to see that the birds it is proposed to breed from are really *thorough-bred* and *well-bred*. The drake should not be over eighteen months old at the time of mating, and if he weighs seven pounds it is quite sufficient, for they should not be made up to weigh well if wanted for breeding. The ducks may be older, and what I prefer myself is a drake of twelve months with two-year old ducks. For breeding good dark-breasted and dark-breeched drakes, I mate the darkest drake I have with the heaviest ducks; and for getting ducks of good color, I choose a dark male bird with light marked ducks. Although it would be folly to think of exhibiting a duck with a cuckoo wing (a wing with feathers growing out the wrong way; ducks are subject to this, like Asiatics), or any other malformation, however large and good in markings the bird may be, still, if a well-bred one, it is quite likely to produce young ones if well mated. The same may be said if the parents have slightly defective bills, or are under sized; in spite of these defects, they may throw some splendid birds, and indeed are very likely to do so, if they come from really good stock."

The weight per pair of the first-prize Rouen ducks at the Birmingham Exhibitions for the last six years were as follows: For the year 1868, 19½ lbs.; 1869, 18½ lbs.; 1870, 19½ lbs.; 1871, 19 lbs. 5 oz.; 1872, 19 lbs. 10 oz.; 1873, 19 lbs. 10 oz. As already stated at one time, the Aylesburys at the Birmingham Exhibition weighed heavier than the Rouens, but the above weights show that the Rouens now weigh the most. It may be well, however, to remark that birds thus fattened for exhibition, when reduced to breeding condition, are almost useless, the ducks usually laying shellless eggs. For farmers, and perhaps in the average of circumstances, the Rouen is the most profitable of any breed, although it does not arrive at maturity quite so early as the Aylesbury. Owing to their lethargic habits, Rouens are more easily fattened than any other breed.

BARLEY is much used in Europe, but should never be the only food in the poultry yard. Fowls do not fatten on it. Oats are good as a change, but are inferior as nutriment.

A CONSIGNMENT OF EGGS was recently received from Ohio in New York. Upon unpacking the barrels the consignee found at a distance of 14 inches below the head several live chickens which had just broken the shell. The chicks were taken care of and are doing well. The *N. Y. Tribune* is responsible for this *fool* story.

ARTIFICIAL INCUBATION.—*Paterson's Magazine* tells of an instance where artificial incubation took place by the eggs of a hen lying for a few weeks in a pile of horse manure. It seems a hen had managed to make her nest in a cavity in the heap, and after laying eleven eggs the opening had been closed by the stableman piling on more of the cleanings of the stable. The warmth generated in the heap had incubated the eggs, and nine out of the eleven hatched out. This may be a discovery which some one may turn to account.

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## The Canada Farmer.

TORONTO, CANADA, OCTOBER 15, 1874.

### Animal Refuse in Cities.

As intelligence and its consequent refinement increase, improvements in every branch of art are in greater and greater demand. This extends even to the proper disposal of waste material, formerly left to fester and rot away in back yards, lanes, and by-ways. As a rule, on the farm but few animals are killed annually. The waste or offal in such cases is provided for by nature. The mother earth, that most convenient of all disinfectants, soon absorbs or deodorizes the blood, and the rest is easily disposed of in the dung-heap. But in cities and large towns, especially in the neighborhood of slaughter-houses, the case is very different. These become in a measure plague-spots, and continual warfare is the result between their owners and the neighboring inhabitants. Law, moreover, has in times past effected but a poor remedy. People must eat, and in order that they may do so butchers must supply them with meat, so that the latter have almost every other than a moral right upon their side, and consequently win their cases as a rule. Closely connected with slaughtering too are the processes of bone-boiling and tallow-rendering for the purposes of extracting fat—a procedure which, if done whilst the meat is fresh and untainted, gives but slight annoyance, but one of which the stench is otherwise intolerable. Other companies, again, are engaged in collecting bones, heads and hoofs from slaughter-houses, hotels, and other dwellings, which they prepare for manufacturers. The larger bones are used for making buttons, &c. The hoofs are used for a similar purpose and also for the manufacture of ferrocyanide of potassium. The smaller bones are manufactured into bone charcoal, largely used in sugar refineries. From each of these processes, which are in themselves filthy in the extreme, the smell is simply horrible, fouls the atmosphere for a circuit of many hundred yards around it, and according to medical testimony, gives rise to numerous and serious bodily diseases. As a remedy against this state of things, an instrument called the "Digester" has recently come into vogue, which although not profitably practicable in the cases of all the different processes we have mentioned, is so in many of them, whilst the results as regards

the adjacent community are pleasant in the extreme. In nearly every process of bone and tallow preparation a certain degree of temperature is required. The gases arising during the course of boiling or steaming are exceedingly offensive to the nose. Indeed they constitute largely the very grievance complained of. The principal benefit derived from the "Digester" therefore is, that by a series of pipes these gases, instead of being evolved into the air, are led directly into the fire, by which they are consumed and rendered innocuous. It may seem strange that, accompanied as they are with so much wet steam, they do not extinguish the fire. This obstacle is overcome in two ways:—First, by the Lockwood & Everett patent, in which they are conducted through about 500 feet of iron pipe, arranged in the form of a coil and placed over a fireplace by which the pipe is heated to redness; this superheats the steam, so that it does not interfere with the combustion of the gases which are consumed by means of tapers shaped like a Bunsen blast lamp, and placed immediately under the coil of pipe by which the gas is heated, the pressure of the escaping gas serving to draw in the air. In practice, however, this method seems to be costly, as the coils have to be renewed every six months on account of the rapid oxidation of the hot iron by the steam.

Another method which has been proposed, and is in actual use to some extent, is to condense the waste steam from the tanks by either jet or surface condensers, and then blow the gas under the grates of the furnaces used for heating the boilers. The gases, passing up through the heated coals upon the grate, will be decomposed, as in the Lockwood & Everett apparatus.

The form most generally used is that known as Perry's. This is a cigar-shaped vessel, provided with a steam jacket, and also with two hinged lids or covers; that at the upper end is simply an ordinary lid, similar to the manhole cover of any boiler; the one at the bottom of the digester however is double; the inner or false lid being some eight or ten inches above the outer or true lid, and perforated with holes. They are however firmly connected together, and hinged to one side of the mouth of the digester. The effect of this arrangement is to keep the scrap and bones from coming in direct contact with the true lid, and leaves a space from which the soup and grease can be drawn. There is no reason why these digesters should not be used also for treating the larger bones, the only requisite being that the pressure should not be allowed to rise above a few pounds to the square inch.

### Decline in the Price of Wheat.

The *New York Tribune* has been drawing attention to the remarkable decline in the price of wheat in England, which has been going on for two or three months past. The following shows the average prices, as officially ascertained from the returns of the officers of the excise, of the sales at 150 designated market towns for the ten weeks from July 4 to Sept. 5, inclusive:

Week ended.	Average.	Week ended.	Average.
July 4.....	60s. 6d.	Aug. 5.....	53s. 6d.
July 11.....	60s. 6d.	Aug. 12.....	53s. 6d.
July 18.....	60s. 6d.	Aug. 19.....	54s. 2d.
July 25.....	60s. 6d.	Aug. 26.....	54s. 6d.
Aug. 1.....	59s. 6d.	Sept. 3.....	54s. 6d.

The quantities sold at these 150 towns increased from 43,931 quarters for the week ended August 29 to 64,693 quarters for the week ended September 5, against 41,800 quarters for the corresponding week of last year. In the same week over 290,000 quarters of foreign wheat and flour were imported into the United Kingdom—an unusually large amount. From these facts the *Tribune* argues that the fall in the price of wheat is not due to the unwarranted operations of speculators.

In the north-western states farmers are holding back their wheat from market, being advised from

some quarters that the present low prices are not the natural result of the relations of supply to demand but are due to combinations of European and Canadian capitalists. At Milwaukee deliveries have greatly fallen off this year, as compared with August and September of last year; partly through the hollow back of the farmers, and partly, no doubt, on account of the railway troubles in the Northwest. The fact that there has been a late wheat harvest in the north both in Europe and North America is of itself not a hold-up, but it does not help to explain the doubling of the price of wheat this year, and of the holding over being so long, and long enough to profit by that counting day.

**Agricultural Exhibition at Sumner-side, P. E. I.**

The annual Exhibition of the Agricultural and Industrial Products for Prince County, Prince Edward Island, took place at Sumnerside on the 2nd inst. The weather was charming, and the concourse of people very large. But the number of exhibitors was smaller than last year, and it cannot be said that there was much improvement in the articles exhibited. The stock department was very fair both as regards horses and horned cattle. In horses there were some very fine light carriage horses and some half a dozen of handsome young stallions from two to three years old. The breeding, form and action of these animals indicate that Prince Edward Island people are resolved to make an eye for an eye in the matter of the stock. Some very fine stags and various wares on exhibition, which for the sake of decency the duty of watchfulness are rarely to be surprised. There was also on exhibition a magnificent set of bedroom furniture manufactured by Mr. Doull, of Sumnerside, from native wood. The material is a beautiful maple found so plentifully in Prince Edward Island. The design is quite modern and the workmanship such as it would be difficult to surpass. The set is valued at \$200.

There was sometimes the *St. John's, N. B., Telegraph* in which we quote abundance of cereals and grasses, fish, good butter and cheese. In roots there was but a small show; but some of the samples were remarkably good. Mangel wurzels, weighing from 16 to 20 pounds each, are not to be met with every day. There was also a fair show of home-spuns, blankets, and bed and table linen, and capotines and mats of different sizes and patterns for seamanship. In Berlin wood ware were also a few well executed specimens. But upon the whole, the exhibition did not come up to what it ought to have been in Prince County. Many of the best departments of local industry were not represented at all, or but shrunkenly represented. There were no articles of two of leather and a pair of two of boots. There were no edge tools, no plumb-lines, no machinery, — if we except agricultural implements, no home-made clothing; though some of the best markets in the Dominion are claimed by Prince County.

The fault of the meagreness of the exhibition does not lie with the people. The prizes offered were considered insufficient to secure competition.

It is to be hoped that the Government or the county authorities, or both, may be induced to deal more liberally with the exhibitors, and thus make these annual exhibitions effective for the purpose intended — the stimulating of the various branches of local industry.

**PROLIFIC HEN.** — Mr. I. R. Johnston, York Street, exhibited at the office a few days since three eggs, one perfect, another with shell partly formed, and the third with only a skin covering, all laid by a single dark Brahma hen within the space of about an hour.

**FERTILE OATS.** — G. W. Skelting, lot No. 6, 1st con., Malton, writes us that he this season got 2213 grains of oats as the produce of 16 stalks, all grown from one kernel. The oats were the Norway variety.

**R. C. BROXTON.** — Your description is not sufficiently clear to enable us to arrive at anything like a satisfactory decision. Can you not send us the insect itself? Enclosed in a small paste-board box, and well wrapped round with cotton-batt, or some such soft substance, it can be forwarded by mail quite safely.

**The Late Henry Stephens.**

We have much pleasure in copying from the *Farmers' Home Journal* the following well-merited tribute to the memory of the late lamented Henry Stephens:

"To many of our readers the name of Henry Stephens is not a strange one; to all those in any great degree conversant with the literature of British agriculture it cannot fail to be a very familiar name. Henry Stephens was born in the last century; for a few weeks ago, when he died, he was in his eightieth year. Of Scottish birth and Scottish parents and educated in his native country, he was a typical Scot as well as a typical Scottish farmer. And moreover, early in life he determined to be a farmer and nothing else, but nothing less, and this was how he did. In the first place, and as the only reliable and right way in which to raise an intelligent agricultural superstructure, he obtained a good education. Possessed of the theoretical, he next proceeded to learn the practical part of a calling at which he was to become famous. Accordingly he went on a farm in Berwickshire, and remained there for three years. His duties in this relation were not those of a mere spectator; he worked with his hands, and did his part of whatever was to be done. We next find him travelling, so that he might see all that could be seen of the most improved methods in operation in other countries. When he returned from the Continent he settled down on an exhausted farm, the value of which in a very little while he doubled. We have not at our disposal the time or space to tell even a tithe of what he did do. The crowning effort of his life, however, was the 'Book of the Farm,' which is regarded very generally as the best book on British agriculture that has ever been penned. Henry Stephens wrote several other valuable books, the titles of which we shall not even so much as name. We have made the foregoing brief remarks for the purpose of stimulating by one more noble example those of our young readers who are going to become farmers, as well as for the purpose of making men 'born in the press' of this journal of a great and good man who has been gathered to his fathers at a ripe old age, and after a life of great usefulness."

**Cost of Paupers.**

The expenditure on maintenance and out-door relief of paupers in England in the half-year ending at Lady Day, 1874, was £2,362,033, being 23 per cent. less than in the corresponding half of the preceding twelve-month, and 57 per cent. less than in the half year ending at Lady Day, 1872. The cost of maintenance amounted to £813,571, being £30,929 more than in the corresponding half of the preceding twelve-month; but the cost of out-door relief, viz., £1,548,555, showed a decrease of £85,568, leaving a net decrease of £54,639. A decrease of expenditure is shown in every division of the kingdom, except the metropolis, in which there was an increase of three per cent. The average price of wheat in the half-year was 61s. 8d., being 5s. 2d. more than in the corresponding half of the preceding twelve-month. Flour also was dearer; but meat was a little cheaper, and potatoes much cheaper. Of the 647 unions of England, 126 administered all their relief to out-door paupers in money in the half-year under review; and of the whole expenditure on out-door relief only £273,375, not much more than a sixth, was given in kind. Very little relief was given in kind in Cornwall, and still less at the opposite end of the kingdom, in Northumberland, Cumberland, and Durham. In the south-western division as much as £201,477 of the whole £255,516 was expended in out-door relief; and in the Welsh division, £157,413 of the whole £182,384; in the north-western, only £29,926 of the whole £201,687; and in the metropolis, only £151,119 of the whole £395,102. — *English Paper.*

**AMERICAN FARMERS.** — The *Artisan* says: "We heard the assertion that no class of equal average means live so well as American farmers. One of these possessing a farm and buildings worth ten thousand dollars will gather about him and enjoy more real comfort than could be obtained from the income of one hundred thousand dollars in New York. He may live in a more commodious dwelling than a metropolitan citizen having ten thousand dollars annual income. He may have his carriage and horses. His table may be supplied with everything fresh in its season. His labor is less wearing than the toil of the counting-room and office, and he has more leisure."

THE EXPORTS of cattle and sheep into the United States from Canada has been very large during the month of September. The cattle were mostly young animals, bought as "stores," the hay-crop having been good throughout New England and their stock of cattle very low. The devotion of large sections of the country to dairy farming has reduced stock growing principally to sections where butter and cheese are not made "specialties." We hear that both cattle and sheep brought fair prices. Mixed farming as well as dairying pays in Canada.

THE BEST MANAGED FARM IN ENGLAND.—They offer prizes in England for the best managed farms, as they sometimes do in this country, and Mr. Buckley, of Bingham, was lucky enough to receive the award. Ten days after the final visit and award of the committee, an "unlucky event"—which is the way the *Agricultural Gazette* puts it—occurred on this farm devoted to hay, and the whole crop was put into one stack, where it heated and took fire! A stack of clover on the farm also was, on examination, found to be so hot as to be upon the point of combustion, but was saved by cutting holes through it in various directions. The next award for the best managed English farm will probably not be given on the basis of the largest hay and clover stacks. Where a man runs a whole farm on one crop, it is perhaps safe not to put it all into one stack. — *See Stack Journal.*

ALASKA AGRICULTURE.—A visitor to this far off region writes: There is a general impression that nothing will grow in Alaska, and that it is a region of hostile winter and savage winters, all of which is extravagant nonsense. On open land and along the streams, succulent grasses grow luxuriantly, and sometimes to a height of three feet and a half. Red-top and wild timothy abound on the islands, and in the mainland something very like Kentucky bluegrass grows extensively. Considerable hay has been made this year, the haying season being nearly the same as in Oregon. Heretofore the Government has been paying \$70 a ton for imported hay, in gold, but this year the natives are cutting and storing native hay for about \$30 a ton in currency. Barley was raised last year, and it yields as well as elsewhere. Potatoes, turnips, onions, and the like have all been produced on the islands, and generally turn out as in other places.

THE TOBACCO CROP IN VIRGINIA.—The *Richmond (Va.) Dispatch* says that this has been the most unfavorable season for tobacco known in that state for many years. The spring was late and cold, which retarded the growth of the plants and exposed them to the depredations of the fly. The consequence was widespread damage and destruction, and when the time for planting arrived not many persons had the plants to set out. Some few were lucky and got a good stand, but the great majority failed in a great measure, and some altogether, and put their land in corn. Beds had been reown, and in July great efforts were still made to secure a crop, and many plants were set out. With favorable weather in August and September—that is, warm sun and frequent showers—the late planted tobacco might have made a medium yield. But August has been as unfavorable as it could be. The first part was too dry, then came heavy rains, followed by harsh, drying winds and cool nights, continuing to the present time, which arrested the growth of the plants. The plants, which are still standing were now told, cannot, by the most favorable weather in September, recover the time that was lost in August.

SHARP PRACTICE.—At the petty sessions, held at Colshill on August 25, Isaac Meiss, J. Darlington and L. F. Goschal, Mr. Henry Sharp, of the Dairy Farm, Paclington, and two of his workmen, were summoned by the Earl of Aylmer's keeper for accidentally killing a rabbit. The facts of the case are as follows:—On the 4th of the same month Mr. Sharp and his men were engaged cutting barley. It appears, as shown in evidence, that a rabbit was cut nearly in two by the machine passing over it. One of the men, actuated with a humane spirit, took up the rabbit and killed it out of its misery, and threw it on the ground; the other man kicked it out of his way. For this enormous offence the master and his men were summoned before the magistrates. The case against Mr. Sharp was, as any common-sense person might have expected, dismissed with costs, against the prosecutor; but the poor men were not so fortunate, because it was shown that each of them touched the rabbit, which it appears constitutes an offence against the Game Laws. Although the magistrates declined to convict, yet they ordered the men to pay expenses! — *Birmingham Post.*

# Agricultural Intelligence.

## Sale of the Gaddesby Short-horns.

The third sale of the Gaddesby Short-horns, the property of Mr. E. H. Cheney, took place at Gaddesby Hall, near Leicester, on the 22nd ult. The animals, says the *Daily News*, comprised a really choice selection of first-class stock from the Gaddesby herd, which is of the highest standing and most valuable character, Mr. Cheney having secured, without regard to cost, the very best animals to be obtained, not only in this country but also in America, where he has made several purchases at very high figures of Duchesses, Oxords and Princesses. Others of the animals emanate from Mr. R. Codling, by favourite, and are directly descended from Hubback. Three-fourths of the lots were by the ninth Duke of Geneva. After luncheon, prepared by Mr. G. P. Edge, of London, a very large company assembled around the sale enclosure, including amongst other noted breeders, Lord Bective, Sir T. T. Fowkes, Bart., Sir George Beaumont, Bart., Sir A. Palmer, Sir J. Whitworth, Mr. Smith (agent to Lord Penrhyn), Mr. Kishbell (agent to Lord Chesham), Mr. Raper (agent to Lord Skelmersdale), Mr. Wotton (agent for Lord Exeter), Mr. J. H. Colman (New Zealand), Mr. J. O. Sheldon (New York), Mr. Coombs (Kentucky), Mr. H. Chandos, Mr. J. H. Sheldon (Brailes), Mr. Bolden, Mr. Gow (Newcastle), Mr. Mackintosh (Ranford), &c. The following were some of the principal prices made: Lagata Duchess of Angria, by Royal Oxford, 1,700 guineas; M. Mackintosh, Havering park, Kesby; Princess of Geneva, 550 guineas; Mr. Mackintosh; Princess of Geneva 2nd, 500 guineas; Mr. H. J. Sheldon, Brailes, Warwickshire; Rosalie, 700 guineas; Mr. George Fox Harefield, Cheshire; Sixteenth Lady of Oxford, by the 9th Duke of Geneva, was bought by Mr. John Thorn on, auctioneer, London, for 605 guineas; Colonel Kingscote, C. B. M. P., purchased Peach Blossom 5th, for 185 guineas; Sir J. Whitworth, Cleopatra Duchess 2nd, for 300 guineas; also Seraphina's Duchess, for 160 guineas; Mr. Pavey Davis, Horton, Gloucestershire, was the purchaser of Lady Oxford 13th, for 310 guineas; also Lady Welleby, 700 guineas; and Seraphina's Duchess 2nd, sold to Lord Penrhyn, for 200 guineas; Lady Elizabeth was purchased by Mr. Lacey, Waterbury, for 339 guineas; while Mr. Gow, Newcastle, purchased Wild Duchess of Geneva for 555 guineas. The highest price reached in the heifers was 1,785 guineas for the Duchess of Gloucester, red, calved July 10th, 1873, by 9th Duke of Geneva (28,391) bought by Sir Curtis Lampson; and the lowest, 110 guineas, given by Mr. Gow, Newcastle, for Lady Waterloo 2nd, roan, calved August 24th, 1874, by 9th Duke of Geneva. The highest price for the bulls was 120 guineas, paid by Mr. Thomas, Cardigan, for Earl of Leicester 4th, roan, calved March 20th, 1874, by 9th Duke of Geneva; and the lowest, 45 guineas, for Earl of Leicester 7th, red, calved July 12th, 1874, by the 9th Duke of Geneva.

Reducing the figures above given and the remaining prices realized at the sale to Canadian currency, we get the following

### Summary.

Cows and heifers	Average \$2,821.19	Total \$52,002.90
Bulls	do	2,971.50
.. head	Average \$2,095.33	Total \$54,974.40

## Sale of Border Leicesters.

The annual sale of rams, chiefly Border Leicesters, took place at Kelso last Friday week. The number of sheep was over 2,000, and the quality was better than the average of former years, but the prevailing depression in the value of sheep seemed to affect the sales, and prices were considerably down from last year. There was a large attendance of buyers from various parts of Britain and Ireland, as well as from Australia, and to a smaller extent, from America. The sheep were sold in four auction rings, and the sale began simultaneously in all of them at ten o'clock, the order of the different lots having been previously fixed by ballot. In ring No. 3, the rams of Lord Polwarth, 23 in number, stood first on the list, and this year, as in former seasons, brought the highest price. The top price was £120, which was given by Mr. Torrance, Sinterpath, Berwickshire. The highest price last year was £195. The second highest was purchased for the Duke of Buccleuch, at £105. The average price of the 23 rams was £82; the average price of 21 last year was £64 15s. 2d. Among those who purchased high-priced sheep this year from Lord

Polwarth's flock were Mr. Wight, Jedburgh, who bought one at £55; Mr. Hope, Bordlands, £90; Mr. Bell, Linton, £67; Mr. Laing, Burton, £40. The next highest prices to those of Lord Polwarth have for some years been obtained by Miss Stark, Mellen-dean, Kelso, and this year was no exception. Miss Stark had 33 rams, and the average price was £17 6s. 1d. The highest priced ram was purchased by Mr. Scott, farmer, Whitelee, Northumberland, for £65, and the next highest went to the Hon. George Home, Berwickshire, for £63. The flock of the Rev. R. W. Bosanquet, Rock, Alnwick, contained the large number of 65 rams, which brought an average price of £14 3s. 4d. The highest price was £31. Mr. Forster, Ellingham, had 22 rams, which brought an average price of £18 6s. 10d., the highest price being £36. Rams of inferior quality sold at low rates, some of them being purchased by butchers at the price of 6d. per lb, and it was apparent that the supply was more than adequate to meet present demands. —*English Paper.*

**THE BLENHEIM FLOCK AND THE DUKE OF MARLBOROUGH'S CATTLE.**—At the great sale of the stock of the home farm of his Grace the Duke of Marlborough, which were submitted by public auction by Messrs. Jonas, Paxton & Castle, there was an unusually large company from all parts of the kingdom. We give the particulars of the sale and prices realized, which it will be observed in many instances were of a "fancy" character. Sheep—295 Oxfordshire Downthans: the highest price pen was 120s., purchased by Mr. Blake for Mr. A. Brassey, Heythrop Park, the lot ranged from 70s. to 120s.—average 82s. 6d. 140 four-tooth ewes: of these Lord Jersey, of Middleton Park, was the highest bidder, through Mr. Paine, who gave 142s. 6d. for a pen; another pen for Mr. A. Brassey realized 117s. 6d.; and one for his Grace the Duke of Roxburgh, 103s.—average 78s. 6d. 180 six-tooth ewes: highest price 107s. 6d., bought for Lord Jersey and Mr. A. Brassey respectively—average, 69s. 6d. 193 full-mouthed ewes produced from 50s. to 152s. 6d., the best pen being bought by Mr. A. Brassey—average, 69s. 6d. Eight fat Oxfordshire Down wethers: two pens made 90s. and 102s. 6d. 290 ewe lambs: best pen bought by Lord Jersey at 70s.—average, 45s. 6d. 290 wether lambs—average, 30s. 6d.: and 43 Scotch wethers—average, 51s. 20 Oxford ram lambs ranged from £3 3s. to £12 12s. 12 Oxfordshire Down rams ranged from £6 6s. to £21. Cattle—64 Scotch heifers and oxen made from £27 to £37 per head. 20 three-year old steers and heifers from £30 to £42 10s. 20 two-year old Short-horn steers and heifers £19 to £32. 19 yearling ditto, from £16 15s. to £30 15s. The Short-horn bull, by Referee, purchased by Mr. Joseph Draca, of Eynsham, realized £30 10s., and the stallion Clyde £43. Young cart horses and colts fetched from £50 to £70. We understand the Duke of Marlborough has let the Home Farm to Mr. Richard Gerring, of Shipton, having given up agricultural pursuits.

**KINGSBURY FAIR.**—This fair, which is next to Wilton the most important in the West of England, was held recently, and was largely stocked and well attended. About 25,000 sheep were penned, and although at one time business lacked activity, an average amount of trade was done, especially by the large dealers from the north and Essex and other "consuming" districts. The highest prices obtained were for ewes, 52s 6d and 51s; for lambs, 40s, 38s and 36s; but from the latter figure down to 2s and 2s was the usual run for lambs, while ewes varied from 47s and 46s down to 36s. It must be added that the fair is mainly supplied with cross-bred stock sheep. Rams were in good supply, and sold well at excellent prices, from £5 to £11 being the average, but many animals sold at £12 and upwards. Horses were a large supply, and good animals fetched the high prices buyers are now so accustomed to. The decrease in prices which was observable in the middle of the summer has become a thing of the past, the wet weather and consequent increase of keep causing sellers to hold out for higher rates.

**THE HARVEST IN SCOTLAND.**—In Forfarshire and along the east and central parts of Scotland farmers have been enjoying better weather for concluding than they had for commencing harvest. The sheaves have been got in in a drier state during the past ten days. Some farmers have observed the least of harvest home, and express themselves satisfied with the bulk and condition of their rich-yards. Oats are the most deficient of the cereal crops, but wheat will, it is thought, prove over average. The rains, though rather late, have brought away the turnips capitally, and unless on heavy land, there is little complaint of the root crops. There are cases of potato disease, but they are rare and can generally be traced to localities noted for dampness, or where

thunderstorms have been most frequent. Cattle disease still lingers in some counties. Pleuro-pneumonia as well as foot-and-mouth disease prevail in Renfrewshire, and what makes the cases worse in these western parts, the live stock consists almost exclusively of dairy cows, which cannot be killed by anticipation for use like fattening bullocks.

CALIFORNIA PEACHES are selling in New Mexico at \$1.50 per dozen.

ONE STEAMER brought 40,000 water melons into Boston on the 18th ult.

TWENTY HORSES die in New York city every day, which gives a total of more than 6,000 a year. Their carcasses are rendered to the rendering companies.

JOHN L. MEADER of Wolfeborough, New Hampshire, has in his possession a hoe which has been in use ninety-four years.

CROPS in Washington territory are enormous this year—wheat, 40 bushels to the acre, and oats 100. The farmers in the Swinonish valley are loading a vessel with wheat for San Francisco.

IT IS SAID that Rhode Island raises more poultry per acre than any other state in the Union. In one neighborhood there are kept in families living on three-quarters of a mile of road, 3,000 chickens, ducks and turkeys.

THE VERMONT STATE FAIR, held at Rutland, commencing the 9th inst., was a success. The weather was fine, and fully 12,000 people were in attendance. Vermont may be said to be the home of the horse, and the display of fine horses was unusually good.

Iowa has an excellent productive corn crop, but only three-fourths as many horses last year. Illinois will have one-third less corn than last year, and half as many hogs. In Wisconsin, Kansas and Nebraska, there will be a great falling off in both corn and hogs.

THE FLAX PRODUCTION of Russia is 195,900 tons per annum; Austria, 45,000; France, 40,000; Belgium, 32,000; Great Britain, 18,000; Italy, 12,000; Bavaria, 6,000; Saxony, 3,000; other countries, 3,000. The total production in Europe is 350,000 tons.

A STEAM THRUSHER owned by Peter Dork, of Franklin, Wright Co., Minn., exploded recently on the farm of a Mrs. Devine, where it was at work, killing four persons, three of whom were temporarily there to see it. All the bodies were horribly mutilated. Too much steam in the boiler was the supposed cause.

BOW PARK SHORT-HORN SALE.—A large company of buyers attended the sale at Bow Park, October 13th. Few or none of the choice animals of the herd were included in the sale catalogue, but those that were offered were in splendid condition. The buyers were principally farmers from different parts of Ontario. Thirty-six cows and heifers, and twelve bulls and bull calves were sold for an aggregate of \$10,000.

GRASSHOPPERS IN A MAIL-BAG.—A number of live grasshoppers were found in a Kansas mail-bag which was opened in the Post Office on Saturday last. Upon examination it was discovered that they had come out of a box which was found crushed in the bottom of the bag. They had evidently been sent to some entomologist in the city as specimens. As the Post Office clerks could not catch the insects, the broken box was sent to the person to whom it was addressed, with an endorsement to the effect that it had been received empty.—*N. Y. Times.*

PAPER FLOUR BARRELS.—About the coming flour barrel, which is to be of paper made from the straw of the grain, the *Republican* of Decorah, Iowa, at which place a factory is established, says: This paper barrel is a round cylinder of heavy compressed water-proof paper, about one-fourth of an inch thick, wooden head and bottom. There are two paper hoops at the ends on which the barrel rolls. The barrel has no "belly" and weighs ten pounds less than the wooden barrel, and consequently about five barrels more than at present can be loaded in a car. These barrels are also air-tight and waterproof, and they stand more thumping and rough usage, we verily believe, than the best oak stave barrel that was ever made.

IN THE Province of Canterbury, New Zealand, there are 3900 holdings of over an acre each; 61,354 acres broken up, but not under crop; 71,827 acres in wheat, and producing 705,751 bushels; 4615 acres in oats so green food for hay, and 38,931 acres in oats for grain, producing 1,033,519 bushels; 9206 acres in barley, producing 249,630 bushels; 14,872 acres in grass, yielding 20,957 tons of hay; 245,518 acres in permanent artificial grass, including the preceding area in hay; 1532 acres in potatoes, yielding 8522 tons; 10,178 acres in other crops; total number of acres in crop, including sown grasses, 382,177.

The Western Fair.

According to announcement, the Western Fair was opened at London on the 14th ult. The attendance on the first day was small, but on Wednesday the 30th, and same day, the grounds were thronged with visitors from all parts of the country. The following is a list of the entries:—

Table listing various entries for the Western Fair, including categories like Horses, Cattle, Poultry, and Horticultural products, with corresponding numbers.

As a large proportion of the horses and cattle shown here were exhibited at the late Provincial and Central Fairs, and described at some length in the last issue of the CANADA FARMER, we shall content ourselves with giving brief notices of some of the leading departments.

Horses.

The show of horses was not, almost, if not quite, entirely by persons residing in the neighborhood of London. Of this class there were very few exhibited, although as many as 11 were entered. In the general purpose class there was a comparatively large display. Among the first class shown was a handsome pair of bays, the property of Mr. Daniel Flood of London township. Another pretty beast was Young England's Grey, a dark bay, belonging to Mr. James Swinerton, of Hay. Among the heavy draught were a few fair animals. As was to be expected of the district around London, the roadsters and carriage horses made a magnificent display, both with regard to number and quality. At the London Fairs, whether Provincial or local, this part of the show is always unexcelled, and on this occasion it was at least up to the average.

Cattle.

In cattle the present exhibition can scarcely be considered satisfactory. Certainly, to say nothing more, the display is no improvement on the last Western Fair. Of the favorite Durham breed there were a considerable number of animals shown, but scarcely as many as at former fairs. The beasts were generally good, but few of any were strikingly fine. Among those who showed in this class were Messrs. E. Stone, Guelph, and J. and W. Watt, of Salem. The others were local men. Of Devons, there were a considerable number of animals exhibited, principally by persons residing in the neighborhood of London. Better specimens of that breed have been shown in former years. The display of Herefords was tolerably satisfactory as far as the quality of the animals was concerned, but it was noticeable that the competition was confined, with the exception of two or three beasts, to Mr. George Hood, of Guelph, and Mr. Stone of the same place. The display of Ayrshires was considered a good one. The well-known breeders, Messrs. J. K. and J. W. Jardine, Hamilton township, were among the exhibitors. Mr. Wm. Hood, Guelph, and Mr. W. H. Alley, London, were the only competitors in the fol-

lowing class, the former of whom owning the great majority of the animals. The grades may be said to have constituted a large display. The display of fat cattle was also very good. It contained a few good beasts, perhaps not so good as

Swine.

The display of the swine was a very creditable one. In Leicesters there was an extremely fine display, and that altogether may be considered as being in the vicinity of London. The best specimens were large exhibitors—Messrs. James White, Telfer, A. & A. Stewart, John A. and Oliver Brown; B. S. O'Neil, Barr; and Messrs. J. D. Macdougall; E. Grace; James, Grant, and Gordon Burnett, Roxburghshire, Scotland. The Leicesters also constituted a good display. Messrs. Snell & Sons, Edmuntson, and F. W. ... as the most extensive exhibitors. The show of Lincoln was a large one, and included a great many excellent animals, not a few of them imported. Messrs. Thomas Friendless, of Ayr, and Wright & Butterfield, of Sandwich, showed a large number of head-catch. There was a fair show of Southdowns. The chief exhibitor was Mr. ... who showed fourteen and that he had a small time taken by imported from England. The animals related to were from the herd of Sir Thomas Throckmorton, the celebrated breeder of Somersetshire, in several of them were prize-takers at the principal English shows this year.

Sheep.

The display of swine was of very large, but was on the whole a creditable one. The favorite Berkshire breed was well represented both with regard to the quality of the animals and the number of them shown. Among them was a number of excellent recently imported ones shown by Messrs. Snell & Sons, Edmuntson. The Suffolk, next to the Berkshire, made the finest display. Messrs. Wright & Butterfield, Sarnia, were large exhibitors of this as of other breeds, showing several fine imported animals, including their boar Champion and sow Suffolk Queen. Messrs. Mann, Trafalgar, and Featherstone, Credit, were also large exhibitors. The Essex pigs shown, though not numerous, were good specimens of that breed. The firm just mentioned, and Mr. Joseph Featherstone, were the only exhibitors, the former taking most of the prize. Of the Yorkshire breed the best animals were shown by Messrs. Wright & Rutherford, Mann, and Featherstone.

Poultry.

The display in this class was not so large as in former years, and some thought not so good, though in several of the breeds the improvement was noticeable. Messrs. H. L. Thomas, Brooklin, Wright & Butterfield, Sandwich, L. G. Jarvis, London, and W. M. Campbell were the most extensive exhibitors. One thing which might have been said about the display on this occasion was that, if not so large in the aggregate as some previous ones, it was a very comprehensive one, about every breed of bird usually found in such exhibitions being represented in this. Among the extras in it were an owl, a pair of Sultan fowls and a pair of wild geese, shown by Mr. Stephen Tilson, of Tilsonburg.

Horticultural Products.

Mr. H. A. Switzer, of Woodham, took the first prize on two bushels of white winter wheat, which was probably as large and plump in the berry as that which took the highest prize at the Provincial, but not as uniformly bright. Mr. H. B. Kennedy, Barr, took the second prize, and Mr. Archibald Camp, of Strathroy, the third in that section. Of red winter wheat seven bags fair grain were shown. Mr. Henry Edwards, Komoka, got the first prize; Mr. Wellington Johnson, of Port Royal, the second; and Mr. John E. Couse, of Wyoming, the third. Of the Treadwell, eight bags were shown. It was not very full in the berry, but was otherwise a fair sample. Mr. Thomas Turnbull, of Komoka, took the first prize for the best two bushels. The Fire spring wheat exhibited was excellent, but there were only a few entries of it. Mr. Robert Nicol, of London, took the first prize; G. B. Patrick of Barr, the second; and Mr. Michael Ballantyne, of St. Mary's, the third. In the section "any other kind" of spring wheat, there were comparatively quite a large number of entries. The sample which took the second prize was a new variety called the "Brooks," obtained by the exhibitor, Mr. Benjamin H. Rosser, of Danfield, from Minnesota. It has a large full berry, and had it not been that it was considerably broken, it would likely have taken the first prize. It is said to yield well. Barley, of which a considerable quantity of the six-rowed variety was shown, was good. Of oats there was a fair quantity exhibited, and the white ones were remarkably full and clean. The

black ones, which constituted more than two-thirds of the display, were not so good.

Only two bags of marrowfat peas were shown. Of common field peas, on the other hand, there was a considerable quantity exhibited, and that of fine quality. Indian corn made an uncommonly large and fine display. The show of small seeds was a tolerably large one. Beans and buckwheat were shown in small quantity.

The display of roots was a very praiseworthy one, particularly as far as potatoes were concerned. Of the latter a very large quantity was shown, and the quality of them was in general excellent. Those of the Early Rose variety greatly predominated. Of the Peerless variety large numbers were also shown. There were a considerable number of Peach Blows, and the Climax and Garnet Chili varieties were well represented.

A very large number of field pumpkins and squashes were exhibited. Field parsnips were rather interior. Carrots were shown in large quantities, and were of very large sizes. Turnips made a pretty good show, particularly white globes. There was a large display of mangel wurzels, generally of immense size. A few sugar beets of not very large size, a few chicory roots, and a few kohlrabi complete the list.

Mr. George J. Griffin, London, exhibited a large assortment of Dutch flowering bulbs, which the judges highly commended.

Garden vegetables made a very satisfactory show. Tomatoes, onions, carrots, radishes, beets, celery, and parsnips were all good, and were exhibited in considerable quantities. A very large number of cabbages and a good many cauliflowers were exhibited, but both were rather small, the former in particular. Some one made a very extensive display in this class, including a specimen of myrrhina, one of rice corn, and one of Egyptian beet.

The display of fruit was extremely fine, and compared well with that at the Provincial. Indeed we thought the show of grapes considerably finer here than it was in Toronto. Apples and pears were also good. Peaches were not quite as fair or large fruit comparatively.

Dairy Products, &c.

The display of dairy products, provisions, &c., was a really magnificent one. Very much more cheese was shown than at the Provincial Exhibition, there being about twenty dairy and upwards of fifty factory packages exhibited in firkins and crocks, besides about twenty samples in roll, all of it looking delicious. In this class were also shown considerable quantities each of bacon, ham, maple sugar, maple syrup, honey, pickles, sauces and preserved fruits. Mr. J. N. Otwell, of St. Mary's, exhibited a dozen cans of tomatoes, put up by himself, and nicely labelled.

AYRSHIRE SALES.—Mr. John H. Holden, Sidney Grange, writes us that he has recently made the following sales: Ayrshire bull calf "Sir Walter", (739), to John Lightfoot, South Monaghan, \$150. Heifer calf "Wildrose" (450) to Holden Crossley, South Monaghan, \$100. Two-year old heifers, "Snow-bull 4th" (438) and "Nanetta 8th" (459), to John D. Luman, Oakwood, for \$200 each.

EGG INSPECTION.—The Butter and Cheese Exchange of New York recently adopted a system of inspecting eggs sent to that market. It has been in operation a sufficient length of time for the result to be ascertained, although it has not yet reached a point where it works with perfection. The chief inspector reports that the system has so far met with the approval of both shippers and dealers. The system adopted is as follows. Each shipment of eggs is sampled on its arrival, by taking five or ten barrels and examining the contents; the average condition is held to represent that of the entire lot. When an unusually bad barrel is discovered it is thrown out, so that it may not unduly reduce the average of the shipment. The discarded barrels are received on their exact merits. The cost of inspection is 75 cts. a barrel, and the advantages are so obvious, that shippers have so far willingly submitted to the cost. One good result is that shippers have already taken greater care in preparing their packages for market, and it will be much to their profit, if every one would judiciously select and carefully pack all the eggs they may ship for sale. Now that one innovation is tolerated in the egg trade, we may hope that the long needed improvement of selling eggs by weight may be considered. Nothing is more absurd than selling eggs by count, as some are twice as heavy and are worth twice as much as others. Weighing the eggs would be more just.—American Agriculturist.

Hamilton Central Fair.

The annual Central Fair opened at Hamilton, Oct. 6th, under, in one respect at least, rather depressing circumstances. It fell heavily all the forenoon, and when it ceased the sky remained for the rest of the day so threateningly clouded that a continuance of the same unfavorable weather during the remainder of the show was very much feared.

The following is a list of the entries comparatively with those for the Exhibition of last year—

Table with 2 columns: 1873 and 1874. Rows include Blood horses, General purpose horses, Road or carriage horses, Heavy draft horses, Durham cattle, Devon, Hereford, Ayrshire, Galloway, Grade, Leicester, Lincoln, Suffolk, Improved Berkshire pigs, and various farm produce like wheat, oats, and hay.

From the above it will be seen that the present show was ahead of that of last year by 311 entries. The entries of fruit were extremely numerous, and the display in that department was the admiration of all who looked at it. It was to be observed also that the number of road and carriage horses entered was very large.

A great deal of what was shown was exhibited at either the Provincial or at one of the other large fairs which have taken place this year. In order not to weary our readers by repetition, we shall not allude to these, or only do so briefly, with the object of giving a general idea of the constitution of the show, selecting such departments as we think are most interesting to our agricultural readers.

Horses.

The entries in this department numbered, in the aggregate, about 70 more than last year, the exact proportion being 489 to 426.

C. M. Jarvis, Nelson, showed a handsome, dark brown, eight-year old blood stallion, "Tenor," by Burne, out of Maranna, bred by John White, M.P., for Hutton; and J. L. White, Fronte, a handsome aged mare, "Nattie," in foal to King Tom, also a yearling filly "Lizzie," by Extra, out of the same mare.

George B. Holmes, Toronto, exhibited his imported Cleveland bay, five-year old coach stallion, "Walden," winner of over sixty prizes at English Fairs, and met at every Provincial Fair at which he has competed. The same gentleman also showed his imported stallion "Duke of Edinburgh," a beautiful black, four-year old, standing over seventeen hands high, sired by Pride of the East and bred by Mr. Marr, Thornton, England.

Thomas Gowland, Seneca, was forward with a three-year old stallion "Tom O'Lincoln," of goodly proportions.

Richard Bond, Puslinch, exhibited a nice three-year old stallion, of Suffolk-bunch blood, which he names "Young Cumberland." He is a very creditable animal.

"Royal Messenger," a four-year old stallion, shown in the road or carriage class, by Marinaduke Laidman, Binbrook; and "Dominion Comet," an aged general purpose stallion, exhibited by John Hewitt, Seneca, are each of them animals worthy of honorable mention. A. Harvey, Beverly, showed a very handsome imported stallion, and a black heavy draught mare, of mammoth proportions. John Cloyd, Watertown, showed a good three-year old filly, and Robert Young, Beverly, a good yearling colt, from "Ontario Chief," a three-year old by Harvey's Champion, and one or two other animals of much excellence.

Cattle.

The show of Durhams was about as numerous as the average, but scarcely contained the usual proportion of fine animals. The largest exhibitors in this class were Thomas Stock, Watertown; J. & W. Watt, Nichol; J. R. Martin, Cayuga; and Henry Reed, Glanford. Mr. Stock took the first prize on a heifer of Durhams, and several first and other prizes on individual animals. The Messrs. Watt received the first prize for a Durham bull, any age, with their "Roger," which was shown at the Provincial. Theo. Baxter, Wellington Square, showed a number of fine animals in this class, and was awarded the first prize on a heifer two years old, the first on a three-year old cow, and the first on a heifer calf ten months old. The cow, which is called "Highland Mary," is a worthy specimen of her class.

The only exhibitor of Devons was George Baid, Puslinch, and the only exhibitor of Herefords, George Hood, Guolph. Mr. Hood was also alone again as an exhibitor of Galloways.

The show of Ayrshires was very small, and J. K. & J. W. Jardine, of Saltfleet, exhibited the large majority of them.

Grades made a satisfactory display, though they were not very numerous. Quite a large number of persons resident in the neighborhood of Hamilton entered into the competition.

In the class "Fat and Working Cattle" there were quite a large number of animals shown, but few if any of them were worthy of special notice.

Sheep.

The show of Southdowns was pretty large, but not on the whole a particularly fine one. Robert Marsh, Richmond Hill, showed a number of pens of pretty ones, however, and took three first, two second, and one third prize. Thomas Wilkinson, Glanford, was also a successful exhibitor in this class, and took one first, three second, and two third prizes. John Jackson, Abingdon, was another exhibitor of some fine animals, for which he has taken three first, two second, and one third, prizes.

The show of Cotswolds was fairly numerous, and, as regards quality, was rather a fine one. Among them we met a very handsome shearing ram belonging to Patrick McLavie, of Walpole, which took a first prize. On ram lambs he took first and third prizes. Henry McLaren, West Flamboro, showed six pens in this class of very good quality generally, and received on them three first, four second, and three third prizes.

The display of Leicesters was relatively a pretty full one. Adam Oliver, St. Mary's, exhibited three pens of very fine animals, among them a shearing ewe which was very much admired. Archibald Jarvis, Woodburn, was an extensive exhibitor in this class.

There was a small but rather good supply of Lincolns.

Of fat sheep the show was rather small. Among them George Hood, Guolph, made a good display.

Pigs.

Of these there were in all seventy-five entries. A large proportion of the animals shown were good. Several of them exceptionally so, but on the whole, the display made scarcely realized our expectations. James Main, Trafalgar, took first and second prizes for Suffolk sow over one-year old, and the same for sow under one-year old. Also first and second for Suffolk boars. James Featherstone, Trafalgar, also exhibited successfully in this class.

In Yorkshires, James Main was again on hand, taking most of the prizes for both males and females. David D. Shafer, Glanford, received first prize for a handsome breeding Essex sow, and Joseph A. Dingle was equally successful with a sow of the same breed, under one year old. Joseph Featherstone got the first in this class for aged breeding sow, aged boar, and boar under one year old, besides a number of other prizes. In Berkshires, George Baid, Puslinch, took first prize for an aged boar, and John Hewer, Guolph, the same for boar and sow under one year. Messrs. H. E. Irving, D. McInnis, and George Roach, Hamilton, were also successful exhibitors, the latter taking first prize for aged breeding sow. The show of Berkshires was very fine.

Poultry.

The display in this class was considered a very good one. H. M. Thomas, Brooklin, and John Logue, London, were very large exhibitors again, each showing over fifty pair of birds of various descriptions. Large displays were also made by D. Allan, Galt; W. M. Campbell, Brooklin; L. Dean, Oakville; George Roach, Hamilton; G. J. Baker, Oakville; John Eastwood, Hamilton; H. Cooper, Hamilton; E.C. Feanville, Hamilton; and James Mann, Trafalgar. Cochins, China and Bantams Pouter fowls were both numerous, and a large proportion of them were excellent birds. Poland, Dorkins, Game fowls, Hamburgs and Bantams were shown in considerable numbers. There were only three or four pair of Spanish fowl. A pair of pea fowls was shown by H. Cooper, on which he took the first prize. Several pair of Rouen ducks were shown, and three pair of Aylesbury, besides which there were a couple pair of other breeds. The display of geese comprised only four pair of white and two of colored. Mr. Boggs took a first prize on a very fine large pair of the latter, and Mr. Mann the first prize on a pair of the former, which were not large, but apparently well-bred birds.

It is said that there are more Short-horn cattle at the Illinois State Fair than were ever seen together before in this country, and over a hundred Norman horses.

THREE THOUSAND GUINEAS REDEEMED FOR A CALF.—We learn that Earl Beville refused the other day 3000 guineas for the fine bull calf now at the top of his lordship's famous American cow Tenth Duchess of Geneva.

AN AGED EWE.—Mr. James Small, Fannerfield, Kirkmichael, Perthshire, had in his possession for upwards of twenty years a ewe which had rewarded its owner with 33 fine lambs. She met with an accident on the morning of Monday last, and died in the course of the day.

WATER AND FEED.—In a lecture before a British agricultural association, Mr. Cassie, V.S., says that the reason why whole grains appear in horse manure is because the horse is watered soon after being fed. The most of the water drunk by a horse passes directly through the stomach to the large intestines, and grain just swallowed is liable to be carried along with the water, instead of remaining in the stomach.

GOLDSMITH MAID has again cut down trotting time. She made a mile in 2.14 at Mystic Park, Boston, on the 2nd, beating her Rochester time by three-fourths of a second, and winning \$2,500 thereby. But as she had the track to herself, was accompanied by a running mate, and all the circumstances were unexceptionably favorable, perhaps it is not really a greater achievement.

LONG VS. SHORT TAILS.—In an Irish paper was an advertisement for horses to stand at livery on the following terms:—"Long-tailed horses at three shillings sixpence per week; short-tailed horses at three shillings per week." On inquiry into the cause of the difference it was answered that the horses with long tails could brush the flies off their backs while eating, whereas the short-tailed horses were obliged to take their heads from the manger.

BUSH FIRES have been raging on Parry Island and other points on the Georgian Bay, with very serious damage has been done. Persons camping on islands should be very careful to extinguish all fires before leaving their camps, as the wind sometimes arises and fans what was thought inconsiderable into a mighty blaze. No doubt some of the fires are the result of maliciousness, but more we fancy originate through carelessness.

A REPORTER of an English paper describing the show of horses at the late fair of the Royal Agricultural Society at Bedford, objects to the habit of naming horses and mares after their breeders and their wives, as for instance, a Clydesdale horse, "Mr. Muir," and a mare "Mrs. Muir." He thinks it objectionable because it may in time come to be applied to jackasses, and the breeder of a prize animal might not feel specially honored by the animal in its journey through life bearing his name.

THE DUKE OF Roxburgh's Short-horns.—It will be observed that the Duke of Roxburgh has begun to purchase Short-horns. It is, we believe, His Grace's intention to establish a high bred herd of Short-horns at Floors Castle house, near Kelso, under the manager, Mr. John Peter. The first animal bought is a good one, viz., the four-year old bull Baron Oxford 3th (27958) bred by the Duke of Devonshire, and purchased at the Holker sale on Wednesday last for 250 guineas. The animal is of pure Bates blood.



If cracks are observable in any degree, reject.

Also, both look and feel for ringbones, which are callosities on the bones of the pastern near the foot; if apparent, reject.

7th. Examine the hind feet for the same defects of the foot and ankle that we have named in connection with the front feet. Then proceed to the hock, which is the seat of curb, and both bones and blood spavins.

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

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

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

Thoroughly test his walking qualities first, as that gait is more important in the horse of all work than great trotting speed. The value of a horse, said for all purposes without blunders, is greatly enhanced thereby.

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

### Feeding Cows—How Much will a Cow Eat?

J. H. S., Union City, Erie County, Penn., gives his experience as follows:

Three days since I filled my barn with five acres of Hungarian hay, taken from ordinary ground; yield two and a half tons per acre. I weigh all my milk, run a milk waggon, have one acre of sugar beets, &c.

I find that eight cows will eat a waggon-load of sowed corn in forty-eight hours. It is surprising the amount of food a heavy cow will eat in a few hours. The wind blew down my sowed corn about the last of July, and as pastures were short I thought it would be safe to feed it. So bad was it lodged that it could not be set up and cured. For eight cows I began wheeling the corn to them by the wheelbarrow-load. This was slow work, as the cows would consume one load while I was after the other. I then took it to them by the waggon-load, keeping the cows in at night. One small waggon-load would not suffice. I thought I would like to know how many tons one cow could go through in a day. I weighed one load and found it to be 2,315 pounds, and on Saturday, 16th ult., 5 p.m., the eight cows were set to work. Let me say further, that they were not starved for forty-eight or twenty-four hours prior to this, but were well filled at the time of beginning the task. At 7 p.m., the stalks were turned over to them, until they were full, and enough for their lunch during night left within reach. They were let out for water on Sunday, but were not dry, only two indulging. They were fed three times on Sunday. None would drink Monday morning. Again they were fed during Monday. At 5 p.m., the whole load, 2,345 pounds, was consumed, an average of 146½ pounds per day, or each cow ate 293 pounds in the forty-eight hours, and were not uncomfortable either. The cows shrank during the time about three pounds each. The corn sowed was "Ohio mixed," at time of cutting it was fully ten feet high.

From August 1 my pastures have increased, owing to keeping cows off at nights. I have observed this summer the more "fodder" I fed, the less milk my cows gave. I regard grass as better for milk cows than fodder, unless you are making butter. I sell my milk in town, and to produce it in large quantities I feed "brewer's malt;" this produces a large flow of "lacteal fluid," but followed up with meal, or corn and oats ground together, it makes a large flow of good milk. I cannot afford, these hard times, to buy meal, so I feed sowed corn (cut and fed green), which answers every purpose, and is much cheaper.—*N. Y. Times.*

### Curing Sown Corn for Fodder.

The best method of doing this is very important to know. There is, it must be confessed, considerable difficulty attending it, especially when it is kept within the barn or shed. Sown corn abounds in a highly fermentable saccharine juice, on the presence of which its chief value for corn depends. We have used the dried corn to be in winter, cutting it up with a machine, and, when properly cured, have had our horses to thrive on it as on the best of hay. Its proper curing consists in evaporating a large percentage of water in the stalk and leaves, and so drying it as to retain these rich juices under circumstances where they will not easily ferment.

The season of the year when this sown corn is gathered, renders the curing process uncertain and difficult. We have found it almost impossible, taking the fall weather as it comes, sometimes wet and sometimes dry, to cure sown corn by laying on the ground and turning over from time to time. If we had the hot suns of harvest weather, it could be readily managed. Watching our chances of a few fine days, therefore, we cut the sown corn with a heavy scythe, laying it carefully on the ground and turning it over once, or if the weather is uncertain we rear it at once up against the fences all around the fields, hauling it on a sled or old sled-runners. We have often cured it by rearing it once against the fences. The air and what sun there is circulates freely through it, and when sufficiently dried we tie it up in small sheaves, and rear to gether in moderate sized shocks, tying round with a straw band as with common fodder. In the course of a month or six weeks before the weather gets very cold, we haul these shocks near to the barn in a small lot tined off for the purpose, making one large shock out of two or three smaller ones, and tie the heads together with a straw band. Being open all round to the sun and air, the fodder keeps in fine condition, and in using we haul one of these large shocks to the barn floor at a time, so as to be convenient to the cutting-machine and sheltered from the weather. Something like the hay caps used in New England, and made out of heavy mutton-oil or rendered waterproof, would be an additional security. We have never succeeded in keeping properly this sown corn when packed away in the mow of a barn, as it contains too much fermentable material.

The plan proposed is troublesome but highly satisfactory. We greatly value it as food for live stock, and it is well worth all the trouble it costs either in feeding green or curing for winter. It makes a weight of dry food to the acre four or five times that of hay.

Put up a rick-stand so as to walk backwards, laying the sheaves in front of you tight together—by so doing you will more readily see the edge and keep the course straight and compact, which is far preferable to standing on the sheaves as they are placed.

Put on the top by first laying a course of sheaves with butt-end a little more than just covering the bands of the under layer on each side, then two or three layers along the middle, alternating the sheaves so as to keep the top even. Always lay the sheaves across, not lengthwise, of the rick.

Put on the covering with butt-end of the sheaves up, crossed and pushed back tight together at an angle of 45°, leaning with the rick. Let it be built as near as maybe, so that the top can be put on with the lean from the prevailing rain storms. The advantage of putting on the top in this manner, is that the water is directed off instead of into the rick.—*Cor. Practical Farmer.*

### Cost of Pork.

How much pork costs per pound of course depends in a great measure on the kind of pig and manner of feeding. After some practical experience, I am satisfied that, other things being equal, a cross between a good Chester White sow and Berkshire boar will make more pork from the same amount of food than any other breed; they may not be as large at the same age as the full Chesters, but they will consume less food and keep in better condition.

An old and very successful pork producer once told me that his rule was that when the price of both corn and pork commenced with the same figure, it was safe to feed to good hogs. Or in other words, when a bushel of corn was worth sixty cents, the pork must bring six dollars per hundred. By inference I conclude that the result of his experience was that ten bushels of corn would make one hundred pounds of pork. By referring to my note book, and a record of experiments, I find that in one case twenty pigs gained 837 pounds by eating 83 bushels of corn. In this case the corn was shelled and fed whole in the trough. In another case I find that

the same number of pigs ate 47 bushels of meal (with water to drink) in 14 days, and gained 553 lbs. In the third experiment, 30 pigs ate 55½ bushels of meal, made into thick slop with cold water, in 14 days, and gained 731 lbs. In the first case the gain was a trifle more than 10 lbs. per bushel, in the second one 11½ lbs., and in the third 13 1-6 lbs. At the price of pork at the time, the corn in the first experiment brought 50 2-5 cents, in the second 55½ cents, and in the third 65 5-6 cents.

In a fourth experiment the hogs (20 in number) were fed 46½ bushels of meal (boiled into thick mush) in 14 days, and gained 696 lbs.; gain 15 lbs. per bushel, and corn brought 74 4-5 cents per bushel.

In my own experiments I have found that five bushels of old shelled corn fed to good pigs of the cross before mentioned (fed in November), made me 47½ lbs of pork—or gain in weight. For pigs well selected and cared for and economically fed without cooking, it is probable that twelve pounds per bushel is as much as can be safely counted on, and probably the average of those actually fed will not be more than eight or nine.—*Cor. Country Gentleman.*

### Fast Horses.

Walking is the natural gait in which all farm work is performed, and hence, aside from strength and endurance, there is no more desirable quality in a horse than fast walking. The advantage constantly gained by fast horses over slow ones is nowhere so plainly manifested as in ploughing. It has been demonstrated by accurate experiments that velocity has no direct effect upon the draught of a plough; that the same force is necessary to plough an acre in a whole day as in half a day. A team that moved at the rate of a mile and a half per hour, ploughed an acre in seven hours and a half; while another, that moved at the rate of two miles and three-fourths per hour, ploughed an acre in four hours; and again, a team that walked three miles and a half per hour, ploughed an acre in three hours and three minutes. In all these trials the outlay of power was the same, whatever the time occupied. It is the natural gait must be preserved, as when the animal is urged beyond this, extra force is exerted which increases acceleratingly as the gait is increased.

Trotting is not the natural fast gait of a horse. When left to himself he never trots when he wants to go fast. It is a quality that must be developed by special training, and when developed is of no practical benefit whatever. Of what use has Goldsmith Maid ever been to the world, except to that small portion called the sporting fraternity?

We hope to see a reform in this matter at our agricultural shows, when premiums will be offered for the best horses for all practical purposes, and not for the best trainers of trotting horses, for this is what it amounts to.—*Ohio Farmer.*

### Animals Like to be Loved.

If people could only know how delighted the dumb animals are to do anything to please those who love them, their society would be more cultivated, and the indifference to their feelings beyond supplying their wants, now almost universal, would hardly be found above the lowest level of humanity. How common is the remark, "He or she loves to be noticed." They all do, and long to show their attachment to their friends. Do not fear that because you are old, or homely, or ill-dressed, they will dislike you. They are above the artificial disguises so necessary in human intercourse, if you would win respect or esteem, and will know you as you are, not as you appear. Sincere themselves, you would in vain affect a liking for them, and "come here, my pretty dog," would make as much impression as "get out!" and be treated with due indifference. They never misunderstand your *sentiments*, so difficult to impress on humans, but to them there is a charm in a soft voice which Byron was not perhaps the first to discover.

Every one must have noticed the impunity with which very young children torture their pets, the cats and kittens, yet these seldom "turn again and rend them"—the sure fate of an adult, who could only intentionally thus hurt their feelings. Can we doubt the wondrous intelligence of the mere "brutes made to perish?" See dogs or cats at play, biting and tearing each other, yet only with teeth and claws of cotton, and then witness a real "difficulty," Thomas in the nursery or on the roof! What a change! But it is not only the domesticated animals who recognize our kind feelings, 'tis the same with the lions, tigers, and, though last not least, the elephant in a menagerie. "*Experientia docet.*"—*M. B. in Dumb Animals.*



**The Feeding of Animals.**

It is well known that herbivorous animals are fond of common salt, and this is as true of wild animals as of those domesticated by man. Carnivorous animals, on the other hand, either have no liking for salt or show a positive aversion to it. Cats, for example, will rarely touch salt meat. This difference is not easily explained. The blood of both classes of animals contains a certain amount of soda salts, but the quantity of soda in a vegetable diet is not necessarily less than in one of flesh. A German experimenter, Herr Bunge, has been the first to suggest a plausible solution of the enigma. A vegetable diet furnishes twice as much potash in proportion to its soda as a flesh diet does; and it occurred to him that the greater supply of potash must be attended with a greater waste of soda. To test this theory experimentally, he put himself upon a perfectly unimpaired diet of beef, bread, butter, sugar and a small quantity of salt. When, by daily analysis of the urine, he found that the quantity of soda and potash excreted had become constant, he proceeded to take such a dose of potash salts during the day as would raise the amount of potash in his diet to a level with that daily consumed by a herbivorous animal. The result was an immediate excretion of chloride of sodium in the urine, the amount being at once increased three-fold. Much potash was, of course, also passed. The experiment was repeated at various times, employing different salts of potash, but always with a similar result, a dose of potash in every case producing an immediate excretion of soda. Bunge believes that this tendency of potash to produce a greater waste of soda in the system is the cause of the desire shown by herbivorous animals for common salt. Their vegetable diet is generally very rich in potash, and they instinctively seek an additional supply of soda. Soda does not seem to be an essential ingredient of plants, but it is certainly indispensable in the animal economy. In the muscle and in the blood corpuscles potash is an essential constituent; but in the fluid portion of the blood, potash is injurious, and if injected, even in small doses, produces death. Soda salts, on the other hand, can be injected with safety, and their presence in the blood is essential to the continuation of vital processes. — *Journal of Chemistry.*

**Box-Stalls for Cattle.**

People who remember how their fathers used to tie up oxen and cows in stanchions, and who have seen these instruments of bovine torture banished at the dictates of humanity and their places supplied with chains, are in a degree excusable for thinking that our present stable arrangements are all the most gentlemanly ox or most fastidious cow could desire; but those who stop and think a moment will see that there is chance for further improvement, in fact, that the present practice of tying up cattle does not meet the requirements at all.

Cattle are naturally among the most cleanly of animals, fastidious as to their food, drink and lodgings. They never seek of their own accord a mud-hole to lie or to wallow in. Their toilets are made with their tongues, with which they remove impurities, comb their hair, allay irritations of the skin, and perform other offices. When they lie down they naturally spread themselves over considerable grounds; when they get up they want room to do it in. But when tied up by the head, they are compelled to stand and lie in manure and filth, they are unable to reach many parts of their bodies with their tongues, they are confined in one position, cannot lie down with comfort or get up without violation.

These considerations suggest that cattle should not be tied up at all, and we ask our readers who own few or many cattle, and especially cows, and who can by any reasonable amount of labor arrange it so as to give each one an apartment by herself in which she can stand, lie, turn around and move about naturally, to do so and note the result.

It will surprise people who think that a cow don't mind having her sides plastered over with manure and filth all winter, to see how clean she will keep herself when she has a chance in a box stall.

Then in one a cow cannot hook or rob another; she will not strain herself getting up or reaching for food; she can lie down naturally and get up easily; she can be fed to better advantage, milked with less trouble, and in better of every way. You who have been room, try it and see. — *Michigan Farmer.*

AN EXCHANGE asks the conundrum: "Why has a hog more brains than any other animal?" Because he has a hog-head full of them, of course.

**The Dairy.**

**The Substitute for the Dry Vault and the Spring House.**

I experimented until I invented a thoroughly effectual, convenient and practicable combination of the Ice House and Dairy Room, so arranged that both the cooling and the venting apparatus should operate automatically and simultaneously.

**The Ice House.**

It is now generally conceded that the rural home and the farmery are incomplete without an ice house, conveniently located. It was formerly looked upon as an appendage of the luxurious home only, but latterly, as an most sensible essential in a suit of buildings for the suburban residence, or a farm.

Many have been deterred from building the ice house on account of the many failures and the general ignorance of the true principles of their construction; and by so many having been constructed by governing pretenders—a numerous class, who think that if all men are not born architects, they certainly were; and if they are a seventh son, they are born doctors as well. It is fortunate for the masses, however, that a few proprietors have learned that it is as judicious and economical to employ an architect to design a building of any description, as it is to avail themselves of the best legal counsel when legal knowledge is required. Ignorance of the proper and economical construction of the ice house has also deprived many a worthy family of ice for a lifetime. I have constructed a number of ice ponds, that have given annual supply of good ice for years, where it was considered utterly impossible to make a crop of ice. I can call to mind a number of ice houses which have been located by the quack architect, from ten rods to a third of a mile from the house; I will not waste space by commenting on such an arrangement.

**The Proper Site for the Ice House and Dairy Room.**

These structures, to be thoroughly useful and convenient, should be so located that they may be entered from the culinary apartment of the farm house, of which they are properly as much a part as are the kitchen, pantry and mel room.

I would as soon think of placing the wardrobe for the proprietor's chamber, or the family water-closet, in the cellar or cock loft, as I would of locating the dairy room and ice house remote from the farm house; their value depends in a great degree on the convenience of their location.

I know of no investment in rural buildings that will give a better return than that expended in supplying a proper ice house, dairy room and fruit room. They are each equally essential to the comfort and health of a family, and the three are inseparable economic structures; as the last two are directly dependent on the spaciousness and perfection of the former.

As in many other matters pertaining to a high order of civilized life, the popular mind has to be educated and elevated before the great advantages of these structures are fully appreciated. All admit the desirableness of a constant supply of pure milk, aromatic sweet cream and butter, and luscious ripe fruit every day in the year; yet but few know that all are within their reach. The masses look upon them as very expensive luxuries, obtainable by the very wealthy only, whilst they may be supplied and enjoyed by a large majority of farmers at a title of the cost of the needless fences which they make and maintain. Gilt edged butter and good fruit, properly ripened, few farmers' families in this country have ever seen. I am aware that many will consider this a broad assertion, and not a few will no doubt consider it untrue. I admit that it is strange; but nevertheless, it is as true as it is strange, and will, I am satisfied, long continue to be so. No class is so slow in seeing their true condition as farmers, or so slow in availing themselves of their rights.

It is a well established fact that milk is susceptible of being tainted in the blood of the cow, and to satisfy the most sceptical that it is so, after it has been drawn from the cow, they only need allow their olfactory sense salute from the odor of an unwashed milk can, on its way back to be filled with "pure country milk." Purity and cleanliness must characterize everything that pertains to the production and manipulation of milk and its products, or a good quality cannot be preserved. The highest degree of chemical knowledge is inadequate to the task of removing taint once established in milk. To do this, we must commence with the animal, the condition of the cow must be strictly normal, the air she breathes must be pure, but the former must consist of due proportions of the highly and moderately nutritious

substances, all known to be congenial to ruminating mammalia. Undue and unnatural excitement of the cow must be avoided, the milk should be artificially heated to 140° as soon as it is drawn, and it should be allowed to cool gradually, be well aired whilst it is cooling, and its surface should be exposed to pure and gently changing air, as long as it is kept.

**Temperature.**

A proper and uniform temperature at which milk should be kept for raising the cream, say 53 to 60 degrees, is also very important. This it is impossible to secure and perpetuate in a dry vault or spring house, if the apartment is well ventilated, unless ice is used. But with the adjunctive influences of a properly constructed ice house, by which to cool both the water bath in which the milk is set and the air of the dairy room, it is feasible to change the air as often as is necessary and yet maintain the most desirable temperature, and by the aid of a heater in the dairy room, requiring but a nominal amount of fuel, the temperature may be controlled equally as well in January as in July. — J. WILKINSON, in *Maryland Farmer.*

**Spring Houses.**

There is no better method of preserving that equable temperature which is necessary for the best management of a dairy, than the use of a permanent spring of water. In winter and summer the temperature of water, which issues from springs, is constant, or nearly so. The temperature, too, is as nearly as possible that which causes the cream to rise most rapidly and most completely. This is a very important point in butter making, and the excellence of the quality depends upon this probably more than upon any other circumstance connected with the operation. Besides evenness of temperature, pure air surrounding the milk and cream is a necessary thing to secure. A stream of pure flowing water insures this in two ways. There is no better absorbent of disagreeable odors than pure water, and the odor of milk fresh from the cow is very disagreeable; if it is not got rid of, it remains in the butter and cheese, and may be readily detected in them. This animal odor, as it is called, is volatile, and is easily driven off as the milk cools, if there is a current of fresh air or pure water brought into contact with it. A current of spring water, flowing around the pans of milk, will carry off this odor completely, and in addition to its own absorbent property, it sets in motion, through its lower temperature, the air of the spring-house, and causes currents to pass continually in and out of the house, and over the milk. These currents of air are also full of moisture, and this moisture helps to absorb the odors. At the same time there is no evaporation from the milk or cream, and in a well constructed and well managed spring-house, we never find the cream become dry and leathery, as it may do in dry, airy cellars or milk-rooms. Then there is the perfect cleanliness, which may be secured, where there is an ample supply of pure water, that may be added to the credit of a good spring house.

The points necessary to look at most particularly in constructing a spring-house are, the coolness of the water; the purity of the air, the preservation of an even temperature during all seasons, and perfect drainage. The first is secured by locating the house near the spring, or by conducting the water through pipes placed at least four feet under ground. The spring should be dug out and cleaned, and the sides evenly built up with rough stone-work. The top should be arched over, or shaded from the sun. A spout from the spring should carry the water into the house. If the spring is sufficiently high, it would be most convenient to have the water trough in the house elevated upon a bench. There is then no necessity for stooping to place the pans in the water, or to take them out. Where the spring is too low for this the trough may be made on a level with the floor. The purity of the air is to be secured by removing all stagnant water or filth from around the spring, all decaying roots and muck that may have collected should be removed, and the ground around the house be either paved roughly with stone, or sodded. The openings which admit and discharge the water should be large enough to allow a free current of air to pass in or out. These openings should be covered with wire gauze, to prevent insects or vermin from entering the house. The house should be smoothly plastered and frequently whitewashed with lime, and a large ventilator should be made in the ceiling. There should be no wood used in the walls or floors, or water channels. An even temperature can best be secured by building of stone or brick, with walls 12 inches thick, double windows, and a ceiled roof. In such a house there will be no danger of freezing in the winter time. The drainage

will be secured by choosing the site, so that there is ample fall for the waste water. The waste water should be discharged into a basin, from which a covered drain should be constructed. The size of the building will depend altogether upon the number of cows in the dairy. For a dairy of 20 cows there should be at least 100 square feet of water surface in the troughs. The troughs should be made at least 18 inches in width, which would admit a pan that would hold 8 to 10 quarts at three inches in depth. A house, 24 feet long by 12 wide, would give 60 feet of trough, 18 inches wide, or 90 square feet. The furniture of the house should consist of a stone or cement bench, and an oak table in the centre, upon which the cream jars and butter bowls may be kept. It is well to remember, that it is the universal experience of all dairymen who have tested the matter, that cream or butter should never be placed upon the floor of a dairy. The impure air always descends to the floor, and nothing is more easily injured in flavor by any impurity than cream or butter. Two or three feet above the floor is the best place to keep either cream or butter. For this reason we would rather have the water trough in a spring-house raised at least 30 inches above the floor. In that case a grated opening should be made near the floor, for the purposes of ventilation. Where the deep-can system is used, a much smaller house will answer, with deep troughs.—*Am. Agriculturist.*

### New Process for Curing Cheese.

An Ohio man writes us that he has invented a cheap process for curing cheese so as to make it fit for market in two to six days after coming from the press, without regard to the state of the weather, avoiding all damage from flies and much trouble in attending to the cheese. As an illustration of what can be done, he adds as follows: "I have just cured a cheese in 48 hours from the press. It weighed when taken from the press 36 pounds, and the curing reduced its weight to 32½ pounds. It can be cured by this process and be still left with more weight than by common air drying or curing, or it can be cured to suit the judgment and taste of the operator.

The cost of the apparatus and the expense of curing are represented to be very small. The process is not given, but we infer from what is stated that steam is applied in some way by which the moisture is evaporated or taken out of the cheese. But if the cheese is fitted for the market, of course its flavor must be changed so that it will show age.

There are so many improvements being made in dairy management that we refrain from expressing an opinion concerning this new process until we know more about it and can see and taste some of the cheese cured by the new methods. We allude to the matter, however, that dairymen may know that investigations and experiments are being made in curing cheese. If a cheese can be cured in two or even six days, so as to be of fine flavor and fit for market, and if it will hold its flavor for any considerable length of time, it is a desideratum, and especially so if the process is inexpensive and easy of application.

We hope to hear further of this invention, and to learn whether the claims made by the inventor can be sustained in practice.—*Rural New Yorker.*

### Vinegar for Floating Curds.

A correspondent of the *Utica Herald* has been using vinegar for floating curds, and thinks a better quality of cheese can be made from this treatment than from any other he has seen. He says:—"No one ever saw a floating curd made from sour milk or milk that would sour quickly after working was commenced. This thought led me to the experiment with 'tainted' milk, as it is commonly called, to use clean, sharp vinegar to sour it. I work a vat of such milk the same as good milk, until the curd is hard and tough enough to admit of running off the whey as closely as can be done with the siphon, and then I put in from a pint to a quart of vinegar to the curd of 1,000 pounds of milk and allow it to stand long enough to spoil a curd made from good milk. The vinegar will, in five to ten minutes, kill the offensive smell that is always present with a floating curd;" and he adds, "I do not claim that such milk will make the best quality of cheese, but by such treatment it will be better than by any other that I have tried or seen tried." The same result will be obtained by using sharp, sour whey—the whole philosophy of the matter being a change of fermentation.

There have been comparatively few floating curds in Herkimer this year, the season being unusually cool and favorable for the keeping of milk in good order both at the farm and factory.

## Veterinary Department.

### Blood Diseases.

#### Anæmia, or the Bloodless State.

Formerly the production of anæmia was commonly the result of over-attention than otherwise. This statement applies to horses and cattle more particularly, for it was the custom for proprietors to make a weekly tour and inspection of their stocks, and if one creature happened to look a little more blooming than was considered to be compatible with the general opinion, he was immediately seized and bled. In this way of preventing disease, others were brought on, the most common being anæmia. Then again, there is another cause equally as dangerous in its production, which applies only to females under lactation. Some are so full of milk, and likewise give use to the formation of such large quantities, that the system is rapidly drained of its nutritious elements, the animal wastes and eventually dies, the young having literally swallowed the mother piecemeal. Among dogs and cats, as well as other animals giving birth to a number of offspring at the same time, this cause is most prevalent, and the usual plan is to remove one or more of the young, and so diminish the drain upon her system. But the affection is not confined to these creatures; the higher animals and even the human female frequently contract the affection when suckling their young. Cows and sheep are more commonly affected than mares from this cause; but we think none of these animals now suffer so frequently as formerly, because management in this respect is certainly much better in the present day. There is, however, yet a cause which prevails to an alarming extent, and through it hundreds of lives are annually sacrificed, especially among sheep and young cattle. That cause is scarcity of good food, or supply of bad or innutritious kinds. There are yet too many men who consider it no waste to starve their stock in winter, because they think it may be easily freshened in the following summer. The rank grass and garbage of the lanes, too, is given in place of proper fodder, besides making the evil more doubly sure, by exposing the animals to severe wet and cold far beyond any reasonable period, even if they can bear it. But in such a state—already weakened by poor food, they lack the element of proper warmth—animal heat—and thus are still further under the power of devitalizing influences.

But the poor and ignorant farmer is not the only one who loses his stock by anæmia. We have seen the offspring of pedigree stock, and sheep of the choicest flocks decimated on the lands of the high-class farmer and landed proprietor, and it may be somewhat surprising to many when we state that it is there where the losses are the greatest. We recently saw a flock of 300 ewes, of excellent breed, which, having been turned out upon low, damp, and marshy pastures during the winter, as the lambing season approached began to appear sickly and weak. Signs of droop were evident, and many aborted, while those lambs which went their full time were pale and emaciated, and never came to anything, while eventually the ewes dwindled away one by one until active preventive measures and medical treatment were adopted.

The exclusive use of roots as food, or green food containing an excess of moisture, is one of the greatest evils, and which the stock or flock master should always avoid. We have declared against this practice throughout many years and have been thought too nice on the point, but since others have also insisted upon it, and as many proprietors have purchased rather dearly their experience, they have been inclined to look into the nature of causes rather more. They have learned that such food, containing not more than 8 or 10 per cent. of nutritious elements with the extraordinary disproportion of 90 or 95 per cent. of water, is scarcely fit to keep life alive.

Let us but consider the fact that a cow must consume 300 lb. of cold hashy vegetation before she can obtain 20 lb. of necessary food; and what will all this do for her in the winter, when it has been under the effects of frost and snow? Our sheep, too, eating the same food, and deriving only the proportionate amount of nutrition—how much must the system suffer before such a mass of rubbish is raised to the temperature necessary to change it, and render it fit to pass into the general circulation.

The common signs of anæmia are gradual wasting of the flesh, and dulness; the animal is unthrifty, the coat or fleece starts, and the latter may some-

times be pulled off very easily by handfuls. The membranes of the eyes and mouth, &c., are blanched, the usual ramifications of small vessels being almost absent. The pulse is weak, the volume being diminished, and the heart sounds are unusually loud, and sometimes foreign ones are also heard. As the emaciation proceeds, weakness accompanies it, and the creature staggers, one leg strikes the other, and sometimes the strength is not sufficient to drag it forward. The appetite, at first capricious, is afterwards lost altogether; giddiness follows, the breathing becomes difficult, and the bowels are relaxed, much wind being at first passed, but severe diarrhoea succeeds. Swellings take place under the jaws, about the navel, and within the abdomen the water sometimes accumulates to a large extent.

There are many instances where young stock is first affected by diarrhoea, and this succeeding to dysentery, death rapidly follows before the signs of anæmia are developed as we have enumerated them.

In the plan of treatment to be adopted, much caution is required. For instance, prevailing diarrhoea must be carefully arrested, or death may arise from sudden congestion of the lungs, these organs becoming over-charged as soon as the profuse drain from the system is quickly stopped. Such states should be met by mild opiates combined with chloroform, and gruel of oatmeal or wheat flour may be given in moderate quantities.

As soon as the bowels assume a state of quietude, the appetite usually improves, and it must be recommended that food should be given in very small quantities, but frequently offered. The cause of the complaint must be accurately found out and suppressed, and a total change of diet must follow that of exclusive feeding on root crops or succulent grasses, &c. Good corn, oatmeal, &c., will be required in moderate quantities with chaff, &c., of the best and sweetest quality, and the first desire to partake of these should be stimulated by a judicious use of tonic barks, shortly followed by iron tonics, but the latter must on no account be given in large doses, nor yet too soon after diarrhoea has been stopped, as nothing is so likely to bring it on again.

Ample protection from the weather, good bedding, complete ventilation and careful nursing, must supplement all our directions in the mode of cure; and in order to prevent this disease, we would urge greater attention to the supplying of artificial food and grain during winter, avoiding an exclusive use of roots or grass.—*Farmer (Eng.)*

### Contagiousness of Glanders.

Regarding the contagiousness of glanders, Mr. Percival submits the following deductions as the result of facts gleaned from his own experience:

1. That farcy and glanders, which constitute the same disease, are propagated through the medium of stabling, and thus we believe to be the more usual way in which disease is communicated from horse to horse.

2. That infected stabling may harbor and retain the infection for months or even years; and although by thoroughly cleansing and making use of disinfecting means the contagion might be destroyed, yet it would not be wise to occupy such stables immediately after such supposed or alleged disinfection.

3. That the virus, or poison of glanders, may lie for months in a state of incubation in the horse's constitution before the disease breaks out. Of this we have had the most positive evidence.

4. That when a stable of horses becomes contaminated, the disease often makes fearful ravages among them before it quits; and it is only after a period of several months' exemption from all diseases of the kind that a clean bill of health can be rendered.

### India-Rubber Shoes for Horses.

The *Scientific American* gives some particulars about a newly-patented horse-shoe, designed to supersede iron shoes and to remedy cracked or contracted hoofs. It may be shortly described as an india rubber overshoe for horses. It is made and lined in precisely similar manner to the articles of apparel worn by the human race. The sole is made thick, and is roughened to prevent slipping.

The device is easily removed from or put on the hoof, and hence, while standing in the stall or turned out to pasture, the horse may be left barefooted. In winter time the covering serves as a protection against illness due to the common practice of mingling salt with the ice and snow in city streets, while the roughened surface of the rubber beneath serves to give the animal a foothold in slippery weather. Their cost is one-third more than iron shoes, but their durability is great. They have been successfully used for some time past.

**Liquor-Blisters.**—Take one pint alcohol, half pint turpentine, four ounces ammonia, four ounces oil organum, one ounce naphtha; apply this with sponge every three hours until you feel the skin thicken.

**Blistering Paper.**—Take four ounces pulverized cantharides, two ounces turpentine, two ounces English resin, two ounces beeswax; melt all together over a slow fire until dissolved; rub it on well with the fingers.

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

**FANCY.**—A correspondent of the *Country Gentleman* says: "Fill a paddle with sharp tacks driven well through, and use it in puning the buds, after which wash the parts with salt and water, and turn your horse on a good grass for two weeks, it will effect a cure. Given to his positively essential, and very often the above will effect a cure."

A Mrs. Smith, who was troubled with large, oak stings, sprinkled on the top of each about a tablespoonful of pulverized saltpetre. Two months later she set it free, and says they commenced and continued to burn until every one was totally consumed, roots and everything. Believe it or not, just as you choose.

**SPRAINS IN THE STABLE.**—*Symptoms:* The horse holds up his foot, moans when moved, swells in stable; this is what is called a sprain. It is no such thing as this joint getting out of place. It is a sprain the same as any other joint, and the patellar may slip from its place, which acts as a stay to the joint. The tendons and ligaments become contracted, and lameness follows. To relieve it, foment the joint well, stimulate it with some strong liniment or a slight blister.

**WASH ON INFLAMED EYE.**—Make an incision in the small vein on the side of the face, five inches below the eye, so as to bleed freely, rowel below the eye on the jaw-bone, apply a blister just back of the eyes, wash well with cold water three times per day, dissolve eighteen grains sulphate of zinc, ten grains sugar of lead in six ounces of soft water, and with a small glass syringe apply the wash to the eye once a day; if this does not relieve in five or six days, bleed two gallons from the neck vein, give him a physick of bran mash.

**PISTULA AND P. L. EYE.** The sores are produced on the shoulder and poll by a bruise on the muscles, causing swelling and fever. The enlargement may be reduced and scattered by blistering, roweling, &c. After it breaks, the pus must be eaten out with caustic potash; after the potash has been on forty-eight hours, dress the sore with four ounces saltpetre, turpentine, four ounces tallow, and two ounces alcohol, well mixed together; the potash and ointment should be applied every two or three days, keep the parts affected clean with soap and water.

**FIVE HUNDRED CUBIC FEET** or a cube of eight feet each way, of closely packed timothy hay, will make a ton; 700 feet, or a cube of nine feet each way, of clover and timothy in equal parts, will make a ton. Light meadow hay, consisting of blue grass, red top, white bent or loosely packed clover hay, will require 1,000 cubic feet, or ten feet each way for a ton. Allowance must be made for differences in the state of compression in which the hay may be. Clover hay tightly pressed down in a mow under a quantity of grain might only require 700 or 800 feet for a ton. A ton of loose hay is a much larger quantity than most people suppose, and a great deal of weight is more frequently too large than too low.

**CURE FOR PARATUBERCULOSIS (HOOGS).**—Above all things keep hogs perfectly clean. Allow plenty of pure air. Don't allow too many in one place, unless the room is a better convenience than a pile. Give the animal an opportunity of getting into sunlight if so disposed, and by no means compel them to remain exposed to the sun's rays against their own desire. Mix one pound anthracite coal screenings, one half pound of sublimed sulphur, one quarter pound of common salt. Give one ounce of this daily to each full grown hog, and a lesser part on to smaller ones, according to circumstances. Give beets, apart from above, one dram of pulverized nuxvomica. Rub the loins along the spine with tincture opium, 4 ounces, sulphuric ether, 4 ounces, cod liver oil, 6 ounces. Mix and keep well corked in a dark place. Rub twice a day with much hand friction. Feed no will for a time. Let the food be clean and nutritious, and not too much of it for a while. — *Western Farmer.*

## The Apiary.

### Bee-Keeping in Broome County, New York.

We lately had occasion to deal with the case of "a disappointed bee-keeper" who had given up the business in disgust, and was loudly proclaiming it a failure and a humbug. *Per contra*, and by way of proving the truth of our allegation that bee-keeping is as fairly remunerative as any other pursuit of husbandry, we are pleased to be able to give the following article from the *Rural New Yorker*, which we are sure will be read with interest, and we hope with profit:—

"Acres and acres of bee pasturage are unused in this country. Tons upon tons of delicious sweets are lost to commerce and to griddle cakes. The thought is a sad one. Why should we not satisfy ourselves with honey, instead of rioting upon muscovado. The answer is at hand. Few of us keep bees; those who do, do not keep half as many as they might, neither do we manage them to insure success, except in a very moderate way. Bee farming has become so important an industry in Broome county of late that the *inghamton Times* has been 'interviewing' the bee farmers in its vicinity, and from its report we extract the following useful information:

Mr. Moore was found engaged among his favorites. A high picket fence surrounds his bee yard, inside of which are twenty-four full stocks of bees and twelve nuclei. The yard is well shaded with young apple and pear trees, and grape vines running over trellises. Twenty of his stocks are in a bee house, built about a year ago. It is 8x12½ feet inside, walls double and filled with saw-dust. Under it is a cellar five feet deep. A system of ventilators is so arranged that the temperature of the house in summer may be kept as low as desired, while the saw-dust walls keep it sufficiently warm in winter, so that the bees are never moved from the house. The hives used are the Langstroth, with a slight modification. These hives will hold 32 three pound boxes next to the brood comb and 12 boxes on the sides. From one of the hives he has taken 50 boxes this season. The 50 boxes will weigh 165 pounds. Another hive has 50 boxes nearly full. He had a stock last season from which he took 175 pounds of honey. He states that during the honey season—which in clover lasts about thirty days and in buckwheat about twenty-five—a strong stock will store from ten to fifteen pounds of honey per day.

He keeps the temperature of his house, when the bees are at work, at from 75 to 80°. When they are not working it stands at about 70°. During the winter it is kept from 35 to 40°, with an occasional rise to 60°. Mr. Moore's first effort is to prevent swarming as much as possible, by which he keeps his bees at work constantly storing honey during the honey season, instead of devoting a part of this valuable time to swarming. This he does by giving them plenty of room to store honey, and keeping them at a comfortable temperature by shading or otherwise. He succeeds in preventing from two-thirds to three-fourths of his stock that are out of doors from swarming, and all that are in the house. A stock that does not swarm will make twice (and sometimes more than twice) as much honey as one that does. Mr. Moore started last spring with 23 colonies of bees, but one of which has swarmed. From these he has already taken 1,500 pounds of box honey, and will take at least 600 pounds more. Besides, he has extracted nearly 600 pounds, which gives him a little more than a hundred pounds of honey per stand. This is not as well as he did last season. He last year averaged from 15 stocks about 135 pounds. He has now 12 nucleus swarms, with which he is raising queens.

Mr. Beard started with 22 stocks in the spring, and will winter 33 or 34 stocks. His bees are all Italians but one stand, which are hybrids. They are in the Langstroth hive, and are all kept out in grounds well shaded with apple trees. He manages his bees very much the same as Mr. Moore. He has one stand that has made this season about 160 pounds of surplus honey. His surplus honey is all stored in boxes, with four glass sides, and weighing 3½ pounds each.

Mr. Scofield began this year with 35 stocks, all Italian. He now has 44 full stocks, with 54 nuclei. They are nearly all in the Langstroth hive. They are summered out of doors, on feet on the ground, the hives standing some eight or ten feet apart, and all well shaded by apple trees. Through the winter they are kept in the cellar under the house; put in in December, and removed as soon as the weather will permit.

The surplus honey is stored in boxes 3½ pounds weight, except four stands, in which frames are used instead. Two frames hold the same amount of honey as one box. His 31 stands in which boxes are used have averaged 91 pounds of honey this season. Only one of the four stands in which frames are used has had a fair chance to test its merits. From this stand he has taken an extraordinary amount of honey. Five cases, each containing from 45 to 43 pounds of honey, have been taken from this stand the present season, and another is already partially filled, and will be quite filled if the present weather holds a week yet. Mr. Scofield puts the weight of these five cases of honey at 255 pounds, which is their minimum weight. If the sixth one should be filled it will give him nearly 300 pounds of honey from this one stand. He thinks that with these frames his yard would have averaged four cases, or 150 pounds of honey each. One other of these four stands of frames has filled four cases. Some colonies refuse to work in boxes that go to work immediately in the frames. Mr. Scofield procures his queens generally in Massachusetts, Kentucky and Ohio; never breeds "in and in" always gets queens of other stock, and never keeps a queen but three years. He has raised 100 queens the present season for his own use and to supply others in this section. Mr. Moore and Mr. Beard procure some of their queens of him. The raising of these 100 queens has taken time enough from his bees to have made 600 pounds of honey.

These bee keepers all send their honey to New York city, where they realize an average of 25 to 30 cents per pound. Their extracted honey is all fed back to the bees.

### California Honey.

Among the other numerous products for which California seems destined to become famous, honey ranks as by no means the least valuable item. It has already found its way into the eastern markets, though so far in limited supply, and is much admired for its purity and delicacy of flavor. Its production is not limited to any part of the state, but at present it is chiefly made a specialty in San Diego county, near the Mexican border. The honey crop of that county for 1873 was 119,000 pounds, and it is expected it will this year equal 200,000.

The bees commenced working in that county about the first of February, and the season for storing honey lasts from June to September. The finest honey is made from the flowers of the sage plant, which grows there in such abundance. This is the true sage, and must not be confounded with the "sage brush" of Nevada, and the northern counties. The flat top or "buckwheat grasswood" also affords excellent honey. The bloom of this plant closely resembles that of buckwheat, hence the name. The flower of the sumac is another source, and the ice plant which covers so much of the country is likewise sought by the bees. The latter plant makes a very white honey, but it is liable to the objection that it turns very quickly to sugar, or "candies" as the honey men term it. The bee-keepers therefore try to avoid it.

The bulk of the honey finds a market in the East. Several car loads were shipped from San Diego East last year, and found a paying and appreciative market, and much more will be shipped this year. The honey made in San Diego is exceedingly white and handsome, and of fine flavor, and commands a good price and ready market wherever offered. Little or no strained honey can be sold during the prevalence of the green fruit season, and it will not be until next fall that any great amount can be moved. The total crop in California this year is variously estimated at from 600,000 to 700,000 pounds. — *Economist.*

### Shade for Bees.

There is a great deal of sound sense in the following observations, which are made by a bee-keeping correspondent of the *Country Gentleman*:—

"My observation and reasoning have led me to the conclusion that shade is an advantage and a decided one to bees. I do not mean a dense shade, but one partially relieved by sunshine, such as bees left to themselves would and do naturally select in the tops or upper part of trees, in a forest, seldom if ever the lower, humid part of the wood. Why is this? Evidently because bees require a temperate condition of the atmosphere, neither too cool nor too warm, too damp nor too dry, too light nor too dark. These three conditions are of importance, and it should be the business of the bee-keeper to aim at securing them. I presume no one will pretend that they are a disad-

vantage; that an excessively hot or an extremely cold season is a favorable one; that bees will do well in a season of severe drought or great humidity, or with little sunshine to enliven them. The point is not alone the abundance of honey to be collected, but the condition and inclination of the bees to gather it. Bees prefer to be undisturbed, require harmony in the hive, and a favorable condition of the atmosphere. There are many other things that have an influence on bees, so that we see that it is not alone good pasturage that is required. However much honey there is to be gathered, on a wet day little is done. The same is the case with an extreme of cold, and to a certain extent with excessive heat; but not so much with the latter, as bees on the wing or in collecting honey feel less the solar influence. This brings me back to my point, the locality, the habitation of the bees, which is different from its range. The one has air and freedom; the other combines heat, if the hive is placed in the sun, and especially on a southern inclination with the wind warded off. Such a situation I have found generally to be unfavorable. I say generally, as there are cool and otherwise favorable seasons that are exceptions, in which colonies so situated have done well. But how can the favorable atmospheric conditions be secured? Nothing is easier. An orchard or a grove will do it. It needs only part shade and part sunshine. This tempers the rays of the sun, and secures the necessary moisture in a drought, and also leaves a chance for the escape of an excess of humidity. There is protection, and the encouragement which bees seem to derive from the presence of trees—perhaps from their long habit of association with them. Here there is no melting heat concentrated on the hive. It is comparatively cool inside and pleasant without. The best success I have ever known with bees has been in orchards and shaded door-yards, unless I except a few cases in the woods, where wild swarms turned out the most honey. Now there are some seasons in which the exposed hives will do as well as those protected by trees, and even better sometimes—where there is a lack of sun, for instance. But take the seasons on an average, and the difference is decidedly in favor of protection. I am persuaded also that an elevated range is, on the whole, better than a low place or valley.

#### A Poet on Bees.

The following quotation from the poems of the late Thomas Aird, editor of the *Dumfries Herald*, will show that the accomplished author was also a good apiarian:—

But let us see our bees,  
Before we turn into our iced porch.  
The little honey-folk, how wise are they!  
Their polity, their industry, their work!  
The help they take from man, and what they give  
Of fragrant nectar, sea-green, clear, and sweet,  
Invest them almost with the dignity  
Of human neighborhood, without the intrusion.  
Coming and going, what a hum and stir!  
The dewy morn they love, the sunny day,  
Softened with showery drops, ignoring the flowers,  
In every vein and eye. But when the heavens  
Grow cloudy, and the quick engendered blasts  
Darken and whiten as they skip along,  
The mountain tops, till all the nearer air,  
Seized with the gloom, is turbid, dense, and cold,  
Back from their far-off foraging, the bees,  
In myriads, saddened into small black notes,  
Strike through the troubled air, sharp past your head,  
And almost hitting you, their lives of light  
Conveying, thickening as they draw near home;  
So much they fear the storms, so much they love  
The safety of their straw-built citadels.

**ITALIAN BEES IN BAD ODOR.**—We have a report of a meeting of the German agriculturists of Ober Hess, conveying an unfavorable account of Italian bees. Herr Dorr, of Mettenheim, said he had kept Italian bees since 1857, and taking the utmost pains with them, he became possessed of many fine, pure colonies, and also some crosses in the first and second degrees. As a result of his experience, he would not give a straw for the foreign races. There seem to be two great drawbacks; one the foul brood and the other the strong propensity to swarm. With foul brood he had lost heavy colonies, and on the whole many large apiaries have gone entirely to ruin from these causes. Some who started with 20 to 30 stocks have not now an ounce of honey. He acknowledged, however, that half-breeds are now doing well, and he thinks that if the money expended on Italian and other bees had been devoted to improving such native stocks as had distinguished themselves, a great progress would have been made. Many bee-keepers in this country as well have become disgusted with their experience with the Italians, and especially in their purchases from persons who ought to be above deceit and sharp practice; and it looks now as though there would be a decided reaction against Italian bee culture.—*N. Y. Tribune*.

## Poetry.

### Song of the Flail.

In the autumn, when the hollows  
All are filled with flying leaves,  
And the colonies of swallows  
Quit the quaintly stuccoed eaves,  
And a silver mantle glistens  
Over all the misty vale,  
Sits the little wife and listens  
To the beating of the flail,  
To the pounding of the flail—  
By her cradle sits and listens  
To the flapping of the flail.

The bright summer days are over,  
And her eye no longer sees  
The red bloom upon the clover,  
The deep green upon the trees,  
Hushed the songs of finch and robin,  
With the whistle of the quail;  
But she hears the mellow throbbing  
Of the thunder of the flail,  
The low thunder of the flail—  
Through the amber air the throbbing  
And reverberating flail.

In the barn the stout young threshers  
Stooping stands with rolled-up sleeves,  
Beating out his golden treasure  
From the ripped and rustling sheaves;  
Oh, was ever knight in armor—  
Warrior all in shining mail—  
Half so handsome as her farmer  
As he plies the flying flail?  
As he wields the flashing flail?  
The bare-throated, brown young farmer,  
As he swings the sounding flail?

All the hopes that saw the sowing,  
All the sweet desire of gain,  
All the joy that watched the growing  
And the yellowing of the grain,  
And the love that went to woo her,  
And the faith that shall not fail—  
All are speaking softly to her  
In the pulses of the flail,  
Of the palpitating flail—  
Past and future whisper to her  
In the music of the flail.

In its crib their babe is sleeping,  
And the sunshine from the door  
All the afternoon is creeping  
Slowly round upon the floor;  
And the shadows soon will darken,  
And the daylight soon must pale,  
When the wife no more shall hearken  
To the tramping of the flail,  
To the dancing of the flail—  
When her heart no more shall hearken  
To the footfall of the flail.

And the babe shall grow and strengthen,  
Be a maiden, be a wife,  
While the moving shadows lengthen  
Round the dial of their life;  
Theirs the trust of friend and neighbor,  
And an age serene and hale,  
When machines shall do the labor  
Of the strong arm and the flail,  
Of the stout heart and the flail—  
Great machines perform the labor  
Of the good old fashioned flail.

But when, blessed among women,  
And when, honored among men,  
They look round them, can the brimming  
Of their utmost wishes then  
Give them happiness complete?  
And can ease and wealth avail  
To make any music sweeter  
Than the pounding of the flail?  
Oh, the sounding of the flail!—  
Never music can be sweeter  
Than the music of the flail!

## Miscellaneous.

### Sparrows on a Picnic.

#### A Question for Scientists.

Whoever might have happened to pass through the Common and the Public Garden in Boston—and probably the same was true of other city squares—on Sunday afternoon, between three and four o'clock, would have noticed that the "sparrows were all missing." Not a sight of them was to be seen, not a sound of them was to be heard. The style of their habitations indicating strong religious proclivities, might have prompted the suggestion that they had gone to meeting. But that they never do in the afternoon. Besides, the liberal churches of the Free Religious Association, for which they are known to have a preference, were not then holding services. The preaching in Park Street is sometimes after their taste, but their instincts lead them to avoid all associations with a sportsman. They might, from their love of ablutions, have been supposed to be in attendance at the Tremont Temple, but again, we

have to remember that ablution is with them a morning exercise. Where, then, could they be?

The mystery would have been solved for any one who about that time had crossed Dartmouth Street bridge at the railroad tracks. There he would have seen the sparrows, seemingly formed into two distinct flocks, in numbers which it would have been impossible to count. They were evidently very happy and on pleasant terms with each other. At intervals they would rest in long lines and groups, well crowded, on the top and the trimmings of the neighboring fences. Then they would rise with one consent and seek the tall, rank, withered weeds, which have been growing so luxuriantly in that particular spot. These are now about to shed a full crop of ripened seed. This was the attraction. The feast was an abundant one. The sparrows all stood on their good behavior. There was no pecking, except at seed. Speeches and congratulations were heartily exchanged, and so many seemed to speak at once that the lookers-on might have inferred that only one sex was represented there. An Irishman who was watching the scene from the bridge suggested that the sparrows were waiting to take the Sunday evening train for the south, and were laying in a substantial lunch. Before the first evening gloom gathered the birds had all gone back to their respective homes.

Now will some one, starting with Professor Tyndall's backward vision of the promise and potency of every form and manifestation of life in matter, be so kind as to trace out for us the workings of that prompting or faculty or guidance which led those happy little creatures together in two flocks, evidently comprised of two cliques or social circles, to go after that sumptuous repast? Did one venturesome stroller happen to discover it and summon his fellows? Or did some subtle odor from the seed get wafted up to the common and garden? But the wind was in the opposite direction.—*Boston Transcript*.

### French Eggs.

An impression prevails in some quarters, says the *Pall Mall Gazette*, that by dipping a hen in a pail of water and then chasing her round the poultry yard with a stick, she will be induced on emergencies to lay two eggs a day. Consul Hotham, on the other hand, in his commercial report on Calais for last year, lately printed, expresses his opinion that the whole secret of the liberality of egg-laying displayed by French hens lies in the quality of the soil of those districts in which hens are renowned for their laying qualities. Attempts have, he says, been not unfrequently made to introduce French poultry into England, under the impression that with proper care and management these fowls may become a fair source of profit—so far, at least, as eggs are concerned. The French hen, however, removed from her native land, does not, as a rule, behave herself with that productive alacrity which distinguishes her in many, though not in all, parts of France. This is accounted for by the fact that in the neighborhood of Calais, as well as near Boulogne, there exists a marked quantity of silt in the soil, highly favorable for egg-laying purposes, and when the fowls are removed from this particular soil there is a marked diminution in their laying propensities. At Amiens, again, this same quality of soil is found, and the poultry from that district are remarkable for their laying qualities; they are indeed perhaps the most celebrated layers in France. If, therefore, the same breed lay better in one part of France than another—as, for instance, the fowls in the neighborhood of Calais—it is not unreasonable to suppose that the change of soil is the principal cause of attempts having hitherto failed to transplant French poultry into England for commercial purposes. Otherwise, as Consul Hotham points out, it surely would be worth our while in this country to turn our attention seriously to the subject instead of importing hundreds of millions of eggs yearly from France. The reason sometimes given of our climate not being suitable for poultry is more fanciful than real, for there are districts in the south of England which, without a doubt, might compare favorably with the north coast of France, and as to the expense of keeping poultry, the French egg-dealers hardly feed them at all, but let the fowls run about and pick up what they please in the fields and hedgerows. The difference in the quality of the soil might possibly, Consul Hotham suggests, be made up to the French fowls in England by artificial means.

By PLANTING several Limberger cheeses about his potato patch, a farmer in Linn County, Ia., drove off all the potato bugs, while his neighbors suffered severely from their ravages.

Household Measures.

As all families are not provided with scales and weights referring to ingredients in general use by every housewife, the following information may be useful:

- Wheat flour, one quart is one pound.
Indian meal, one quart is one pound and two ounces.
Butter, when soft, one quart is one pound one ounce.
Loaf sugar, broken, one quart is one pound.
White sugar, powdered, one quart is one pound one ounce.
Best brown sugar, one quart is one pound two ounces.
Eggs, average size, ten eggs are one pound.
Sixteen large tablespoonfuls are a half pint, eight are a gill, four are a half gill, etc.

INDOLENCE is the rust of the mind, and the inlet of vice.

THE FOOL seeketh to pick a fly from a mule's hind leg. The wise man letteth out the job to the lowest bidder.

IN STROVE POLISH is mixed with very strong soapsuds, the lustro appears immediately and the dust of the polish does not fly around as it usually does.

TAKE three carrots and grate them; place in a vessel and cover with lard, without salt, if convenient; boil thoroughly, strain, and add sufficient beeswax to make a paste. This is a most invaluable ointment for cuts, burns, scalds, or wounds of any kind.

TO REVIVE old kid gloves, make a thick mucilage by boiling a handful of flaxseed, add a little dissolved soap; then, when the mixture cools, with a piece of white flannel wipe the gloves, previously fitted to the hand; use only enough to take off the dirt without wetting through the glove.

CLEANING GRAIN.—English exchanges describe a machine which has for its object the cleaning of wheat and other grain, by passing it between two discs, one rotary the other stationary, on the adjacent sides of which are set wedge-shaped projections on knives having roughened sides; when the disc is made to rotate the wheat grain is agitated and cleaned by contact with the roughened sides of the wedge-shaped projections.

SWALLOWING A TOOL CHEST.—It is reported that in the different prisons of Paris there are five or six deaths every year from the effect of swallowing what is known as an "escape-box." This remarkable box is made for the especial accommodation of prisoners. It is of polished steel, about three inches long, and contains turn screws, hammers, silk thread and other implements necessary for escape. The box appears to be easily swallowed, but sometimes fails to reappear as intended, and the death of the victim is the result. But when it does pass the bowels, the lucky prisoner is prepared to cut the thickest iron bars and set himself at liberty.

TO CLEAN OLD COMBS, place them in some vessel that will hold water, laying them flat, one on the other, until the vessel is full, lay on a board and a stone to keep them from floating. Now fill the vessel with water and slacked lime. Let them soak twenty-four hours, then take out one at a time, and with a fine broom brush lightly but thoroughly on each side. Next put them into the extractor, and throw out the water. Rinse them in clean water, and use the extractor each time. Then stand them up singly in the shade to dry. Two or three days will not be too long to dry them. Then cut out all the drone comb; and they are ready for the bees.

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